Research and Development in Industry: 2006–07

Detailed Statistical Tables | NSF 11-301 | June 2011

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General Notes

Introduction

This is the final report from the Survey of Industrial Research and Development, which was conducted annually and produced statistics for 1953–2007. Its successor is the Business R&D and Innovation Survey[1]. During the production of this report, the America COMPETES Reauthorization Act of 2010 was signed into law. Section 505 of the bill renames the Division of Science Resources Statistics as the National Center for Science and Engineering Statistics (NCSES). The Center retains its reporting line to the Directorate for Social, Behavioral and Economic Sciences within the National Science Foundation. The new name signals the central role of NCSES in the collection, interpretation, analysis, and dissemination of objective data on the science and engineering enterprise.

This report contains two sets of statistics produced from the survey: statistics on R&D funding for calendar year 2006 and on R&D personnel in January 2007; and R&D funding for calendar year 2007 and on R&D personnel in January 2008. Among the tables are several that include statistics on trends in industrial R&D since 1953, statistics on employment by R&D-performing firms since 1997, and a table classified by state that contains statistics for selected years since 1997. This report also contains (in the technical notes in appendix A) information about the industry coding classification system, company size classifications, survey methodology, comparability of the statistics over time and with other statistical series, survey definitions, history of the survey, and other information designed to convey to the data user what the survey statistics represent and, in some cases more importantly, what they do not represent. Survey questionnaires, instructions, and other documents are reproduced in appendix B.

This report provides national estimates of the expenditures on R&D performed within the United States by industrial firms, whether U.S. or foreign owned. Among the statistics are estimates of total R&D, the portion of the total financed by the federal government, and the portion financed by the companies themselves or by other nonfederal sources, such as state and local governments or other industrial firms under contract or subcontract. Total R&D is also separated into the types of costs: wages and fringe benefits of R&D staff, materials and supplies, depreciation, and other costs. Other statistics include R&D financed by domestic firms but performed outside the 50 U.S. states and DC, R&D performed by organizations outside the firm, R&D performed in collaboration with other organizations, and the funds spent to perform energy-related R&D. Also, this report provides information on R&D-performing firms, including domestic net sales, number of employees, number of R&D-performing scientists and engineers, geographic location where the R&D was performed, and R&D funds spent per R&D-performing scientist and engineer.

The National Science Foundation Act of 1950, as amended, authorizes and directs the National Science Foundation (NSF) "to provide a central clearinghouse for the collection, interpretation, and analysis of data on scientific and engineering resources and to provide a

source of information for policy formulation by other agencies of the Federal government." The Survey of Industrial Research and Development has been the vehicle with which NSF has carried out the industrial portion of this mandate, and NSF's Division of Science Resources Statistics—now the National Center for Science and Engineering Statistics—has sponsored and managed a survey of industrial R&D since 1953. The 1953–56 surveys were conducted by the Bureau of Labor Statistics (BLS) in the U.S. Department of Labor (NSF 1956, 1960). Since 1957, the Bureau of the Census in the U.S. Department of Commerce has conducted the survey. Data obtained in the earlier BLS surveys are not directly comparable with Census figures because of methodological and other differences. Census conducts the survey under Title 13 of the United States Code, which prohibits publication or release of data or statistics that may reveal information about individual companies. In some tables in this report, the symbol D is used to indicate that estimates are withheld to avoid possible disclosure of information about operations of individual companies.

The Survey of Industrial Research and Development was an annual sample survey that intended to include or represent all for-profit R&D-performing companies, either publicly or privately held. Respondents received detailed definitions to help them determine which expenses to include or exclude from the R&D data they provided. Nevertheless, the statistics presented in this report are subject to response and concept errors caused by differences in the way respondents interpret the definitions of R&D activities and by variations in company accounting procedures. The survey's primary focus was on U.S. industry as a performer of, rather than as a source of funds for, R&D. Thus, data collected on federal support of R&D activities performed by industry appear in several tables whereas only limited statistics on industrial funding of R&D undertaken at universities and colleges and other nonprofit organizations were collected[2].

As a result of collecting and publishing performer-reported statistics, the federally funded R&D performance totals presented in this report differ from the totals reported by the federal agencies that provide the funds and the statistics published in NSF's *Federal Funds for Research and Development* report series (http://www.nsf.gov/statistics/fedfunds/). One reason for these differences is that performers of R&D often expend federal funds in a year other than the one in which the federal government provides authorization, obligations, or outlays (see "Comparisons to Other Statistical Series" in appendix A for definitions of these terms). During the past decades, the differences have widened between the federal R&D funding reported by performers and that reported by funding agencies. These differences are documented and analyzed in the latest editions of the National Science Board's *Science and Engineering Indicators* (NSB 2010) (http://www.nsf.gov/statistics/seind10/) and NSF's *National Patterns of R&D Resources* (NSF 2008d) (http://www.nsf.gov/statistics /natlpatterns/) report series.

The content of the Survey of Industrial Research and Development was expanded and refined over the years in response to an increasing need by policymakers for more detailed information on the nation's R&D effort. For example, questions on energy R&D were added in the early 1970s, following that decade's oil shortage crisis. And, more recently, questions that probe companies' collaborative R&D activities and funding of international performance of R&D were added to keep up with the fast-changing environment of the conduct and organization of industrial R&D. On the other hand, collection of certain data items was eliminated in an attempt to alleviate some of the burden on respondents. For large firms known to perform R&D, a detailed survey questionnaire (Form RD-1) was used to collect data. To limit the reporting burden on small R&D performers and on firms included in the sample for the first time, an abbreviated survey questionnaire (Form RD-1A), which collected only the most crucial data, was used.

The changes that have been made to the survey throughout its history and some of the most recent are detailed in appendix A (see "Comparability of Statistics"). Specific changes are detailed in each of the annual reports resulting from the survey (http://www.nsf.gov/statistics /industry/).

Industry statistics in this report were developed from data collected from individual companies[3]. Because the survey was company based rather than establishment based, all data collected for the various components of each company (plants, divisions, subdivisions, etc.) were tabulated in the company's major industrial classification, which was based on payroll. (See "Frame Creation and Industry Classification" in appendix A for more information about industry classification.) The resulting industry estimates were calculated by summing the data for companies classified within each major industry classification. National totals were then estimated by summing the industry estimates. The North American Industry Classification System (NAICS) was used to determine a company's major industrial classification, and the resulting statistics are published by NAICS code. For years prior to 1999, the Standard Industrial Classification (SIC) system was used. The development and ongoing refinement of NAICS has been a joint effort of statistical agencies in Canada, Mexico, and the United States. The system replaced the Standard Industrial Classification (1980) of Canada, the Mexican Classification of Activities and Products (1994), and SIC (1987) of the United States. (For a detailed comparison of NAICS to SIC of the United States, visit http://www.census.gov/eos/www/naics/.)

NAICS was designed to provide a production-oriented system under which economic units with similar production processes are classified in the same industry. NAICS was developed with special attention to classifications for new and emerging industries, service industries, and industries that produce advanced technologies. NAICS not only facilitates comparability of information about the economies of the three North American countries but potentially increases comparability with the two-digit level of the United Nations International Standard Industrial Classification (ISIC) system.

Availability of Survey Results

Detailed historical statistics for 1953–98 can be obtained from NSF's Industrial Research and Development Information System (IRIS) at http://www.nsf.gov/statistics/iris/, an online interface to the Survey of Industrial Research and Development Historical Database (SIRDHD) (NSF 2001b). The SIRDHD is a collection of more than 2,500 statistical tables containing all of the statistics produced and published from the 1953–98 cycles of the annual Survey of Industrial Research and Development. Statistics for 1991–2007 are available in the separate reports at http://www.nsf.gov/statistics/industry/.

Company Size

Companies were categorized by total number of domestic employees. The survey excluded companies with fewer than five employees. The following are the size classes used in this report:

- 5–24 employees
- 25–49 employees
- 50–99 employees
- 100–249 employees
- 250–499 employees
- 500–999 employees
- 1,000–4,999 employees
- 5,000–9,999 employees
- 10,000–24,999 employees
- 25,000 or more employees

Current and Constant Dollars

Statistics in all tables are reported in current dollars. Constant dollars also are presented in tables 32, 55, 56, and 57. Gross domestic product (GDP) implicit price deflators were used to convert current to constant 2000 dollars.

Disclosure and Suppression of Statistics

Title 13 of the United States Code and a pledge of confidentiality to respondents prohibit publication or release of data or statistics that may reveal information about individual

companies. Therefore, the data in some table cells have been suppressed and replaced with "D." This occurs when a small number of companies account for a large percentage of the estimate in a particular data cell. Although publication of certain cells may be withheld, the estimates in the cells are always included in totals. The tables most often affected by cell suppression are those that contain data on federal support for industrial R&D performance.

Geographic Statistics

The statistics in this report cover only those operations located in the 50 U.S. states and the District of Columbia (DC). Statistics on company-sponsored R&D performed outside the 50 U.S. states and DC are included in tables 14, 15, 44, and 45 but are excluded from all other tables.

Beginning with 2001, the methodology to produce statistics by state was modified from previous years to address the recurring problem of large year-to-year variation in many state estimates. This variability was caused by many factors, including the potential inefficiency of the sample at state levels, the rarity of R&D expenditures, and the large weights often associated with companies that report R&D in the survey for the first time. Under the new methodology, a portion of the amount of R&D reported by some companies not selected for the sample with certainty is allocated (or raked) among all the states in which there was industrial activity. The new methodology was also applied retroactively to statistics for 1998–2000. In tables 25 and 59–61 statistics for 1998–2007 are flagged with an "e" if more than 50% of the estimate was imputed because of raking. Note that there was no change to the methodology for estimating the number of R&D performers in each state. This estimate continued to be calculated by summing the weights of the companies that actually reported R&D activity in a given state. For a more detailed explanation of the new methodology and the definition of a "certainty" company, see the technical notes.

Historical Statistics

The Survey of Industrial Research and Development was conducted annually from 1953 to 2007. Statistics for 1953–98 are reported by Standard Industrial Classification (SIC) code, and statistics for 1999–2007 are reported by North American Industry Classification System (NAICS) codes (see below). All of the statistics produced from the survey for 1953–98 are available in the Industrial Research and Development Information System at http://www.nsf.gov/statistics/iris/. An electronic database for post-1998 statistics has not been developed yet; however, annual reports for 1991–2007 are posted at http://www.nsf.gov /statistics/industry/ (NSF 1994b, 1995b, 1996c, 1997b, 1998b, 1999b, 2000b, 2002c, 2003a, 2005b, 2006c, 2007a, 2009a, 2010). Short reports that announce the availability of survey results and contain analytical information and highlight the expenditures for industrial R&D funded from companies' own resources and by the federal government also are available at http://www.nsf.gov/statistics/industry/ (NSF 1995a, 1996a, 1997a, 1998a, 1999a, 2000a, 2001a, 2002a, 2003b, 2004, 2005a, 2006a, 2007c, 2008a, 2009b).

Prior to the 1999 report, most historical tables classified by industry contained the current survey's statistics plus statistics for 10 previous years. Because of the conversion to NAICS and a change in the way industry codes are assigned during statistical processing (see below), tables that traditionally provided data by industry for one or more historical years now only show data for the study year.

Industry Classification

During initial statistical processing, one North American Industry Classification System (NAICS) code was electronically assigned to each company. Multi-establishment companies were assigned single codes based on the most dominant aggregated activity for that firm in terms of total payroll. The 2002 version of NAICS was used for the 2006 and 2007 surveys and statistics for the following industries and industry groupings are published in this report:

Manufacturing industries	31–33
Food	311
Beverage and tobacco products	312
Textiles, apparel, and leather	313–316
Wood products	321
Paper, printing and support activities	322, 323
Petroleum and coal products	324
Chemicals	325
Basic chemicals	3251
Resin, synthetic rubber, fibers, and filament	3252
Pharmaceuticals and medicines	3254
Other chemicals	other 325
Plastics and rubber products	326
Nonmetallic mineral products	327
Primary metals	331
Fabricated metal products	332
Machinery	333
Computer and electronic products	334
Computers and peripheral equipment	3341
Communications equipment	3342
Semiconductor and other electronic components	3344
Navigational, measuring, electromedical, and control instruments	3345
Other computer and electronic products	other 334
Electrical equipment, appliances, and components	335
Transportation equipment	336
Motor vehicles, trailers, and parts	3361–3363
Aerospace products and parts	3364
Other transportation equipment	other 336
Furniture and related products	337
Miscellaneous manufacturing	339
Medical equipment and supplies	3391
Other miscellaneous manufacturing	other 339
Nonmanufacturing industries	21–23, 42, 44–81
Mining, extraction, and support activities	21
Utilities	22
Construction	23
Wholesale Trade	42
Retail Trade	44, 45

Transportation and warehousing	48, 49
Information	51
Publishing	511
Newspaper, periodical, book, and directory	5111
Software	5112
Telecommunications	517
Wired and wireless (except satellite) telecommunications carriers	5171, 5172
Satellite telecommunications	5174
Other telecommunications	other 517
Internet service providers, web search portals, and data processing services	518
Internet service providers and web search portals	5181
Data processing, hosting, and related services	5182
Other information	other 51
Finance, insurance, and real estate	52, 53
Professional, scientific, and technical services	54
Architectural, engineering, and related services	5413
Computer systems design and related services	5415
Scientific R&D services	5417
Other professional, scientific, and technical services	other 54
Health care services	621–623
Other nonmanufacturing	55, 56, 61, 624, 71, 72, 81

Beginning with the 2004 survey and continuing for 2005, some companies' electronically assigned industry codes were manually examined and changed. These revised codes were used in the 2006 and 2007 surveys. Beginning in the late 1990s, increasingly large amounts of R&D were attributed to the wholesale trade industries, resulting from the payroll-based methodology used to assign industry classifications and the change from the Standard Industrial Classification (SIC) system to the North American Industry Classification System (NAICS) in 1999. Such classification artifacts were of particular concern for companies traditionally thought of as pharmaceutical or computer-manufacturing firms. As these firms increasingly marketed their own products and more of their payroll involved employees in selling and distribution activities, the potential for the companies to be classified among the wholesale trade industries increased. To maintain the relevance and usefulness of the industrial R&D statistics, NSF evaluated ways to ameliorate the negative effects of the industry classification methodology and change in classification systems. In addition to firms originally assigned NAICS codes among the wholesale trade (NAICS 42) industries, firms assigned to the scientific R&D services industry (NAICS 5417) and management of companies and enterprises (NAICS 55) industries using the payroll-based methodology were manually reviewed by NSF and Census. These firms were reclassified based on primary R&D activity, which in most cases corresponded to their primary products or service activities. The result was that most of the R&D previously attributed to NAICS 42 and 55 industries was redistributed. Statistics resulting from the old and new industry classification methods were published in tables A-9 and A-10 in *Research and Development in Industry: 2004*(NSF 2009a). For detailed information, also see NSF 2007d.

Large Year-to-Year Changes

Large year-to-year changes occurred because of the way industry classifications are assigned during statistical processing. A company's industry classification was a function of its primary activity based on payroll, which was not necessarily the primary source of its R&D activity for those companies not manually reviewed as described in "Industry Classification," above. For the companies not manually reviewed, if the largest portion of a company's payroll shifted to an activity other than an R&D-related activity, the classification of its R&D similarly shifted to the new activity. Further, the design of the statistical sample sometimes contributed to large year-to-year changes in industry estimates. Because relatively few companies performed R&D and there is no national register of industrial R&D performers, a large statistical "net" had to be cast to capture new R&D performers. When these companies were sampled for the first time, they were often given weights much higher than they would be given if their size and the amount of R&D they performed were known at the time of sampling. After the size of the company and the amount of R&D performed were discovered via the first survey, the weight assigned for subsequent surveys was adjusted. This capture and weighting adjustment process could produce large year-to-year changes in the statistical series twice, when the company was first captured and data were overstated by the application of a large weight, and then when the weight was reduced. This process affected lower level statistics (i.e., detailed industry and company size categories) the most because at the aggregate levels (i.e., all industries, manufacturing, nonmanufacturing) large year-to-year increases in some industries or in some company size categories were offset by large decreases in others.

Nonresponse and Imputation

For various reasons, some firms did not choose to return the survey questionnaire (unit nonresponse) or returned it with one or more blank items (item nonresponse). (See "Imputation for Item Nonresponse" in appendix A for more information on the reasons for unit and item nonresponse.) Missing data for major data items were estimated using mathematical algorithms developed from industry comparisons, data from previous cycles of the survey, and other information. Therefore, the statistics in some table cells may be accompanied by the notation "S," which indicates that the imputation rate—the percentage of the statistic not reported by respondents and consequently estimated—exceeds 50% for that item. In such cases, the estimate may be statistically unreliable. (See tables A-5 and A-12 for imputation rates for specific items.)

Percentages

Percentages were calculated using dollars rounded to thousands and may differ slightly from percentages calculated using the figures shown in the tables, which are rounded to millions.

Point Estimates

The particular sample selected was one of a large number of samples of the same type and size that by chance might have been selected. Statistics resulting from the different samples would differ somewhat from each other. These differences are represented by estimates of sampling error or variance. The smaller the sampling error, the less variable the statistic. The accuracy of the estimate, that is, how close it is to the true value, is also a function of nonsampling error. Due to these factors, one cannot use the statistics as exact point estimates because they are based on statistical samples subject to variability within and between years and because of the capture and weighting issues discussed above under "Large Year-to-Year Changes."

Publication Levels

Because there is no master file of R&D performers, the levels at which the statistics are published are determined using information from various sources. First, the frame used to construct the statistical sample (see "Frame Creation and Industry Classification" in appendix A) was queried to find out which industries perform R&D. Indicators of R&D performance can be obtained from several Census surveys (e.g., the Company Organization Survey (COS), the Annual Capital Expenditures Survey (ACES), and the Economic Census). Once flagged,

those companies were included in the Survey of Industrial Research and Development. Tabulations of levels and types of R&D at the finest industry level were prepared and subjected to disclosure routines to ensure that all sensitive data were suppressed, and the industries that remained without inordinately high numbers of suppressions became the industries for which statistics were published.

Reporting Unit

The basic reporting unit was the company, firm, or enterprise that included all establishments under common ownership or control. All R&D expenditures and all information about scientists and engineers of each company were classified into a single NAICS code and size category (see "Industry Classification" and "Company Size," above).

Rounding

Because of rounding, detail items may not add to totals. Most money amounts are expressed in millions of dollars and are rounded down if less than $500,000 or up if $500,000 or more. Frequency estimates (e.g., number of companies) are accumulated from decimal weights assigned to company records and are rounded down if less than 0.5 and rounded up if 0.5 or greater (see "Weighting, Maximum Weights, and Probabilities of Selection" in appendix A for information on how company records are weighted). Most employment counts (e.g., number of scientists and engineers) are expressed in thousands and are rounded down if less than 500 or up if 500 or greater.

Zeros

When a numerical value is accumulated from the statistical file to estimate a money amount, number of companies, number of employees, or number of R&D scientists and engineers, and the accumulated sum is zero, the cell is filled with "0" or "0.0." When a value is rounded to zero, the cell is filled with "*." When a percentage is calculated from the statistical file and the percentage equals zero, the cell is filled with 0.0; when it rounds to zero, it is filled with "*."

Notes

[1] Information about the new Business R&D and Innovation Survey is available from the National Center for Science and Engineering Statistics website at http://www.nsf.gov/statistics/srvyindustry/about/brdis/.

[2] The survey collected data on the amount of R&D funded by companies but performed by outside entities, including universities, colleges, and other nonprofit organizations. Resulting statistics are in tables 12 and 42. More comprehensive data on R&D performed at universities and colleges are collected in NSF's annual Survey of Research and Development Expenditures at Universities and Colleges. More information about that survey is available from NSF's National Center for Science and Engineering Statistics website at http://www.nsf.gov/statistics/rdexpenditures/.

[3] In the Survey of Industrial Research and Development and in the publications presenting statistics resulting from the survey, the terms *firm, company,* and *enterprise* are used interchangeably. *Industry* refers to the 2-, 3-, or 4-digit North American Industry Classification System (NAICS) codes or group of NAICS codes used to publish statistics resulting from the survey.

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TABLE 1. Funds for industrial R&D for companies performing industrial R&D in the United States, by industry and company size: 2005 and 2006

(Millions of dollars)

Industry and company size	NAICS codes	All R&D		Federal R&D		Company and other R&D	
		2005	2006	2005	2006	2005	2006
All industries	21–23, 31–33, 42, 44–81	226,159	247,669	21,909	24,304	204,250	223,365
Manufacturing industries	31–33	158,190	171,814	15,635	16,584	142,555	155,230
Food	311	2,716	2,720	6	4	2,710	2,716
Beverage and tobacco products	312	539 i	547 i	0	0	539 i	547 i
Textiles, apparel, and leather	313–16	816	594	5	11	811	583
Wood products	321	D	195	D	2	218	192
Paper, printing, and support activities	322, 323	D	D	D	D	2,451	2,793
Petroleum and coal products	324	D	1,432	D	1	1,442	1,431
Chemicals	325	42,995	46,329	169	211	42,826	46,119
Basic chemicals	3251	2,277	2,152	98	98	2,179	2,054
Resin, synthetic rubber, fibers, and filament	3252	2,294	1,975	15	13	2,280	1,963
Pharmaceuticals and medicines	3254	34,839	38,901	41	88	34,798	38,813
Other chemicals	other 325	3,584	3,300	15	12	3,569	3,288
Plastics and rubber products	326	1,760	2,245	12	27	1,747	2,217
Nonmetallic mineral products	327	894	1,014	6	78	889	936
Primary metals	331	631	651	22 i	13	609	638
Fabricated metal products	332	1,375	1,499	52	67 i	1,323	1,432
Machinery	333	8,531	9,848	109	106	8,422	9,743
Computer and electronic products	334	D	56,773	D	8,522	42,463	48,251
Computers and peripheral equipment	3341	4,955	D	53	D	4,902	7,289
Communications equipment	3342	D	D	D	D	9,660	10,911
Semiconductor and other electronic components	3344	18,724	18,888	122	354	18,602	18,534
Navigational, measuring, electromedical, and control instruments	3345	15,204	18,300	6,879	7,860	8,325	10,440
Other computer and electronic products	other 334	997	D	23	D	974	1,076
Electrical equipment, appliances, and components	335	2,424	2,281	103	66	2,322	2,215
Transportation equipment	336	D	D	D	D	28,321	30,010
Motor vehicles, trailers, and parts	3361–63	D	D	D	D	16,025	16,562
Aerospace products and parts	3364	15,005	16,367	4,076	4,372	10,928	11,995
Other transportation equipment	other 336	D	D	D	D	1,368	1,453
Furniture and related products	337	400	D	*	D	400	371
Miscellaneous manufacturing	339	5,143	5,150	82	114	5,061	5,036
Medical equipment and supplies	3391	4,374	4,098	31	101	4,343	3,998
Other miscellaneous manufacturing	other 339	769	1,052	51	14	718	1,038

TABLE 1. Funds for industrial R&D for companies performing industrial R&D in the United States, by industry and company size: 2005 and 2006

(Millions of dollars)

Industry and company size	NAICS codes	All R&D		Federal R&D		Company and other R&D	
		2005	2006	2005	2006	2005	2006
Nonmanufacturing industries	21–23, 42, 44–81	67,969	75,855	6,274	7,719	61,695	68,135
Mining, extraction, and support activities	21	D	D	D	D	669	1,123
Utilities	22	210	248	30	34	180	214
Construction	23	D	1,379	D	12	1,248	1,368
Wholesale trade	42	D	2,072	D	18	2,144	2,054
Retail trade	44, 45	D	D	D	D	1,285	1,372
Transportation and warehousing	48, 49	D	D	D	D	312	277
Information	51	23,836	26,883	219	136	23,617	26,748
Publishing	511	17,747	D	60	D	17,687	19,946
Newspaper, periodical, book, and directory	5111	821	D	27	D	794	992
Software	5112	16,926	D	33	D	16,893	18,953
Telecommunications	517	2,539	D	0	D	2,539	2,135
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	2,358	D	0	D	2,358	1,688
Satellite telecommunications	5174	13	D	0	0	13	D
Other telecommunications	other 517	168 i	D	0	0	168 i	D
Internet service providers, Web search portals, and data-processing services	518	3,337	4,029	159	93	3,178	3,936
Internet service providers and Web search portals	5181	1,042	D	0	0	1,042	D
Data-processing, hosting, and related services	5182	2,295	D	159	93	2,136	D
Other information	other 51	213	732	0	*	213	731
Finance, insurance, and real estate	52, 53	3,030	1,969	0	0	3,030	1,969
Professional, scientific, and technical services	54	32,021	38,049	5,839	7,438	26,181	30,611
Architectural, engineering, and related services	5413	4,687	6,579	2,239	1,714	2,448	4,866
Computer systems design and related services	5415	13,592	14,841	545	1,011	13,046	13,830
Scientific R&D services	5417	12,299	14,525	2,826	4,495	9,473	10,030
Other professional, scientific, and technical services	other 54	1,444	2,105	229	219	1,214	1,885
Health care services	621–23	989	992	7	37	981	955
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	2,137	1,479	90	34	2,047	1,445

TABLE 1. Funds for industrial R&D for companies performing industrial R&D in the United States, by industry and company size: 2005 and 2006

(Millions of dollars)

Industry and company size	NAICS codes	All R&D		Federal R&D		Company and other R&D	
		2005	2006	2005	2006	2005	2006
Company size (employees)							
All companies	-	226,159	247,669	21,909	24,304	204,250	223,365
5–24	-	7,373	7,207	1,076	1,121	6,297	6,087
25–49	-	7,488	D	675	D	6,813	6,465
50–99	-	7,144	9,064	646	704	6,498	8,360
100–249	-	10,327	13,306	951	1,206	9,375	12,101
250–499	-	8,149	D	411	D	7,738	7,944
500–999	-	13,992	13,360	895	878	13,097	12,482
1,000–4,999	-	34,969	37,866	1,364	1,847	33,605	36,019
5,000–9,999	-	18,170	20,434	620	657	17,550	19,776
10,000–24,999	-	33,564	37,865	1,918	1,816	31,646	36,049
25,000 or more	-	84,983	92,925	13,352	14,843	71,631	78,082

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excluded from this table are R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 2. Sales and employment for companies performing industrial R&D in the United States, by industry and company size: 2005 and 2006

Industry and company size	NAICS codes	Domestic net sales		R&D scientists and engineers[a]		Domestic employment (March)	
		2005	2006	2006	2007	2005	2006
		$millions		Thousands			
All industries	21–23, 31–33, 42, 44–81	6,119,133	6,642,500	1,097.7	1,135.5	16,032	16,298
Manufacturing industries	31–33	3,998,256	4,264,583	695.8	696.1	9,436	9,415
Food	311	374,342	414,425	11.8	11.6	995	1,021
Beverage and tobacco products	312	38,003	43,517	4.7 i	4.6 i	57	57
Textiles, apparel, and leather	313–16	51,639	41,672	7.8 i	5.7	204	176
Wood products	321	27,002	25,741	D	1.7 i	108	109
Paper, printing, and support activities	322, 323	159,608	223,644	D	9.7 i	421	455
Petroleum and coal products	324	404,317	446,821	D	D	164	145
Chemicals	325	624,344	612,885	118.0	128.3	1,074	1,083
Basic chemicals	3251	109,899	121,434	9.8	9.6	167	153
Resin, synthetic rubber, fibers, and filament	3252	132,934	90,226	8.4	8.5	110	101
Pharmaceuticals and medicines	3254	273,377	286,981	81.1	90.5	482	509
Other chemicals	other 325	108,134	114,244	18.7	19.8	314	320
Plastics and rubber products	326	90,176	114,989	11.0	13.5	377	435
Nonmetallic mineral products	327	50,344	48,393	6.7 i	6.9 i	198	177
Primary metals	331	110,960	127,138	3.8 i	3.4	262	229
Fabricated metal products	332	174,165	103,567	16.7	22.1	626	409
Machinery	333	230,941	272,687	59.6	65.0	832	871
Computer and electronic products	334	472,330	524,160	262.5	241.0	1,253	1,325
Computers and peripheral equipment	3341	91,010	116,094	33.1	32.6	158	162
Communications equipment	3342	69,115	80,092	50.4	49.8	155	152
Semiconductor and other electronic components	3344	176,054	168,585	92.4	77.7	444	456
Navigational, measuring, electromedical, and control instruments	3345	118,648	139,871	81.6 i	75.6 i	454	495
Other computer and electronic products	other 334	17,503	19,519	5.0	5.3 i	43	60
Electrical equipment, appliances, and components	335	101,398	88,519	17.9	15.9	321	289
Transportation equipment	336	957,051	1,019,882	135.0	134.7	1,972	1,981
Motor vehicles, trailers, and parts	3361–63	646,486	686,841	83.9 i	D	1,019	1,030
Aerospace products and parts	3364	227,271	243,110	41.5 i	37.5	639	620
Other transportation equipment	other 336	83,294	89,931	9.5	D	315	331
Furniture and related products	337	48,534	54,617	3.6	D	235	269
Miscellaneous manufacturing	339	83,103	101,926	21.7	24.1	338	385
Medical equipment and supplies	3391	56,661	71,882	16.1	17.1	220	267
Other miscellaneous manufacturing	other 339	26,442	30,044	5.6	7.0	118	118

TABLE 2. Sales and employment for companies performing industrial R&D in the United States, by industry and company size: 2005 and 2006

Industry and company size	NAICS codes	Domestic net sales		R&D scientists and engineers[a]		Domestic employment (March)	
		2005	2006	2006	2007	2005	2006
		$millions		Thousands			
Nonmanufacturing industries	21–23, 42, 44–81	2,120,877	2,377,917	401.9	439.4	6,596	6,883
Mining, extraction, and support activities	21	33,665	152,013	D	D	97	133
Utilities	22	223,395	184,192	0.8	1.7	304	280
Construction	23	57,187	59,868	10.3	14.3	171	172
Wholesale trade	42	107,485	101,302	19.3	18.4	247	203
Retail trade	44, 45	232,150	247,853	D	D	608	653 i
Transportation and warehousing	48, 49	79,436	88,756	D	D	642	685
Information	51	445,489	511,749	134.2	144.5	1,493	1,651
Publishing	511	103,609	118,956	98.7	105.3	381	410
Newspaper, periodical, book, and directory	5111	26,411	23,951	5.7	D	127	119
Software	5112	77,198	95,005	93.0	D	254	291
Telecommunications	517	258,953	303,954	10.2	D	714	895
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	224,300	228,449	9.4	D	D	693
Satellite telecommunications	5174	394	906	*	*	1	2
Other telecommunications	other 517	34,259 i	74,600	0.8 i	2.8 i	D	200
Internet service providers, Web search portals, and data-processing services	518	36,493	41,940	23.8	22.7	149	155
Internet service providers and Web search portals	5181	11,574	12,253	5.1	5.3	20	17
Data-processing, hosting, and related services	5182	24,919	29,687	18.7	17.5	129	138
Other information	other 51	46,434	46,899	1.5	D	249	191
Finance, insurance, and real estate	52, 53	580,380	522,683	30.2	23.4	1,265	1,037
Professional, scientific, and technical services	54	261,500	401,512	170.6	208.9	1,182	1,088
Architectural, engineering, and related services	5413	50,121	45,535	30.1	52.2	221	210
Computer systems design and related services	5415	136,376	281,633	90.3	95.8	660	551
Scientific R&D services	5417	34,516	41,410	42.7	45.9	129	162
Other professional, scientific, and technical services	other 54	40,487	32,935	7.6	14.9	172	165
Health care services	621–23	25,076	28,707	4.7	7.4	93	132
Other nonmanufacturing[b]	55, 56, 61, 624, 71, 72, 81	75,115	79,281	17.4	9.6	494	848

TABLE 2. Sales and employment for companies performing industrial R&D in the United States, by industry and company size: 2005 and 2006

Industry and company size	NAICS codes	Domestic net sales		R&D scientists and engineers[a]		Domestic employment (March)	
		2005	2006	2006	2007	2005	2006
		$millions		Thousands			
Company size (employees)							
All companies	-	6,119,133	6,642,500	1,097.7	1,135.5	16,032	16,298
5–24	-	72,744	51,371	66.4	67.6	245	243
25–49	-	77,898	56,748	45.9	44.4	300	241
50–99	-	83,685	90,817	44.7	61.8	335	482
100–249	-	157,088	171,854	58.0	78.8	655	689
250–499	-	157,726	158,493	45.8	47.9	576	665
500–999	-	295,203	301,337	69.3	64.3	830	1,087
1,000–4,999	-	963,025	1,044,304	180.1	178.1	2,863	2,393
5,000–9,999	-	703,009	604,787	91.1	101.6	1,554	1,393
10,000–24,999	-	1,030,880	1,332,843	180.9	177.1	2,260	2,270
25,000 or more	-	2,577,876	2,829,945	315.6	313.8	6,413	6,835

* = amount < 50; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Data recorded in January represent domestic employment for the previous year.

[b] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: The method used to assign industry classifications has changed; industry-specific estimates for 2004 are not directly comparable with those for previous years. Excludes federally funded research and development centers. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 3. Funds for and companies performing industrial R&D in the United States, by industry and company size, by total R&D program size: 2006
(Amount in millions of dollars)

Industry and company size	NAICS codes	All companies		R&D program size: Less than $200,000		$200,000–$999,999		$1 million–$9.9 million		$10 million–$99.9 million		$100 million or more	
		Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
All industries	21–23, 31–33, 42, 44–81	44,266	247,669	21,174	1,158	12,806	5,733	8,439	25,183	1,555	44,747	293	170,848
Manufacturing industries	31–33	18,677	171,814	9,356	541	4,937	2,361	3,337	9,837	834	26,269	213	132,806
Food	311	728	2,720	400	24	186	95	110	297	26	1,031	6	1,273
Beverage and tobacco products	312	39	547 i	20	1	4	2	9	D	5	110	1	D
Textiles, apparel, and leather	313–16	505	594	352	14	98	42	45	D	10	186	1	D
Wood products	321	329	195	277	10	29	13	20	58	3	113	0	0
Paper, printing, and support activities	322, 323	573	D	285	D	197	81	74	213	12	382	4	2,115
Petroleum and coal products	324	107	1,432	63	4	29	12	9	28	3	120	3	1,268
Chemicals	325	1,921	46,329	821	44	543	265	323	1,034	171	6,143	63	38,843
Basic chemicals	3251	270	2,152	95	6	64	36	75	D	31	1,021	6	D
Resin, synthetic rubber, fibers, and filament	3252	152	1,975	72	6	43	23	25	D	11	277	2	D
Pharmaceuticals and medicines	3254	483	38,901	104	7	131	70	101	399	97	3,471	51	34,954
Other chemicals	other 325	1,016	3,300	551	26	306	136	123	326	32	1,374	4	1,438
Plastics and rubber products	326	1,236	2,245	467	D	460	240	280	650	27	693	2	D
Nonmetallic mineral products	327	398	1,014	243	10	83	D	57	179	14	461	1	D
Primary metals	331	236	651	99	7	86	D	37	D	13	290	1	D
Fabricated metal products	332	2,417	1,499	1,721	82	395	201	280	661	20	555	0	0
Machinery	333	3,114	9,848	1,616	117	779	340	621	1,538	83	2,388	15	5,465
Computer and electronic products	334	2,795	56,773	835	56	821	409	813	2,748	254	8,313	72	45,247
Computers and peripheral equipment	3341	289	D	91	D	76	43	76	255	34	1,113	11	5,957
Communications equipment	3342	500	D	125	D	116	50	180	579	70	2,116	9	8,373
Semiconductor and other electronic components	3344	728	18,888	168	8	224	111	241	792	67	2,399	28	15,578
Navigational, measuring, electromedical, and control instruments	3345	1,103	18,300	362	24	364	182	281	1,008	75	2,424	20	14,663
Other computer and electronic products	other 334	176	D	88	D	41	22	35	114	8	262	4	676 i
Electrical equipment, appliances, and components	335	986	2,281	460	D	321	145	155	442	48	1,268	2	D
Transportation equipment	336	1,129	D	559	D	275	124	196	641	69	2,376	31	34,187
Motor vehicles, trailers, and parts	3361–63	783	D	397	D	202	90	119	416	48	1,901	17	14,273
Aerospace products and parts	3364	132	16,367	46	2	20	10	45	122	12	261	10	15,971
Other transportation equipment	other 336	214	D	116	D	54	24	31	103	9	214	4	3,943
Furniture and related products	337	421	D	305	D	71	30	36	105	9	223	0	0
Miscellaneous manufacturing	339	1,741	5,150	832	50	559	284	272	939	67	1,619	11	2,258
Medical equipment and supplies	3391	923	4,098	367	26	298	165	193	705	58	1,388	8	1,815
Other miscellaneous manufacturing	other 339	818	1,052	465	24	262	119	80	234	9	231	3	444

TABLE 3. Funds for and companies performing industrial R&D in the United States, by industry and company size, by total R&D program size: 2006
(Amount in millions of dollars)

Industry and company size	NAICS codes	All companies		R&D program size: Less than $200,000		$200,000–$999,999		$1 million–$9.9 million		$10 million–$99.9 million		$100 million or more	
		Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
Nonmanufacturing industries	21–23, 42, 44–81	25,590	75,855	11,818	617	7,869	3,372	5,102	15,345	722	18,478	80	38,042
Mining, extraction, and support activities	21	142	D	13	D	106	28	13	53 i	8	164	3	887
Utilities	22	175	248	43	3	113	62	11	39	8	145	0	0
Construction	23	795	1,379	262	6	513	182	15	D	3	68	2	D
Wholesale trade	42	3,276	2,072	2,112	69	771	358	352	835	41	811	0	0
Retail trade	44, 45	577	D	527	D	17	8	23	D	8	306	2	D
Transportation and warehousing	48, 49	27	D	7	1	6	2	10	D	3	60	1	D
Information	51	3,138	26,883	859	80	1,182	655	914	2,549	148	4,338	35	19,261
Publishing	511	1,816	D	488	D	651	282	547	1,535	108	3,316	21	14,792
Newspaper, periodical, book, and directory	5111	235	D	174	D	6	3	47	95	5	124	3	743
Software	5112	1,581	D	315	D	645	278	500	1,440	103	3,191	18	14,049
Telecommunications	517	162	D	52	D	22	D	69	210	12	366	7	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	63	D	0	0	16	D	33	D	8	257	5	D
Satellite telecommunications	5174	6	D	2	D	2	D	1	D	1	D	0	0
Other telecommunications	other 517	94	D	50	D	4	2	34	D	3	D	2	D
Internet service providers, Web search portals, and data-processing services	518	774	4,029	288	24	230	108	229	615	21	478	6	2,804
Internet service providers and Web search portals	5181	143	D	75	4	41	26	24	D	1	D	2	D
Data-processing, hosting, and related services	5182	630	D	213	20	189	82	205	D	20	D	4	D
Other information	other 51	385	732	31	1	277	D	69	188	7	178	1	D
Finance, insurance, and real estate	52, 53	1,021	1,969	252	25	610	314	128	234	27	757	4	638
Professional, scientific, and technical services	54	10,856	38,049	3,599	282	3,226	1,368	3,545	11,133	456	11,268	30	13,998
Architectural, engineering, and related services	5413	2,444	6,579	1,068	D	606	250	676	1,776	90	2,178	5	D
Computer systems design and related services	5415	5,316	14,841	1,876	139	1,775	744	1,565	4,512	89	2,042	12	7,402
Scientific R&D services	5417	2,268	14,525	395	45	581	293	1,015	3,440	266	6,810	11	3,937
Other professional, scientific, and technical services	other 54	829	2,105	260	D	264	82	290	1,404	12	238	2	D
Health care services	621–23	1,945	992	1,376	67	542	127	22	D	3	145	2	D
Other nonmanufacturing[a]	55–56, 61, 624, 71–72, 81	3,637	1,479	2,768	D	784	266	68	255	16	418	1	D

TABLE 3. Funds for and companies performing industrial R&D in the United States, by industry and company size, by total R&D program size: 2006
(Amount in millions of dollars)

				R&D program size									
		All companies		Less than $200,000		$200,000–$999,999		$1 million–$9.9 million		$10 million–$99.9 million		$100 million or more	
Industry and company size	NAICS codes	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
Company size (employees)													
All companies	-	44,266	247,669	21,174	1,158	12,806	5,733	8,439	25,183	1,555	44,747	293	170,848
5–24	-	21,153	7,207	13,539	746	5,386	1,989	2,221	4,286	6	186	0	0
25–49	-	6,815	D	2,793	170	2,412	1,078	1,526	4,593	85	D	0	0
50–99	-	7,035	9,064	3,256	139	2,055	1,130	1,572	5,170	151	2,625	0	0
100–249	-	4,372	13,306	908	D	1,714	862	1,457	5,214	290	D	3	D
250–499	-	1,941	D	529	D	499	296	690	2,160	221	5,662	2	D
500–999	-	1,441	13,360	90	5	617	309	479	1,507	230	7,257	25	4,282
1,000–4,999	-	1,065	37,866	51	4	108	60	411	1,846	400	13,767	95	22,188
5,000–9,999	-	195	20,434	5	*	11	7	47	230	87	3,343	45	16,852
10,000–24,999	-	145	37,865	3	*	3	2	23	116	56	2,287	60	35,460
25,000 or more	-	105	92,925	0	0	0	0	13	59	29	1,426	63	91,440

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 4. Funds for industrial R&D performed in the United States, by industry, by company size: 2006
(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
All industries	21–23, 31–33, 42, 44–81	247,669	7,207	D	9,064	13,306	D	13,360	37,866	20,434	37,865	92,925
Manufacturing industries	31–33	171,814	1,883	D	2,218	4,491	4,860	D	27,705	14,259	30,174	D
Food	311	2,720	7	2	32	D	97	90	357	255	D	D
Beverage and tobacco products	312	547 ¡	*	D	*	2	D	D	62	D	D	0
Textiles, apparel, and leather	313–16	594	8	D	6	D	D	D	206	D	D	D
Wood products	321	195	2	D	2	D	9	D	D	D	D	0
Paper, printing, and support activities	322, 323	D	15	D	36	86	31	54	150	115	348	D
Petroleum and coal products	324	1,432	D	4	6	11	D	D	16 ¡	0	D	D
Chemicals	325	46,329	D	399	417	1,222	1,032	2,819	7,377	D	D	D
Basic chemicals	3251	2,152	15	D	48	D	D	D	D	D	D	0
Resin, synthetic rubber, fibers, and filament	3252	1,975	D	9	17	D	D	D	D	0	D	D
Pharmaceuticals and medicines	3254	38,901	D	307	D	972	D	D	D	1,712	D	D
Other chemicals	other 325	3,300	D	D	D	D	D	D	D	D	1,120	D
Plastics and rubber products	326	2,245	D	D	D	137	224	D	D	D	D	D
Nonmetallic mineral products	327	1,014	D	65	56	16	D	D	D	D	D	0
Primary metals	331	651	7	D	13	16	36	D	218	D	D	D
Fabricated metal products	332	1,499	236	D	121	172	D	D	D	154	D	D
Machinery	333	9,848	D	330	237	510	561	416	1,903	D	D	D
Computer and electronic products	334	56,773	505	D	784	1,487	1,810	D	11,076	6,763	5,731	D
Computers and peripheral equipment	3341	D	47	48	D	D	111	D	2,150	D	D	D
Communications equipment	3342	D	90	98	D	D	632	D	D	D	0	D
Semiconductor and other electronic components	3344	18,888	D	237	D	327	D	D	D	D	D	D
Navigational, measuring, electromedical, and control instruments	3345	18,300	174	D	235	518	D	D	D	D	2,311	D
Other computer and electronic products	other 334	D	D	14	47	32	44	90	D	D	D	0
Electrical equipment, appliances, and components	335	2,281	D	83	D	181	303	D	D	88	553	0
Transportation equipment	336	D	69	49	86	199	D	D	D	D	D	D
Motor vehicles, trailers, and parts	3361–63	D	41	22	D	109	D	D	D	D	D	D
Aerospace products and parts	3364	16,367	21	19	D	D	D	D	D	D	D	14,385
Other transportation equipment	other 336	D	7	9	D	D	25	50	190	D	D	D
Furniture and related products	337	D	4	D	7	34	D	D	D	103	78	D
Miscellaneous manufacturing	339	5,150	D	349	175	299	272	D	D	D	D	0

TABLE 4. Funds for industrial R&D performed in the United States, by industry, by company size: 2006
(Millions of dollars)

Industry	NAICS codes	All companies	5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
		Company size (employees)										
Medical equipment and supplies	3391	4,098	D	D	D	D	195	D	D	D	D	0
Other miscellaneous manufacturing	other 339	1,052	D	D	D	D	78	D	494	D	0	0
Nonmanufacturing industries	21–23, 42, 44–81	75,855	5,324	D	6,845	8,815	D	D	10,160	6,174	7,691	D
Mining, extraction, and support activities	21	D	D	D	D	D	21	6	79	D	D	D
Utilities	22	248	D	3	D	0	D	57	32	D	66	D
Construction	23	1,379	65	D	D	D	10	D	D	D	D	0
Wholesale trade	42	2,072	D	D	D	528	D	158	73	0	0	0
Retail trade	44, 45	D	29	3	D	11	43	D	D	D	D	163
Transportation and warehousing	48, 49	D	D	0	D	D	D	D	8	D	29	D
Information	51	26,883	D	532	D	D	D	1,206	D	4,320	3,918	D
Publishing	511	D	D	345	D	D	740	D	D	D	D	D
Newspaper, periodical, book, and directory	5111	D	D	2	12	35	18	D	D	D	D	D
Software	5112	D	D	343	D	D	722	D	D	D	D	D
Telecommunications	517	D	62	8	72	142	D	D	171 ¡	D	D	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	D	61	D	D	42 ¡	39	D	D	D	D	D
Satellite telecommunications	5174	D	D	D	D	0	0	0	D	0	0	0
Other telecommunications	other 517	D	D	D	D	100	D	D	D	0	D	D
Internet service providers, Web search portals, and data-processing services	518	4,029	115	130	D	D	D	D	334	D	D	D
Internet service providers and Web search portals	5181	D	39	D	D	D	D	D	0	D	0	0
Data-processing, hosting, and related services	5182	D	76	D	D	D	D	D	334	D	D	D
Other information	other 51	732	D	50	D	37	D	D	29	0	D	D
Finance, insurance, and real estate	52, 53	1,969	25	D	D	237	83	237	360	D	D	D
Professional, scientific, and technical services	54	38,049	4,120	D	5,130	D	D	2,282	4,344	D	D	D
Architectural, engineering, and related services	5413	6,579	D	D	774	1,073	D	313	D	D	D	D
Computer systems design and related services	5415	14,841	D	1,139	D	1,920	D	D	D	D	D	D
Scientific R&D services	5417	14,525	D	D	2,283	D	D	D	D	D	0	D

TABLE 4. Funds for industrial R&D performed in the United States, by industry, by company size: 2006
(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Other professional, scientific, and technical services	other 54	2,105	D	D	D	246	43	35	D	D	D	D
Health care services	621–23	992	176	6	D	16	D	D	D	D	D	D
Other nonmanufacturing[a]	55–56, 61, 624, 71–72, 81	1,479	130	90	D	65	D	D	D	D	D	D

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes other R&D performed outside of the company (e.g., R&D performed by organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 5. Funds for industrial R&D and companies in manufacturing and nonmanufacturing industries performing industrial R&D in the United States, by company size: 2006

Company size (employees)	Companies performing R&D (number)			Funds for industrial R&D ($millions)		
	All industries	Manufacturing	Nonmanufacturing	All industries	Manufacturing	Nonmanufacturing
All companies	44,266	18,677	25,590	247,669	171,814	75,855
5–24	21,153	6,335	14,818	7,207	1,883	5,324
25–49	6,815	3,312	3,503	D	2,079	D
50–99	7,035	3,113	3,922	9,064	2,218	6,845
100–249	4,372	2,747	1,625	13,306	4,491	8,815
250–499	1,941	1,263	678	D	4,860	D
500–999	1,441	781	660	13,360	9,087	4,273
1,000–4,999	1,065	831	234	37,866	27,705	10,160
5,000–9,999	195	136	59	20,434	14,259	6,174
10,000–24,999	145	99	46	37,865	30,174	7,691
25,000 or more	105	60	45	92,925	75,057	17,868

D = suppressed to avoid disclosure of confidential information.

NOTES: Detail does not add to total due to rounding or suppression. Excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 6. Costs for industrial R&D performed in the United States, by industry and company size, by type of cost: 2006

(Percent distribution)

Industry and company size	NAICS codes	All R&D costs $millions	All R&D costs Percent	Wages of R&D personnel	Employer's cost of fringe benefits for R&D personnel	Materials and supplies	R&D depreciation	Other costs
All industries	21–23, 31–33, 42, 44–81	247,669	100.0	46.6	10.1 i	12.5 i	4.2	26.5
Manufacturing industries	31–33	171,814	100.0	44.4 i	10.0 i	13.8 i	4.6 i	27.2 i
Food	311	2,720	100.0	41.7	13.7	9.8	4.3	30.5
Beverage and tobacco products	312	547 i	100.0	44.2 i	17.4 i	8.0 i	4.3 i	26.1 i
Textiles, apparel, and leather	313–16	594	100.0	53.4	9.9	10.3	2.5	23.8
Wood products	321	195	100.0	45.8 i	11.5 i	10.3 i	3.0 i	29.4
Paper, printing, and support activities	322, 323	D	100.0	37.7 i	12.5 i	22.6 i	4.6 i	22.6 i
Petroleum and coal products	324	1,432	100.0	35.7 i	13.8 i	9.3	3.6 i	37.6 i
Chemicals	325	46,329	100.0	31.0 i	9.1 i	11.0 i	4.5 i	44.4 i
Basic chemicals	3251	2,152	100.0	41.5	11.3	11.3	4.9	31.0
Resin, synthetic rubber, fibers, and filament	3252	1,975	100.0	46.0	7.1	8.8	10.3	27.7
Pharmaceuticals and medicines	3254	38,901	100.0	28.8 i	8.7 i	11.1 i	3.8 i	47.6 i
Other chemicals	other 325	3,300	100.0	43.0	13.8	10.6	9.0	23.6 i
Plastics and rubber products	326	2,245	100.0	40.2	9.0	29.4	3.6 i	17.7
Nonmetallic mineral products	327	1,014	100.0	35.4	12.8	17.3	5.5	28.9
Primary metals	331	651	100.0	39.2 i	11.4 i	15.3 i	13.0 i	21.1 i
Fabricated metal products	332	1,499	100.0	50.2	12.4	12.6	3.5	21.3
Machinery	333	9,848	100.0	48.8 i	10.9	15.6 i	4.3	20.4
Computer and electronic products	334	56,773	100.0	51.9 i	10.3 i	13.0 i	5.8	19.1 i
Computers and peripheral equipment	3341	D	100.0	53.1 i	10.3 i	9.1 i	7.1 i	20.3 i
Communications equipment	3342	D	100.0	56.2	12.8	6.7 i	6.3	18.0 i
Semiconductor and other electronic components	3344	18,888	100.0	52.8	6.7	11.3	6.9	22.4
Navigational, measuring, electromedical, and control instruments	3345	18,300	100.0	48.0 i	12.4 i	20.1 i	3.9 i	15.7 i
Other computer and electronic products	other 334	D	100.0	48.5 i	9.4 i	12.1 i	5.5 i	24.5 i
Electrical equipment, appliances, and components	335	2,281	100.0	51.9	11.7	11.7	2.3	22.4
Transportation equipment	336	D	100.0	49.6 i	9.3 i	17.3	3.5 i	20.3
Motor vehicles, trailers, and parts	3361–63	D	100.0	49.5 i	10.7 i	18.8	4.3 i	16.7
Aerospace products and parts	3364	16,367	100.0	50.7	7.5 i	16.4	2.5 i	23.0
Other transportation equipment	other 336	D	100.0	45.6 i	11.1 i	15.2 i	4.4 i	23.7
Furniture and related products	337	D	100.0	55.3	7.9	16.5	1.7	18.5
Miscellaneous manufacturing	339	5,150	100.0	42.5	12.5	12.7 i	3.8 i	28.4
Medical equipment and supplies	3391	4,098	100.0	41.2 i	12.3 i	13.4 i	4.1 i	29.0
Other miscellaneous manufacturing	other 339	1,052	100.0	48.4	13.1	10.1	2.5 i	26.0

TABLE 6. Costs for industrial R&D performed in the United States, by industry and company size, by type of cost: 2006

(Percent distribution)

Industry and company size	NAICS codes	All R&D costs		Wages of R&D personnel	Employer's cost of fringe benefits for R&D personnel	Materials and supplies	R&D depreciation	Other costs
		$millions	Percent					
Nonmanufacturing industries	21–23, 42, 44–81	75,855	100.0	53.0	10.3	9.0 i	3.1	24.6
Mining, extraction, and support activities	21	D	100.0	47.7	10.7	11.8	2.0	27.8
Utilities	22	248	100.0	37.0	8.8	13.3	8.5	32.5
Construction	23	1,379	100.0	11.9 i	2.7 i	79.9 i	1.6 i	4.0 i
Wholesale trade	42	2,072	100.0	48.2	11.0	7.2 i	4.2	29.5 i
Retail trade	44, 45	D	100.0	58.9	12.7	12.4	2.9 i	13.0
Transportation and warehousing	48, 49	D	100.0	54.0 i	22.0 i	6.1 i	2.9 i	15.1 i
Information	51	26,883	100.0	62.0	10.0	3.8 i	2.5	21.7
Publishing	511	D	100.0	61.1	11.0	2.4 i	2.0	23.5
Newspaper, periodical, book, and directory	5111	D	100.0	65.5	11.8	1.9 i	6.8 i	14.0
Software	5112	D	100.0	60.9	10.9	2.4	1.8	24.0
Telecommunications	517	D	100.0	57.6 i	8.8 i	20.1 i	2.0 i	11.6 i
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	D	100.0	59.0	9.0 i	18.1 i	2.0 i	12.0
Satellite telecommunications	5174	D	100.0	-	-	-	-	-
Other telecommunications	other 517	D	100.0	50.7 i	7.8 i	29.9 i	2.1 i	9.5 i
Internet service providers, Web search portals, and data-processing services	518	4,029	100.0	69.9	5.1	2.8	5.4	16.7
Internet service providers and Web search portals	5181	D	100.0	65.0	4.9	4.3	9.1	16.7
Data-processing, hosting, and related services	5182	D	100.0	73.7	5.3	1.6	2.7	16.8
Other information	other 51	732	100.0	54.6	14.6	2.6	2.2	26.1
Finance, insurance, and real estate	52, 53	1,969	100.0	70.0	9.8	4.1	2.5	13.6
Professional, scientific, and technical services	54	38,049	100.0	45.6	10.9	11.1	3.9	28.4
Architectural, engineering, and related services	5413	6,579	100.0	45.4	18.3	16.6 i	2.5	17.2
Computer systems design and related services	5415	14,841	100.0	55.3	9.4	5.5	4.4	25.4
Scientific R&D services	5417	14,525	100.0	36.8 i	9.5	14.3	4.1	35.3
Other professional, scientific, and technical services	other 54	2,105	100.0	54.5	16.4	9.2 i	2.2 i	17.6 i
Health care services	621–23	992	100.0	39.7 i	7.4	3.0	1.0	48.9
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	1,479	100.0	59.9	7.7	3.6	1.3	27.5

TABLE 6. Costs for industrial R&D performed in the United States, by industry and company size, by type of cost: 2006

(Percent distribution)

Industry and company size	NAICS codes	All R&D costs		Wages of R&D personnel	Employer's cost of fringe benefits for R&D personnel	Materials and supplies	R&D depreciation	Other costs
		$millions	Percent					
Company size (employees)								
All companies	-	247,669	100.0	46.6	10.1 i	12.5 i	4.2	26.5
5–24	-	7,207	100.0	36.4	8.0 i	12.1 i	4.2 i	39.3
25–49	-	D	100.0	35.6	8.3	13.2	3.8	39.2
50–99	-	9,064	100.0	41.1	8.5 i	11.1	3.9	35.4
100–249	-	13,306	100.0	43.2	9.8	13.1	4.0	29.9
250–499	-	D	100.0	48.2	10.6	10.9	4.0	26.3
500–999	-	13,360	100.0	43.7	9.0	11.9	4.2	31.1
1,000–4,999	-	37,866	100.0	47.0	11.0	11.6	3.8	26.5
5,000–9,999	-	20,434	100.0	52.2 i	9.8	10.2 i	4.3	23.5
10,000–24,999	-	37,865	100.0	40.1	10.3	12.4 i	4.1	33.1
25,000 or more	-	92,925	100.0	48.9 i	9.9 i	13.6 i	4.5 i	23.1 i

D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). Data for R&D by type of expense are collected only on Form RD-1, the questionnaire sent to larger R&D-performing companies. Consequently, the universe of companies may not be represented by the statistics in this table. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 7. Funds for and companies performing industrial R&D in the United States, by industry and company size, by R&D area: 2006

(Amount in millions of dollars)

Industry and company size	NAICS codes	All R&D		Software development		Materials synthesis and processing	
		Companies	Amount	Companies	Amount	Companies	Amount
All industries	21–23, 31–33, 42, 44–81	44,266	247,669	15,208	48,299	7,270	20,015
Manufacturing industries	31–33	18,677	171,814	2,906	10,720	5,197	15,295
Food	311	728	2,720	25	5	105	279
Beverage and tobacco products	312	39	547 i	0	0	15	D
Textiles, apparel, and leather	313–16	505	594	18	D	180	312
Wood products	321	329	195	6	*	153	D
Paper, printing, and support activities	322, 323	573	D	192	D	125	224
Petroleum and coal products	324	107	1,432	5	D	72	D
Chemicals	325	1,921	46,329	105	94	822	1,919
Basic chemicals	3251	270	2,152	11	D	150	582
Resin, synthetic rubber, fibers, and filament	3252	152	1,975	4	D	99	180
Pharmaceuticals and medicines	3254	483	38,901	58	66	130	761
Other chemicals	other 325	1,016	3,300	32	23	442	397
Plastics and rubber products	326	1,236	2,245	147	11	593	542
Nonmetallic mineral products	327	398	1,014	18	D	159	345
Primary metals	331	236	651	16	D	89	76
Fabricated metal products	332	2,417	1,499	268	45	445	125
Machinery	333	3,114	9,848	444	348	745	1,545
Computer and electronic products	334	2,795	56,773	1,161	4,920	604	7,303
Computers and peripheral equipment	3341	289	D	178	1,520 i	45	D
Communications equipment	3342	500	D	216	1,124	97	D
Semiconductor and other electronic components	3344	728	18,888	154	852	195	6,608
Navigational, measuring, electromedical, and control instruments	3345	1,103	18,300	551	1,349	246	400
Other computer and electronic products	other 334	176	D	63	76	21	D
Electrical equipment, appliances, and components	335	986	2,281	202	95	199	255
Transportation equipment	336	1,129	D	104	4,981	315	1,481
Motor vehicles, trailers, and parts	3361–63	783	D	73	D	272	D
Aerospace products and parts	3364	132	16,367	19	D	27	D
Other transportation equipment	other 336	214	D	12	136	17	D
Furniture and related products	337	421	D	26	D	65	D
Miscellaneous manufacturing	339	1,741	5,150	168	117	510	608
Medical equipment and supplies	3391	923	4,098	94	D	224	363
Other miscellaneous manufacturing	other 339	818	1,052	75	D	286	244

TABLE 7. Funds for and companies performing industrial R&D in the United States, by industry and company size, by R&D area: 2006

(Amount in millions of dollars)

Industry and company size	NAICS codes	All R&D		Software development		Materials synthesis and processing	
		Companies	Amount	Companies	Amount	Companies	Amount
Nonmanufacturing industries	21–23, 42, 44–81	25,590	75,855	12,302	37,579	2,073	4,720
Mining, extraction, and support activities	21	142	D	4	223	17	246
Utilities	22	175	248	108	58	6	D
Construction	23	795	1,379	6	8 i	271	137
Wholesale trade	42	3,276	2,072	429	685	500	191
Retail trade	44, 45	577	D	269	655	21	D
Transportation and warehousing	48, 49	27	D	8	55	3	2
Information	51	3,138	26,883	2,592	20,781	14	D
Publishing	511	1,816	D	1,510	16,261	4	2
Newspaper, periodical, book, and directory	5111	235	D	96	255	1	D
Software	5112	1,581	D	1,414	16,006	3	D
Telecommunications	517	162	D	107	982	1	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	63	D	42	883	1	D
Satellite telecommunications	5174	6	D	3	D	0	0
Other telecommunications	other 517	94	D	61	D	0	0
Internet service providers, Web search portals, and data-processing services	518	774	4,029	622	3,057	7	D
Internet service providers and Web search portals	5181	143	D	122	1,187	4	*
Data-processing, hosting, and related services	5182	630	D	500	1,870	3	D
Other information	other 51	385	732	353	480	2	D
Finance, insurance, and real estate	52, 53	1,021	1,969	796	1,286	4	D
Professional, scientific, and technical services	54	10,856	38,049	6,266	12,864	718	3,679
Architectural, engineering, and related services	5413	2,444	6,579	707	555	234	D
Computer systems design and related services	5415	5,316	14,841	4,249	9,864	172	2,576
Scientific R&D services	5417	2,268	14,525	515	680	300	938
Other professional, scientific, and technical services	other 54	829	2,105	795	1,766	12	D
Health care services	621–23	1,945	992	503	17	4	4
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	3,637	1,479	1,319	947	516	D

TABLE 7. Funds for and companies performing industrial R&D in the United States, by industry and company size, by R&D area: 2006

(Amount in millions of dollars)

Industry and company size	NAICS codes	All R&D		Software development		Materials synthesis and processing	
		Companies	Amount	Companies	Amount	Companies	Amount
Company size (employees)							
All companies	-	44,266	247,669	15,208	48,299	7,270	20,015
5–24	-	21,153	7,207	7,908	2,473	3,174	710
25–49	-	6,815	D	2,558	1,828	1,019	563
50–99	-	7,035	9,064	2,498	3,538	1,180	703
100–249	-	4,372	13,306	1,175	3,797	949	1,159
250–499	-	1,941	D	493	2,109	391	988
500–999	-	1,441	13,360	273	2,525	216	967
1,000–4,999	-	1,065	37,866	194	6,389	242	3,329
5,000–9,999	-	195	20,434	33	4,893	42	773
10,000–24,999	-	145	37,865	38	5,126	33	1,589
25,000 or more	-	105	92,925	37	15,621	23	9,234

TABLE 7. Funds for and companies performing industrial R&D in the United States, by industry and company size, by R&D area: 2006

(Amount in millions of dollars)

Industry and company size	NAICS codes	Other areas		Undistributed R&D	
		Companies	Amount	Companies	Amount
All industries	21–23, 31–33, 42, 44–81	22,624	102,426	7,107	76,928
Manufacturing industries	31–33	11,388	83,108	2,697	62,691
Food	311	475	1,830	190	606
Beverage and tobacco products	312	22	D	5	414
Textiles, apparel, and leather	313–16	268	D	71	72
Wood products	321	113	D	90	86
Paper, printing, and support activities	322, 323	281	D	31	2,116
Petroleum and coal products	324	45	479	2	769
Chemicals	325	1,186	26,874	214	17,442
Basic chemicals	3251	135	D	28	601
Resin, synthetic rubber, fibers, and filament	3252	67	D	10	1,690
Pharmaceuticals and medicines	3254	407	24,439	69	13,636
Other chemicals	other 325	578	1,366	107	1,515
Plastics and rubber products	326	737	1,431	44	261
Nonmetallic mineral products	327	208	D	88	319
Primary metals	331	130	D	24	339
Fabricated metal products	332	1,535	1,066 i	431	263
Machinery	333	1,963	6,024	465	1,931
Computer and electronic products	334	1,631	16,099	403	28,451
Computers and peripheral equipment	3341	144	D	42	4,222
Communications equipment	3342	239	2,840	69	6,969
Semiconductor and other electronic components	3344	421	7,256 i	145	4,173
Navigational, measuring, electromedical, and control instruments	3345	727	3,836	117	12,714
Other computer and electronic products	other 334	101	D	29	373
Electrical equipment, appliances, and components	335	637	1,563	138	369
Transportation equipment	336	674	D	186	7,197
Motor vehicles, trailers, and parts	3361–63	423	D	120	5,304
Aerospace products and parts	3364	100	D	16	1,782
Other transportation equipment	other 336	151	D	51	111
Furniture and related products	337	362	D	18	67
Miscellaneous manufacturing	339	1,119	2,436	297	1,989
Medical equipment and supplies	3391	710	D	150	1,726
Other miscellaneous manufacturing	other 339	410	D	147	263

TABLE 7. Funds for and companies performing industrial R&D in the United States, by industry and company size, by R&D area: 2006
(Amount in millions of dollars)

Industry and company size	NAICS codes	Other areas		Undistributed R&D	
		Companies	Amount	Companies	Amount
Nonmanufacturing industries	21–23, 42, 44–81	11,236	19,318	4,410	14,237
Mining, extraction, and support activities	21	127	D	11	46
Utilities	22	47	D	26	11
Construction	23	522	264	4	971
Wholesale trade	42	2,261	1,008	351	188
Retail trade	44, 45	531	D	22	2
Transportation and warehousing	48, 49	15	D	4	180
Information	51	309	D	318	4,186
Publishing	511	188	D	164	2,902
Newspaper, periodical, book, and directory	5111	169	D	2	13
Software	5112	19	D	162	2,889
Telecommunications	517	59	D	7	717
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	20	D	5	543
Satellite telecommunications	5174	5	D	0	0
Other telecommunications	other 517	33	D	2	174
Internet service providers, Web search portals, and data-processing services	518	37	D	130	501
Internet service providers and Web search portals	5181	5	D	17	325
Data-processing, hosting, and related services	5182	32	D	113	176
Other information	other 51	25	D	17	66
Finance, insurance, and real estate	52, 53	118	D	113	312
Professional, scientific, and technical services	54	3,808	13,367	1,785	8,140
Architectural, engineering, and related services	5413	1,587	D	539	2,351
Computer systems design and related services	5415	427	1,006	848	1,395
Scientific R&D services	5417	1,770	8,576	384	4,331
Other professional, scientific, and technical services	other 54	24	D	14	63
Health care services	621–23	1,931	953	263	17
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	1,567	D	1,513	185

TABLE 7. Funds for and companies performing industrial R&D in the United States, by industry and company size, by R&D area: 2006

(Amount in millions of dollars)

Industry and company size	NAICS codes	Other areas		Other areas	
		Companies	Amount	Companies	Amount
Company size (employees)					
All companies	-	22,624	102,426	7,107	76,928
5–24	-	10,305	3,058	3,788	967
25–49	-	3,392	D	996	1,494
50–99	-	3,598	3,887	840	935
100–249	-	2,530	6,087	426	2,263
250–499	-	1,051	D	401	890
500–999	-	791	7,346	349	2,522
1,000–4,999	-	678	18,921	182	9,227
5,000–9,999	-	121	9,903 i	51	4,865
10,000–24,999	-	99	16,966	38	14,183
25,000 or more	-	59	D	37	39,581

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total for money amounts because of rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. Detail does not add to total for number of companies because categories are not mutually exclusive. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 8. Companies using nanotechnology to perform R&D, by industry and company size, by R&D area: 2006

Industry and company size	NAICS codes	Biotechnology	Software development	Materials and synthesis processing	Other areas
All industries	21–23, 31–33, 42, 44–81	64	51	183	136
Manufacturing industries	31–33	26	23	144	101
Food	311	1	0	1	1
Beverage and tobacco products	312	1	0	0	0
Textiles, apparel, and leather	313–16	0	0	4	4
Wood products	321	0	1	2	1
Paper, printing, and support activities	322, 323	0	0	3	1
Petroleum and coal products	324	0	0	4	1
Chemicals	325	16	1	45	22
Basic chemicals	3251	2	0	20	6
Resin, synthetic rubber, fibers, and filament	3252	1	0	6	0
Pharmaceuticals and medicines	3254	9	0	1	3
Other chemicals	other 325	4	1	18	13
Plastics and rubber products	326	0	0	21	7
Nonmetallic mineral products	327	0	0	6	3
Primary metals	331	0	0	4	0
Fabricated metal products	332	0	0	4	2
Machinery	333	0	5	6	17
Computer and electronic products	334	5	13	21	21
Computers and peripheral equipment	3341	0	2	1	4
Communications equipment	3342	0	1	1	1
Semiconductor and other electronic components	3344	1	5	11	9
Navigational, measuring, electromedical, and control instruments	3345	4	4	6	7
Other computer and electronic products	other 334	0	1	2	0
Electrical equipment, appliances, and components	335	1	1	2	6
Transportation equipment	336	1	0	6	2
Motor vehicles, trailers, and parts	3361–63	0	0	3	2
Aerospace products and parts	3364	1	0	3	0
Other transportation equipment	other 336	0	0	0	0
Furniture and related products	337	0	0	0	2
Miscellaneous manufacturing	339	1	2	15	11
Medical equipment and supplies	3391	1	2	11	5
Other miscellaneous manufacturing	other 339	0	0	4	6
Nonmanufacturing industries	21–23, 42, 44–81	38	28	39	35
Mining, extraction, and support activities	21	1	0	1	1
Utilities	22	0	0	0	0
Construction	23	0	0	0	0
Wholesale trade	42	2	4	8	4
Retail trade	44, 45	0	0	1	0
Transportation and warehousing	48, 49	0	0	0	0
Information	51	0	10	1	2
Publishing	511	0	8	1	1
Newspaper, periodical, book, and directory	5111	0	1	0	0
Software	5112	0	7	1	1
Telecommunications	517	0	1	0	1
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	0	1	0	1
Satellite telecommunications	5174	0	0	0	0
Other telecommunications	other 517	0	0	0	0
Internet service providers, Web search portals, and data-processing services	518	0	1	0	0
Internet service providers and Web search portals	5181	0	0	0	0
Data-processing, hosting, and related services	5182	0	1	0	0

TABLE 8. Companies using nanotechnology to perform R&D, by industry and company size, by R&D area: 2006

Industry and company size	NAICS codes	Biotechnology	Software development	Materials and synthesis processing	Other areas
Other information	other 51	0	0	0	0
Finance, insurance, and real estate	52, 53	0	0	0	0
Professional, scientific, and technical services	54	34	12	25	25
Architectural, engineering, and related services	5413	0	0	2	1
Computer systems design and related services	5415	0	4	2	1
Scientific R&D services	5417	34	2	19	22
Other professional, scientific, and technical services	other 54	0	6	2	1
Health care services	621–23	1	0	0	0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	0	2	3	3
Company size (employees)					
All companies	-	64	51	183	136
5–24	-	18	10	24	19
25–49	-	14	9	25	18
50–99	-	7	2	29	13
100–249	-	9	7	26	39
250–499	-	5	12	29	11
500–999	-	2	3	15	13
1,000–4,999	-	7	5	25	13
5,000–9,999	-	0	3	5	7
10,000–24,999	-	1	0	1	2
25,000 or more	-	1	0	4	1

- = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 9. Funds for and companies performing energy R&D in the United States, by selected industry, company size, and primary energy source, by source of funds: 2006

(Amount in millions of dollars)

Industry and company size	NAICS codes	All R&D		Federal		Company and other	
		Companies	Amount	Companies	Amount	Companies	Amount
All industries	21–23, 31–33, 42, 44–81	107	4,206	34	205	100	4,001
Manufacturing	31–33	59	2,759	17	141	57	2,618
Petroleum and coal products	324	1	D	0	0	1	D
Chemicals	325	8	D	3	D	8	202
Machinery	333	12	362	4	2	12	360
Computer and electronic products	334	10	815	3	13	10	802
Electrical equipment, appliances, and components	335	8	114	3	47	7	67
Transportation equipment	336	11	838	4	D	10	D
All other manufacturing	-	9	32	0	0	9	32
Nonmanufacturing	21–23, 42, 44–81	48	1,447	17	64	43	1,383
Mining, extraction, and support activities	21	6	D	1	D	6	738
All other nonmanufacturing	22, 23, 42, 44–81	42	D	16	D	37	645
Company size (employees)							
All companies	-	107	4,206	34	205	100	4,001
5–24	-	1	D	0	0	1	D
25–49	-	7	20	5	6	5	14
50–99	-	3	D	2	D	2	D
100–249	-	13	71	6	15	10	56
250–499	-	13	151	6	51	13	100
500–999	-	4	68	0	0	4	68
1,000–4,999	-	24	D	2	D	24	567
5,000–9,999	-	15	D	3	D	15	466
10,000–24,999	-	14	1,634	4	6	14	1,628
25,000 or more	-	13	1,188	6	95	12	1,094
Primary energy source							
All energy	-	107	4,206	34	205	100	4,001
Fossil fuels	-	45	2,416	9	53	44	2,363
Nuclear	-	12	D	3	D	11	347
Total geothermal, solar, and conservation and utilization	-	14	D	5	D	13	205 i
All other energy	-	66	1,188	23	102	61	1,085

D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

NOTES: Detail does not add to total for number of companies for primary energy source because categories are not mutually exclusive. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. All and federally funded industrial R&D exclude federally funded research and development centers. Energy R&D data are collected only on Form RD-1, the questionnaire sent to larger R&D-performing companies. Consequently, the universe of companies that performs energy R&D may not be represented by the statistics in this table. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 10. Company and other nonfederal funds for industrial R&D performed in the United States, by industry, by company size: 2006

(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
All industries	21–23, 31–33, 42, 44–81	223,365	6,087	6,465	8,360	12,101	7,944	12,482	36,019	19,776	36,049	78,082
Manufacturing industries	31–33	155,230	1,699	1,894	2,089	4,394	4,728	8,868	27,014	13,627	28,412	62,506
Food	311	2,716	7	2	32	82	97	90	357	255	832	960
Beverage and tobacco products	312	547 i	*	D	*	2	D	D	62	D	D	0
Textiles, apparel, and leather	313–16	583	2	D	6	23	32	D	206	D	D	D
Wood products	321	192	0	D	2	12	9	D	63	93	D	0
Paper, printing, and support activities	322, 323	2,793	15	5	36	86	31	54	150	115	348	1,954
Petroleum and coal products	324	1,431	D	4	6	11	D	D	16 i	0	D	D
Chemicals	325	46,119	325	367	400	1,205	1,027	2,803	7,310	2,800	16,362	13,519
Basic chemicals	3251	2,054	15	28	31	107	D	D	1,061	352	D	0
Resin, synthetic rubber, fibers, and filament	3252	1,963	D	9	17	33	D	D	D	0	D	D
Pharmaceuticals and medicines	3254	38,813	D	281	D	956	D	D	5,095	1,712	D	D
Other chemicals	other 325	3,288	D	49	D	108	D	79	D	736	1,120	D
Plastics and rubber products	326	2,217	D	22	189	134	224	157	908	D	D	D
Nonmetallic mineral products	327	936	D	32	17	16	D	42	191	D	565	0
Primary metals	331	638	7	D	12	16	36	31	218	34	D	D
Fabricated metal products	332	1,432	233	D	121	153	151	110	321	154	110	D
Machinery	333	9,743	333	326	235	504	545	409	1,880	1,408	1,240	2,863
Computer and electronic products	334	48,251	427	567	744	1,459	1,775	3,243	10,781	6,370	4,620	18,264
Computers and peripheral equipment	3341	7,289	46	47	D	144	111	471	2,150	D	D	D
Communications equipment	3342	10,911	87	91	D	465	613	D	1,787	D	0	D
Semiconductor and other electronic components	3344	18,534	166	226	D	316	487	D	4,066	3,094 i	D	D
Navigational, measuring, electromedical, and control instruments	3345	10,440	110	189	220	502	521	566	2,286	1,645	1,200	3,201
Other computer and electronic products	other 334	1,076	18	14	47	32	44	90	491	D	D	0
Electrical equipment, appliances, and components	335	2,215	106	82	49	167	265	290	615	88	553	0
Transportation equipment	336	30,010	69	45	66	193	199	722	2,124	1,183	1,741	23,668
Motor vehicles, trailers, and parts	3361–63	16,562	41	22	38	109	163	432	1,783	D	1,292	D
Aerospace products and parts	3364	11,995	21	15	D	67	12	241 i	150	D	D	11,069
Other transportation equipment	other 336	1,453	7	9	D	18	25	50	190	D	D	D
Furniture and related products	337	371	4	D	7	34	D	D	64	103	78	D

TABLE 10. Company and other nonfederal funds for industrial R&D performed in the United States, by industry, by company size: 2006
(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Miscellaneous manufacturing	339	5,036	123	341	164	296	269	436	1,749	653	1,004	0
Medical equipment and supplies	3391	3,998	D	D	122	247	192	362	1,255	D	1,004	0
Other miscellaneous manufacturing	other 339	1,038	D	D	42	49	78	73	494	D	0	0
Nonmanufacturing industries	21–23, 42, 44–81	68,135	4,388	4,571	6,271	7,707	3,217	3,614	9,005	6,150	7,637	15,576
Mining, extraction, and support activities	21	1,123	D	D	11	D	21	6	79	71	D	D
Utilities	22	214	D	3	D	0	D	57	32	25	66	D
Construction	23	1,368	65	D	D	D	10	17	D	D	D	0
Wholesale trade	42	2,054	81	405	385	525	426	158	73	0	0	0
Retail trade	44, 45	1,372	29	3	2	11	43	58 i	D	D	D	163
Transportation and warehousing	48, 49	277	D	0	D	D	D	D	8	D	29	D
Information	51	26,748	668	519	D	1,277	974	1,206	4,788	4,320	3,918	D
Publishing	511	19,946	D	331	D	876	740	D	4,253	D	D	D
Newspaper, periodical, book, and directory	5111	992	57	2	12	35	18	D	D	D	D	D
Software	5112	18,953	D	329	D	841	722	D	D	D	D	D
Telecommunications	517	2,135	62	8	72	142	D	D	171 i	D	D	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	1,688	61	D	D	42 i	39	D	D	D	D	D
Satellite telecommunications	5174	D	D	D	D	0	0	0	D	0	0	0
Other telecommunications	other 517	D	D	D	D	100	D	D	D	0	D	D
Internet service providers, Web search portals, and data-processing services	518	3,936	115	130	256	223	115	D	334	D	D	D
Internet service providers and Web search portals	5181	D	39	D	D	D	D	D	0	D	0	0
Data-processing, hosting, and related services	5182	D	76	D	D	D	D	D	334	D	D	D
Other information	other 51	731	D	50	D	37	D	D	29	0	D	D
Finance, insurance, and real estate	52, 53	1,969	25	D	D	237	83	237	360	D	D	D
Professional, scientific, and technical services	54	30,611	3,225	3,499	4,579	5,458	1,546	1,633	3,202	571	1,480	5,417
Architectural, engineering, and related services	5413	4,866	D	664	671	759	D	213	1,654	D	D	D
Computer systems design and related services	5415	13,830	1,545	1,024	707	1,883	D	631	671	D	D	D
Scientific R&D services	5417	10,030	952	1,796	1,939	2,711	D	754	847	D	0	D

TABLE 10. Company and other nonfederal funds for industrial R&D performed in the United States, by industry, by company size: 2006

(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Other professional, scientific, and technical services	other 54	1,885	D	15	1,263	105	43	35	31	D	D	D
Health care services	621–23	955	148	6	D	14	D	D	D	D	D	D
Other nonmanufacturing[a]	55–56, 61, 624, 71–72, 81	1,445	119	90	D	65	81	142	187	D	D	D

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. The R&D in this table is the industrial R&D performed within company facilities funded from all sources except the federal government. The funds are predominantly the company's own but also include funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments. Excludes company-funded R&D not performed within the company (e.g., R&D performed by other organizations) and company-funded R&D not performed within the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 11. Company and other nonfederal funds for and companies performing R&D in the United States, by industry and company size, by nonfederally funded R&D program size: 2006

(Amount in millions of dollars)

Industry and company size	NAICS codes	All companies		R&D program size: Less than $200,000		$200,000–$999,999		$1 million–$9.9 million		$10 million–$99.9 million		$100 million or more	
		Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
All industries	21–23, 31–33, 42, 44–81	43,015	223,365	21,053	1,172	12,284	5,511	7,938	23,334	1,465	42,441	275	150,907
Manufacturing industries	31–33	18,324	155,230	9,165	532	4,894	2,334	3,239	9,394	822	25,822	205	117,147
Food	311	724	2,716	397	23	186	95	110	297	26	1,029	6	1,272
Beverage and tobacco products	312	39	547 i	20	1	4	2	9	D	5	110	1	D
Textiles, apparel, and leather	313–16	402	583	252	8	96	42	43	D	10	186	1	D
Wood products	321	244	192	192	8	29	13	20	58	3	113	0	0
Paper, printing, and support activities	322, 323	573	2,793	285	15	197	81	74	213	12	381	4	2,103
Petroleum and coal products	324	105	1,431	61	4	29	D	9	D	3	120	3	1,268
Chemicals	325	1,915	46,119	822	44	544	264	316	990	169	6,062	63	38,759
Basic chemicals	3251	269	2,054	95	6	67	37	71	D	30	971	6	D
Resin, synthetic rubber, fibers, and filament	3252	151	1,963	72	6	42	22	25	D	11	277	2	D
Pharmaceuticals and medicines	3254	480	38,813	105	7	131	69	97	373	97	3,452	51	34,912
Other chemicals	other 325	1,014	3,288	551	26	304	136	123	331	31	1,362	4	1,433
Plastics and rubber products	326	1,236	2,217	476	D	453	239	279	649	26	667	2	D
Nonmetallic mineral products	327	391	936	253	11	83	42	39	D	14	461	1	D
Primary metals	331	235	638	97	7	87	D	37	137	12	280	1	D
Fabricated metal products	332	2,393	1,432	1,701	79	395	201	278	648	19	504	0	0
Machinery	333	3,093	9,743	1,642	119	738	319	616	1,528	82	2,341	15	5,436
Computer and electronic products	334	2,747	48,251	834	59	830	410	761	2,521	254	8,173	67	37,088
Computers and peripheral equipment	3341	289	7,289	91	7	78	44	75	253	33	1,029	11	5,957
Communications equipment	3342	499	10,911	139	12	109	50	174	562	69	2,044	8	8,243
Semiconductor and other electronic components	3344	692	18,534	144	9	217	109	236	756	67	2,393	27	15,267
Navigational, measuring, electromedical, and control instruments	3345	1,092	10,440	370	24	384	187	243	837	77	2,447	17	6,945
Other computer and electronic products	other 334	176	1,076	89	6	41	20	34	113	8	260	4	676 i
Electrical equipment, appliances, and components	335	981	2,215	460	D	317	141	157	459	44	1,190	2	D
Transportation equipment	336	1,118	30,010	553	32	275	125	193	631	69	2,395	28	26,827
Motor vehicles, trailers, and parts	3361–63	777	16,562	391	23	202	90	120	420	47	1,832	17	14,198
Aerospace products and parts	3364	127	11,995	46	2	19	10	43	116	13	350	7	11,517
Other transportation equipment	other 336	214	1,453	116	7	55	25	30	95	9	214	4	1,112
Furniture and related products	337	420	371	304	13	71	30	36	105	9	223	0	0
Miscellaneous manufacturing	339	1,709	5,036	815	49	557	282	261	861	65	1,587	11	2,258
Medical equipment and supplies	3391	916	3,998	373	26	295	163	184	639	56	1,356	8	1,814
Other miscellaneous manufacturing	other 339	793	1,038	442	23	263	119	77	222	9	231	3	444

TABLE 11. Company and other nonfederal funds for and companies performing R&D in the United States, by industry and company size, by nonfederally funded R&D program size: 2006

(Amount in millions of dollars)

Industry and company size	NAICS codes	All companies		R&D program size: Less than $200,000		$200,000–$999,999		$1 million–$9.9 million		$10 million–$99.9 million		$100 million or more	
		Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
Nonmanufacturing industries	21–23, 42, 44–81	24,691	68,135	11,889	640	7,390	3,177	4,699	13,941	643	16,618	70	33,759
Mining, extraction, and support activities	21	142	1,123	13	1	106	28	13	51 i	8	162	3	881
Utilities	22	175	214	43	3	113	62	12	39	7	110	0	0
Construction	23	794	1,368	261	6	513	D	15	55	4	165	1	D
Wholesale trade	42	3,272	2,054	2,110	69	771	357	351	831	40	797	0	0
Retail trade	44, 45	576	1,372	526	D	17	8	23	D	8	305	2	D
Transportation and warehousing	48, 49	27	277	7	1	6	2	10	D	3	60	1	D
Information	51	3,125	26,748	865	80	1,176	651	903	2,528	146	4,313	35	19,176
Publishing	511	1,810	19,946	498	54	645	277	539	1,520	107	3,303	21	14,791
Newspaper, periodical, book, and directory	5111	235	992	175	27	5	3	47	95	5	124	3	743
Software	5112	1,575	18,953	323	27	640	274	492	1,425	102	3,179	18	14,049
Telecommunications	517	162	2,135	52	1	22	D	69	210	12	366	7	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	63	1,688	0	0	16	D	33	D	8	257	5	D
Satellite telecommunications	5174	6	D	2	D	2	D	1	D	1	D	0	0
Other telecommunications	other 517	94	D	50	D	4	2	34	D	3	D	2	D
Internet service providers, Web search portals, and data-processing services	518	767	3,936	284	24	231	108	226	610	20	465	6	2,729
Internet service providers and Web search portals	5181	143	D	75	4	41	26	24	D	1	D	2	D
Data-processing, hosting, and related services	5182	624	D	209	20	190	82	202	D	19	D	4	D
Other information	other 51	385	731	31	1	277	D	69	187	7	178	1	D
Finance, insurance, and real estate	52, 53	1,021	1,969	252	25	610	314	128	234	27	757	4	638
Professional, scientific, and technical services	54	10,481	30,611	3,915	293	3,001	1,227	3,162	9,780	381	9,395	21	9,915
Architectural, engineering, and related services	5413	2,385	4,866	1,072	62	575	D	669	1,729	67	1,522	2	D
Computer systems design and related services	5415	5,229	13,830	2,032	149	1,662	665	1,443	4,024	82	1,902	10	7,089
Scientific R&D services	5417	2,044	10,030	551	54	498	241	763	2,631	223	5,805	8	1,299
Other professional, scientific, and technical services	other 54	823	1,885	260	28	266	D	287	1,396	9	166	1	D
Health care services	621–23	1,944	955	1,628	89	293	D	18	51	3	140	2	D
Other nonmanufacturing[a]	55–56, 61 624, 71–72, 81	3,135	1,445	2,270	D	785	267	63	236	16	413	1	D

TABLE 11. Company and other nonfederal funds for and companies performing R&D in the United States, by industry and company size, by nonfederally funded R&D program size: 2006

(Amount in millions of dollars)

				R&D program size									
		All companies		Less than $200,000		$200,000–$999,999		$1 million–$9.9 million		$10 million–$99.9 million		$100 million or more	
Industry and company size	NAICS codes	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
Company size (employees)													
All companies	-	43,015	223,365	21,053	1,172	12,284	5,511	7,938	23,334	1,465	42,441	275	150,907
5–24	-	20,435	6,087	13,685	767	4,825	1,729	1,919	3,405	6	186	0	0
25–49	-	6,659	6,465	2,780	168	2,426	1,102	1,384	4,045	69	1,151	0	0
50–99	-	6,731	8,360	2,985	133	2,097	1,148	1,525	4,862	124	2,218	0	0
100–249	-	4,330	12,101	927	D	1,697	858	1,442	5,099	262	5,862	2	D
250–499	-	1,926	7,944	527	D	502	297	685	2,111	210	5,214	2	D
500–999	-	1,430	12,482	89	5	615	309	486	1,545	219	6,860	21	3,764
1,000–4,999	-	1,059	36,019	52	5	108	60	411	1,852	398	13,479	90	20,623
5,000–9,999	-	195	19,776	5	*	11	7	50	248	88	3,534	41	15,987
10,000–24,999	-	145	36,049	3	*	3	2	23	109	60	2,537	56	33,400
25,000 or more	-	105	78,082	0	0	0	0	13	59	29	1,401	63	76,622

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. The R&D in this table is the industrial R&D performed within company facilities funded from all sources except the federal government. The funds are predominantly the company's own but also include funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments. Excludes company-funded R&D not performed within the company (e.g., R&D performed by other organizations) and company-funded R&D not performed within the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 12. Company and other nonfederal funds for and companies funding industrial R&D performed outside of company facilities in the United States by outside organizations, by industry and company size, by type of organization: 2006

(Amount in millions of dollars)

Industry and company size	NAICS codes	Company-funded R&D performed by outside organizations		For-profit companies		Universities and colleges	
		Companies	Amount	Companies	Amount	Companies	Amount
All industries	21–23, 31–33, 42, 44–81	6,156	12,378	710	9,205	230	482
Manufacturing industries	31–33	2,710	8,795	414	7,095	152	425
Food	311	79	228	15	179	12	D
Beverage and tobacco products	312	8	16	3	13	3	D
Textiles, apparel, and leather	313–16	29	6	7	D	2	D
Wood products	321	17	D	0	0	0	0
Paper, printing, and support activities	322, 323	90	D	8	D	6	2
Petroleum and coal products	324	16	D	2	D	2	D
Chemicals	325	423	4,831	96	3,970	59	308
Basic chemicals	3251	48	39	11	27	11	D
Resin, synthetic rubber, fibers, and filament	3252	29	12	7	5	5	6
Pharmaceuticals and medicines	3254	175	4,604	60	3,820	35	284
Other chemicals	other 325	171	176	18	118	8	D
Plastics and rubber products	326	150	56	17	D	3	*
Nonmetallic mineral products	327	27	4	4	D	3	D
Primary metals	331	36	7	5	5	3	D
Fabricated metal products	332	194	25	9	4	0	0
Machinery	333	351	252	37	223 i	10	2
Computer and electronic products	334	544	1,288	109	1,050	21	33
Computers and peripheral equipment	3341	93	169	17	132	4	D
Communications equipment	3342	102	239	31	D	0	0
Semiconductor and other electronic components	3344	133	208	32	D	6	D
Navigational, measuring, electromedical, and control instruments	3345	185	659	25	578	9	16
Other computer and electronic products	other 334	31	12	4	D	2	D
Electrical equipment, appliances, and components	335	156	40	20	23	3	D
Transportation equipment	336	198	1,448	46	1,383	12	20
Motor vehicles, trailers, and parts	3361–63	121	1,005	29	D	8	D
Aerospace products and parts	3364	29	419	13	D	3	D
Other transportation equipment	other 336	48	23	4	D	1	D
Furniture and related products	337	39	D	2	D	0	0
Miscellaneous manufacturing	339	352	494	34	144	13	14
Medical equipment and supplies	3391	229	189	29	D	12	D
Other miscellaneous manufacturing	other 339	123	304	5	D	1	D

TABLE 12. Company and other nonfederal funds for and companies funding industrial R&D performed outside of company facilities in the United States by outside organizations, by industry and company size, by type of organization: 2006
(Amount in millions of dollars)

Industry and company size	NAICS codes	Company-funded R&D performed by outside organizations		For-profit companies		Universities and colleges	
		Companies	Amount	Companies	Amount	Companies	Amount
Nonmanufacturing industries	21–23, 42, 44–81	3,447	3,583	296	2,110	78	57
Mining, extraction, and support activities	21	109	200	6	148	4	D
Utilities	22	16	102	5	D	2	D
Construction	23	4	D	2	D	0	0
Wholesale trade	42	601	229	18	D	2	D
Retail trade	44, 45	22	152 i	10	D	1	D
Transportation and warehousing	48, 49	5	D	1	D	0	0
Information	51	486	658	72	364	7	D
Publishing	511	221	246	54	159	3	D
Newspaper, periodical, book, and directory	5111	7	46 i	3	35 i	0	0
Software	5112	214	199	51	123	3	D
Telecommunications	517	53	181	3	D	2	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	24	D	3	D	2	D
Satellite telecommunications	5174	1	D	0	0	0	0
Other telecommunications	other 517	28	79	0	0	0	0
Internet service providers, Web search portals, and data-processing services	518	205	D	11	D	1	D
Internet service providers and Web search portals	5181	26	D	2	D	0	0
Data-processing, hosting, and related services	5182	179	D	9	D	1	D
Other information	other 51	7	D	4	D	1	D
Finance, insurance, and real estate	52, 53	274	427	15	D	1	D
Professional, scientific, and technical services	54	1,401	1,675	154	956	56	D
Architectural, engineering, and related services	5413	245	85	10	D	2	D
Computer systems design and related services	5415	707	285	40	D	0	0
Scientific R&D services	5417	435	1,272	97	D	54	30
Other professional, scientific, and technical services	other 54	14	34	7	32	0	0
Health care services	621–23	259	26	6	D	3	1
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	270	95	7	D	2	D

TABLE 12. Company and other nonfederal funds for and companies funding industrial R&D performed outside of company facilities in the United States by outside organizations, by industry and company size, by type of organization: 2006

(Amount in millions of dollars)

Industry and company size	NAICS codes	Company-funded R&D performed by outside organizations		For-profit companies		Universities and colleges	
		Companies	Amount	Companies	Amount	Companies	Amount
Company size (employees)							
All companies	-	6,156	12,378	710	9,205	230	482
5–24	-	2,559	707	9	17	7	3
25–49	-	1,045	880	39	215	18	7
50–99	-	786	465	74	201	23	7
100–249	-	860	817	118	402	25	13
250–499	-	308	439	102	315	22	12
500–999	-	221	605	98	458	20	13
1,000–4,999	-	222	1,643	144	1,412	51	78
5,000–9,999	-	58	640	43	578	20	14
10,000–24,999	-	55	3,870	46	3,448	22	231
25,000 or more	-	43	2,311	37	2,160	22	105

TABLE 12. Company and other nonfederal funds for and companies funding industrial R&D performed outside of company facilities in the United States by outside organizations, by industry and company size, by type of organization: 2006
(Amount in millions of dollars)

Industry and company size	NAICS codes	Nonprofit organizations (other than universities and colleges)		Federal agencies or laboratories		State government agencies or laboratories	
		Companies	Amount	Companies	Amount	Companies	Amount
All industries	21–23, 31–33, 42, 44–81	72	128	22	D	13	D
Manufacturing industries	31–33	42	D	16	D	10	1
Food	311	3	D	2	D	1	D
Beverage and tobacco products	312	1	D	0	0	0	0
Textiles, apparel, and leather	313–16	0	0	0	0	0	0
Wood products	321	1	D	0	0	0	0
Paper, printing, and support activities	322, 323	2	D	1	D	1	D
Petroleum and coal products	324	0	0	0	0	0	0
Chemicals	325	15	61	5	D	3	D
Basic chemicals	3251	2	D	0	0	0	0
Resin, synthetic rubber, fibers, and filament	3252	0	0	0	0	0	0
Pharmaceuticals and medicines	3254	10	D	3	D	2	D
Other chemicals	other 325	3	D	2	D	1	D
Plastics and rubber products	326	1	D	0	0	0	0
Nonmetallic mineral products	327	0	0	0	0	0	0
Primary metals	331	1	D	0	0	0	0
Fabricated metal products	332	0	0	0	0	0	0
Machinery	333	0	0	0	0	0	0
Computer and electronic products	334	9	D	2	D	1	D
Computers and peripheral equipment	3341	2	D	0	0	0	0
Communications equipment	3342	2	D	0	0	0	0
Semiconductor and other electronic components	3344	2	D	1	D	0	0
Navigational, measuring, electromedical, and control instruments	3345	3	D	1	D	1	D
Other computer and electronic products	other 334	0	0	0	0	0	0
Electrical equipment, appliances, and components	335	1	D	2	D	2	D
Transportation equipment	336	4	D	2	D	1	D
Motor vehicles, trailers, and parts	3361–63	2	D	1	D	1	D
Aerospace products and parts	3364	2	D	1	D	0	0
Other transportation equipment	other 336	0	0	0	0	0	0
Furniture and related products	337	0	0	0	0	0	0
Miscellaneous manufacturing	339	4	D	2	D	1	D
Medical equipment and supplies	3391	4	D	2	D	1	D
Other miscellaneous manufacturing	other 339	0	0	0	0	0	0

TABLE 12. Company and other nonfederal funds for and companies funding industrial R&D performed outside of company facilities in the United States by outside organizations, by industry and company size, by type of organization: 2006
(Amount in millions of dollars)

Industry and company size	NAICS codes	Nonprofit organizations (other than universities and colleges)		Federal agencies or laboratories		State government agencies or laboratories	
		Companies	Amount	Companies	Amount	Companies	Amount
Nonmanufacturing industries	21–23, 42, 44–81	30	D	6	D	3	D
Mining, extraction, and support activities	21	2	D	2	D	1	D
Utilities	22	9	35	0	0	2	D
Construction	23	0	0	0	0	0	0
Wholesale trade	42	0	0	0	0	0	0
Retail trade	44, 45	0	0	0	0	0	0
Transportation and warehousing	48, 49	1	D	0	0	0	0
Information	51	1	D	0	0	0	0
Publishing	511	1	D	0	0	0	0
Newspaper, periodical, book, and directory	5111	0	0	0	0	0	0
Software	5112	1	D	0	0	0	0
Telecommunications	517	0	0	0	0	0	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	0	0	0	0	0	0
Satellite telecommunications	5174	0	0	0	0	0	0
Other telecommunications	other 517	0	0	0	0	0	0
Internet service providers, Web search portals, and data-processing services	518	0	0	0	0	0	0
Internet service providers and Web search portals	5181	0	0	0	0	0	0
Data-processing, hosting, and related services	5182	0	0	0	0	0	0
Other information	other 51	0	0	0	0	0	0
Finance, insurance, and real estate	52, 53	1	D	0	0	0	0
Professional, scientific, and technical services	54	15	D	3	D	0	0
Architectural, engineering, and related services	5413	1	D	0	0	0	0
Computer systems design and related services	5415	0	0	1	D	0	0
Scientific R&D services	5417	14	D	2	D	0	0
Other professional, scientific, and technical services	other 54	0	0	0	0	0	0
Health care services	621–23	0	0	1	D	0	0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	1	D	0	0	0	0

TABLE 12. Company and other nonfederal funds for and companies funding industrial R&D performed outside of company facilities in the United States by outside organizations, by industry and company size, by type of organization: 2006

(Amount in millions of dollars)

Industry and company size	NAICS codes	Nonprofit organizations (other than universities and colleges)		Federal agencies or laboratories		State government agencies or laboratories	
		Companies	Amount	Companies	Amount	Companies	Amount
Company size (employees)							
All companies	-	72	128	22	13	13	30
5–24	-	0	0	0	0	0	0
25–49	-	5	1	0	0	0	0
50–99	-	6	*	0	0	0	0
100–249	-	6	D	4	D	1	D
250–499	-	8	1 i	4	*	0	0
500–999	-	7	8	2	D	2	D
1,000–4,999	-	10	6	4	D	6	D
5,000–9,999	-	10	D	0	0	1	D
10,000–24,999	-	11	72	3	D	3	D
25,000 or more	-	9	26	5	6	0	0

TABLE 12. Company and other nonfederal funds for and companies funding industrial R&D performed outside of company facilities in the United States by outside organizations, by industry and company size, by type of organization: 2006
(Amount in millions of dollars)

Industry and company size	NAICS codes	Undistributed R&D	
		Companies	Amount
All industries	21–23, 31–33, 42, 44–81	5,385	2,520
Manufacturing industries	31–33	2,262	1,182
Food	311	63	5
Beverage and tobacco products	312	5	1
Textiles, apparel, and leather	313–16	22	4
Wood products	321	16	1
Paper, printing, and support activities	322, 323	79	6
Petroleum and coal products	324	13	1
Chemicals	325	315	487
Basic chemicals	3251	33	7
Resin, synthetic rubber, fibers, and filament	3252	19	1
Pharmaceuticals and medicines	3254	112	439
Other chemicals	other 325	151	40
Plastics and rubber products	326	132	37
Nonmetallic mineral products	327	22	2
Primary metals	331	30	2
Fabricated metal products	332	185	21
Machinery	333	312	27
Computer and electronic products	334	429	201
Computers and peripheral equipment	3341	75	35
Communications equipment	3342	70	82
Semiconductor and other electronic components	3344	101	18
Navigational, measuring, electromedical, and control instruments	3345	156	63
Other computer and electronic products	other 334	27	3
Electrical equipment, appliances, and components	335	134	16
Transportation equipment	336	151	34
Motor vehicles, trailers, and parts	3361–63	90	7
Aerospace products and parts	3364	16	15
Other transportation equipment	other 336	45	12
Furniture and related products	337	37	2
Miscellaneous manufacturing	339	316	334
Medical equipment and supplies	3391	198	33
Other miscellaneous manufacturing	other 339	118	301

TABLE 12. Company and other nonfederal funds for and companies funding industrial R&D performed outside of company facilities in the United States by outside organizations, by industry and company size, by type of organization: 2006
(Amount in millions of dollars)

Industry and company size	NAICS codes	Undistributed R&D	
		Companies	Amount
Nonmanufacturing industries	21–23, 42, 44–81	3,124	1,338
Mining, extraction, and support activities	21	103	30
Utilities	22	6	29
Construction	23	2	1
Wholesale trade	42	582	141
Retail trade	44, 45	12	2
Transportation and warehousing	48, 49	3	4
Information	51	413	288
Publishing	511	166	86
Newspaper, periodical, book, and directory	5111	4	11
Software	5112	162	75
Telecommunications	517	50	160
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	21	D
Satellite telecommunications	5174	1	D
Other telecommunications	other 517	28	79
Internet service providers, Web search portals, and data-processing services	518	194	38
Internet service providers and Web search portals	5181	24	4
Data-processing, hosting, and related services	5182	170	34
Other information	other 51	3	3
Finance, insurance, and real estate	52, 53	259	73
Professional, scientific, and technical services	54	1,229	681
Architectural, engineering, and related services	5413	233	42
Computer systems design and related services	5415	667	164
Scientific R&D services	5417	322	473
Other professional, scientific, and technical services	other 54	7	2
Health care services	621–23	253	6
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	262	83

TABLE 12. Company and other nonfederal funds for and companies funding industrial R&D performed outside of company facilities in the United States by outside organizations, by industry and company size, by type of organization: 2006
(Amount in millions of dollars)

Industry and company size	NAICS codes	Undistributed R&D	
		Companies	Amount
Company size (employees)			
All companies	-	5,385	2,520
5–24	-	2,548	687
25–49	-	1,000	657
50–99	-	705	257
100–249	-	734	399
250–499	-	200	111
500–999	-	117	124
1,000–4,999	-	65	146
5,000–9,999	-	9	36
10,000–24,999	-	4	87
25,000 or more	-	4	16

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed;
- = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total for number of companies because categories are not mutually exclusive. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Detail does not add to total for money amounts because of rounding or suppression. The R&D in this table is the industrial R&D performed outside company facilities funded from all sources except the federal government. The funds are predominantly the company's own, but also include funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments. Excluded is company-funded R&D not performed within the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). Data for total company-funded R&D performed by other organizations are collected from all R&D performing companies; however, data for company-funded R&D performed by other organizations by type of performer are collected only on Form RD-1, the questionnaire sent to larger R&D-performing companies. Consequently, the universe of companies may not be represented by the statistics in this table. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 13. Company and other nonfederal funds for industrial R&D performed in the United States in collaboration with other organizations, by industry and company size, by type of organization: 2006

(Amount in millions of dollars)

Industry and company size	NAICS codes	All company-funded R&D		All company-funded collaborative R&D		For-profit companies		Universities and colleges	
		Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
All industries	21–23, 31–33, 42, 44–81	43,015	223,365	274	5,066	238	4,950	57	66
Manufacturing industries	31–33	18,324	155,230	147	3,065	128	3,019	32	33
Food	311	724	2,716	6	115	5	D	4	D
Beverage and tobacco products	312	39	547 i	1	D	1	D	1	D
Textiles, apparel, and leather	313–16	402	583	2	D	2	D	0	0
Wood products	321	244	192	0	0	0	0	0	0
Paper, printing, and support activities	322, 323	573	2,793	4	1	4	D	1	D
Petroleum and coal products	324	105	1,431	1	D	1	D	0	0
Chemicals	325	1,915	46,119	43	748	34	734	10	12
Basic chemicals	3251	269	2,054	10	108	7	D	3	D
Resin, synthetic rubber, fibers, and filament	3252	151	1,963	2	D	2	D	0	0
Pharmaceuticals and medicines	3254	480	38,813	27	608	22	601	6	D
Other chemicals	other 325	1,014	3,288	4	D	3	D	1	D
Plastics and rubber products	326	1,236	2,217	6	48	6	48	0	0
Nonmetallic mineral products	327	391	936	2	D	2	D	0	0
Primary metals	331	235	638	3	D	3	D	1	D
Fabricated metal products	332	2,393	1,432	3	1	3	D	0	0
Machinery	333	3,093	9,743	17	109	14	109	4	D
Computer and electronic products	334	2,747	48,251	29	1,181	28	1,175	4	3
Computers and peripheral equipment	3341	289	7,289	3	D	3	D	0	0
Communications equipment	3342	499	10,911	5	D	5	D	0	0
Semiconductor and other electronic components	3344	692	18,534	10	114	10	D	1	D
Navigational, measuring, electromedical, and control instruments	3345	1,092	10,440	11	D	10	D	3	D
Other computer and electronic products	other 334	176	1,076	0	0	0	0	0	0
Electrical equipment, appliances, and components	335	981	2,215	4	9	3	D	0	0
Transportation equipment	336	1,118	30,010	18	822 i	14	815 i	4	D
Motor vehicles, trailers, and parts	3361–63	777	16,562	14	D	12	D	3	D
Aerospace products and parts	3364	127	11,995	2	D	2	D	1	D
Other transportation equipment	other 336	214	1,453	2	D	0	0	0	0
Furniture and related products	337	420	371	0	0	0	0	0	0
Miscellaneous manufacturing	339	1,709	5,036	8	18	8	D	3	D
Medical equipment and supplies	3391	916	3,998	6	D	6	D	3	D
Other miscellaneous manufacturing	other 339	793	1,038	2	D	2	D	0	0

TABLE 13. Company and other nonfederal funds for industrial R&D performed in the United States in collaboration with other organizations, by industry and company size, by type of organization: 2006

(Amount in millions of dollars)

Industry and company size	NAICS codes	All company-funded R&D		All company-funded collaborative R&D		For-profit companies		Universities and colleges	
		Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
Nonmanufacturing industries	21–23, 42, 44–81	24,691	68,135	127	2,001	110	1,931	25	33
Mining, extraction, and support activities	21	142	1,123	3	D	3	D	3	D
Utilities	22	175	214	6	37	2	D	3	D
Construction	23	794	1,368	1	D	1	D	1	D
Wholesale trade	42	3,272	2,054	3	6	3	6	0	0
Retail trade	44, 45	576	1,372	3	D	3	D	1	D
Transportation and warehousing	48, 49	27	277	2	D	2	D	0	0
Information	51	3,125	26,748	13	543	13	543	0	0
Publishing	511	1,810	19,946	7	428	7	428	0	0
Newspaper, periodical, book, and directory	5111	235	992	0	0	0	0	0	0
Software	5112	1,575	18,953	7	428	7	428	0	0
Telecommunications	517	162	2,135	2	D	2	D	0	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	63	1,688	2	D	2	D	0	0
Satellite telecommunications	5174	6	D	0	0	0	0	0	0
Other telecommunications	other 517	94	D	0	0	0	0	0	0
Internet service providers, Web search portals, and data-processing services	518	767	3,936	3	D	3	D	0	0
Internet service providers and Web search portals	5181	143	D	0	0	0	0	0	0
Data-processing, hosting, and related services	5182	624	D	3	D	3	D	0	0
Other information	other 51	385	731	1	D	1	D	0	0
Finance, insurance, and real estate	52, 53	1,021	1,969	4	6	3	D	2	D
Professional, scientific, and technical services	54	10,481	30,611	88	961	76	934	15	14
Architectural, engineering, and related services	5413	2,385	4,866	5	D	5	D	0	0
Computer systems design and related services	5415	5,229	13,830	6	56	4	D	1	D
Scientific R&D services	5417	2,044	10,030	76	833	66	814	14	D
Other professional, scientific, and technical services	other 54	823	1,885	1	D	1	D	0	0
Health care services	621–23	1,944	955	2	D	2	D	0	0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	3,135	1,445	2	D	2	D	0	0

TABLE 13. Company and other nonfederal funds for industrial R&D performed in the United States in collaboration with other organizations, by industry and company size, by type of organization: 2006

(Amount in millions of dollars)

Industry and company size	NAICS codes	All company-funded R&D		All company-funded collaborative R&D		For-profit companies		Universities and colleges	
		Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
Company size (employees)									
All companies	-	43,015	223,365	274	5,066	238	4,950	57	66
5–24	-	20,435	6,087	3	1	2	D	1	D
25–49	-	6,659	6,465	20	76	16	D	6	D
50–99	-	6,731	8,360	35	136	30	131	4	1
100–249	-	4,330	12,101	53	348	48	336	6	4
250–499	-	1,926	7,944	23	161	23	153	1	D
500–999	-	1,430	12,482	37	688	34	679	3	D
1,000–4,999	-	1,059	36,019	46	769	37	757	13	D
5,000–9,999	-	195	19,776	15	1,284	13	1,268	3	D
10,000–24,999	-	145	36,049	23	511	20	496	12	12
25,000 or more	-	105	78,082	19	1,092	15	1,056	8	18

TABLE 13. Company and other nonfederal funds for industrial R&D performed in the United States in collaboration with other organizations, by industry and company size, by type of organization: 2006

(Amount in millions of dollars)

Industry and company size	NAICS codes	Nonprofit organizations (other than universities and colleges)		Federal agencies or laboratories		State government agencies or laboratories	
		Companies	Amount	Companies	Amount	Companies	Amount
All industries	21–23, 31–33, 42, 44–81	21	24	20	25	7	1
Manufacturing industries	31–33	9	4	11	9	3	*
Food	311	1	D	0	0	0	0
Beverage and tobacco products	312	0	0	0	0	0	0
Textiles, apparel, and leather	313–16	0	0	0	0	0	0
Wood products	321	0	0	0	0	0	0
Paper, printing, and support activities	322, 323	0	0	0	0	0	0
Petroleum and coal products	324	0	0	0	0	0	0
Chemicals	325	2	D	3	D	1	D
Basic chemicals	3251	1	D	0	0	1	D
Resin, synthetic rubber, fibers, and filament	3252	0	0	0	0	0	0
Pharmaceuticals and medicines	3254	1	D	2	D	0	0
Other chemicals	other 325	0	0	1	D	0	0
Plastics and rubber products	326	0	0	0	0	0	0
Nonmetallic mineral products	327	0	0	0	0	0	0
Primary metals	331	1	D	0	0	0	0
Fabricated metal products	332	1	D	0	0	0	0
Machinery	333	0	0	2	D	1	D
Computer and electronic products	334	3	2	3	1	0	0
Computers and peripheral equipment	3341	0	0	0	0	0	0
Communications equipment	3342	0	0	0	0	0	0
Semiconductor and other electronic components	3344	1	D	1	D	0	0
Navigational, measuring, electromedical, and control instruments	3345	2	D	2	D	0	0
Other computer and electronic products	other 334	0	0	0	0	0	0
Electrical equipment, appliances, and components	335	0	0	1	D	0	0
Transportation equipment	336	1	D	2	D	0	0
Motor vehicles, trailers, and parts	3361–63	0	0	0	0	0	0
Aerospace products and parts	3364	1	D	0	0	0	0
Other transportation equipment	other 336	0	0	2	D	0	0
Furniture and related products	337	0	0	0	0	0	0
Miscellaneous manufacturing	339	0	0	0	0	1	D
Medical equipment and supplies	3391	0	0	0	0	1	D
Other miscellaneous manufacturing	other 339	0	0	0	0	0	0

TABLE 13. Company and other nonfederal funds for industrial R&D performed in the United States in collaboration with other organizations, by industry and company size, by type of organization: 2006

(Amount in millions of dollars)

Industry and company size	NAICS codes	Nonprofit organizations (other than universities and colleges)		Federal agencies or laboratories		State government agencies or laboratories	
		Companies	Amount	Companies	Amount	Companies	Amount
Nonmanufacturing industries	21–23, 42, 44–81	12	20	9	16	4	1
Mining, extraction, and support activities	21	1	D	1	D	1	D
Utilities	22	4	D	1	D	1	D
Construction	23	0	0	0	0	0	0
Wholesale trade	42	0	0	0	0	0	0
Retail trade	44, 45	0	0	0	0	0	0
Transportation and warehousing	48, 49	0	0	0	0	0	0
Information	51	0	0	0	0	0	0
Publishing	511	0	0	0	0	0	0
Newspaper, periodical, book, and directory	5111	0	0	0	0	0	0
Software	5112	0	0	0	0	0	0
Telecommunications	517	0	0	0	0	0	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	0	0	0	0	0	0
Satellite telecommunications	5174	0	0	0	0	0	0
Other telecommunications	other 517	0	0	0	0	0	0
Internet service providers, Web search portals, and data-processing services	518	0	0	0	0	0	0
Internet service providers and Web search portals	5181	0	0	0	0	0	0
Data-processing, hosting, and related services	5182	0	0	0	0	0	0
Other information	other 51	0	0	0	0	0	0
Finance, insurance, and real estate	52, 53	0	0	0	0	0	0
Professional, scientific, and technical services	54	6	2	6	D	1	D
Architectural, engineering, and related services	5413	1	D	1	D	0	0
Computer systems design and related services	5415	1	D	0	0	0	0
Scientific R&D services	5417	4	D	5	D	1	D
Other professional, scientific, and technical services	other 54	0	0	0	0	0	0
Health care services	621–23	0	0	1	D	0	0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	1	D	0	0	1	D

TABLE 13. Company and other nonfederal funds for industrial R&D performed in the United States in collaboration with other organizations, by industry and company size, by type of organization: 2006

(Amount in millions of dollars)

Industry and company size	NAICS codes	Nonprofit organizations (other than universities and colleges)		Federal agencies or laboratories		State government agencies or laboratories	
		Companies	Amount	Companies	Amount	Companies	Amount
Company size (employees)							
All companies	-	21	24	20	25	7	1
5–24	-	1	D	1	D	1	D
25–49	-	0	0	0	0	0	0
50–99	-	1	D	2	D	0	0
100–249	-	4	D	7	6	1	D
250–499	-	1	D	2	D	0	0
500–999	-	3	D	1	D	0	0
1,000–4,999	-	1	D	2	D	4	D
5,000–9,999	-	2	D	1	D	0	0
10,000–24,999	-	4	D	1	D	1	D
25,000 or more	-	4	D	3	D	0	0

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail for number of companies does not add to total because categories are not mutually exclusive. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. The R&D in this table is the industrial R&D performed within company facilities in collaboration with another organization funded from all sources except the federal government. The funds predominantly are the company's own but also include funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments. Excludes company-funded R&D not performed within the company (e.g., R&D performed by other organizations) and company-funded R&D not performed within the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). Data for company-funded R&D performed in collaborations with other organizations by type of partner are collected only on Form RD-1, the questionnaire sent to larger R&D-performing companies. Consequently, the universe of companies may not be represented by the statistics in this table. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 14. Company and other nonfederal funds for and companies funding industrial R&D performed outside of the United States, by industry and company size: 2006

Industry and company size	NAICS codes	Companies	Amount ($millions)
All industries	21–23, 31–33, 42, 44–81	2,590	29,774
Manufacturing industries	31–33	1,148	22,513
Food	311	34	436
Beverage and tobacco products	312	2	D
Textiles, apparel, and leather	313–16	27	78
Wood products	321	5	8
Paper, printing, and support activities	322, 323	18	50
Petroleum and coal products	324	3	D
Chemicals	325	178	7,538
Basic chemicals	3251	28	D
Resin, synthetic rubber, fibers, and filament	3252	15	D
Pharmaceuticals and medicines	3254	86	6,531
Other chemicals	other 325	50	386
Plastics and rubber products	326	55	356
Nonmetallic mineral products	327	18	48
Primary metals	331	9	6
Fabricated metal products	332	72	158
Machinery	333	144	1,300
Computer and electronic products	334	308	6,222
Computers and peripheral equipment	3341	30	1,647
Communications equipment	3342	65	1,143
Semiconductor and other electronic components	3344	93	2,311
Navigational, measuring, electromedical, and control instruments	3345	105	909
Other computer and electronic products	other 334	15	213
Electrical equipment, appliances, and components	335	61	268
Transportation equipment	336	70	5,450
Motor vehicles, trailers, and parts	3361–63	44	4,271
Aerospace products and parts	3364	8	1,157
Other transportation equipment	other 336	18	22
Furniture and related products	337	7	5
Miscellaneous manufacturing	339	136	590
Medical equipment and supplies	3391	73	468
Other miscellaneous manufacturing	other 339	64	122
Nonmanufacturing industries	21–23, 42, 44–81	1,441	7,260
Mining, extraction, and support activities	21	8	85
Utilities	22	1	D
Construction	23	2	D
Wholesale trade	42	148	247
Retail trade	44, 45	11	85
Transportation and warehousing	48, 49	1	D
Information	51	402	3,794
Publishing	511	254	2,625
Newspaper, periodical, book, and directory	5111	5	38
Software	5112	249	2,587
Telecommunications	517	25	166
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	24	D
Satellite telecommunications	5174	0	0
Other telecommunications	other 517	1	D
Internet service providers, Web search portals, and data-processing services	518	116	980
Internet service providers and Web search portals	5181	5	D
Data-processing, hosting, and related services	5182	111	D

TABLE 14. Company and other nonfederal funds for and companies funding industrial R&D performed outside of the United States, by industry and company size: 2006

Industry and company size	NAICS codes	Companies	Amount ($millions)
Other information	other 51	6	24
Finance, insurance, and real estate	52, 53	13	53
Professional, scientific, and technical services	54	831	2,705
Architectural, engineering, and related services	5413	71	406
Computer systems design and related services	5415	496	1,572
Scientific R&D services	5417	255	707
Other professional, scientific, and technical services	other 54	9	19
Health care services	621–23	5	12
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	19	278
Company size (employees)			
All companies	-	2,590	29,774
5–24	-	645	339
25–49	-	437	427
50–99	-	348	479
100–249	-	305	615
250–499	-	187	619
500–999	-	171	946
1,000–4,999	-	309	4,634
5,000–9,999	-	81	2,537
10,000–24,999	-	60	3,539
25,000 or more	-	46	15,639

D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. The R&D in this table is the industrial R&D performed outside the 50 U.S. states and DC funded from all sources except the federal government. The funds predominantly are the company's own but also include funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments. Excludes company-funded R&D performed within the 50 U.S. states or DC (e.g., R&D performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 15. Company and other nonfederal funds for and companies funding industrial R&D performed outside of the 50 U.S. states and DC by majority-owned foreign affiliates, by location of R&D performance: 2006

(Millions of dollars)

Location of R&D performance	Companies	Amount
All locations	1,316	27,658
Puerto Rico	20	445
Canada	249	2,145
China	184	653
France	196	1,213
Germany	243	3,980
India	166	1,174
Ireland	71	789
Israel	59	1,151
Italy	95	358
Japan	140	1,184
Singapore	76	426
Sweden	89	562
United Kingdom	314	3,398
Other locations outside of the 50 U.S. states and DC	393	8,411
Undistributed [a]	610	1,770

[a] Includes R&D reported on Form RD-1 that was not allocated to specific locations outside of the 50 U.S. states and DC. Also includes total R&D performed in locations outside of the 50 U.S. states and DC reported on Form RD-1A, because Form RD-1A does not collect data by location.

NOTES: Detail does not add to total for number of companies because categories are not mutually exclusive. Detail does not add to total for money amounts due to rounding or suppression. Data are reported in current U.S. dollars. The R&D in this table is the industrial R&D performed outside the 50 U.S. states and DC funded from all sources except the federal government. The funds predominantly are the company's own, but also include funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments. Excluded from this table is company-funded R&D performed within the 50 U.S. states or DC (e.g., R&D performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 16. Federal funds for and companies performing industrial R&D in the United States, by industry and company size, by federally funded R&D program size: 2006

(Amount in millions of dollars)

Industry and company size	NAICS codes	All companies		Federally funded R&D program size: Less than $200,000		$200,000–$999,999		$1 million–$9.9 million		$10 million–$99.9 million		$100 million or more	
		Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
All industries	21–23, 31–33, 42, 44–81	3,425	24,304	1,759	105	831	422	703	2,651	106	2,599	26	18,527
Manufacturing industries	31–33	998	16,584	565	37	183	94	197	719	34	771	19	14,964
Food	311	9	4	7	D	0	0	2	D	0	0	0	0
Beverage and tobacco products	312	0	0	0	0	0	0	0	0	0	0	0	0
Textiles, apparel, and leather	313–16	107	11	101	6	3	1	3	5	0	0	0	0
Wood products	321	87	2	87	2	0	0	0	0	0	0	0	0
Paper, printing, and support activities	322, 323	3	D	2	D	0	0	0	0	1	D	0	0
Petroleum and coal products	324	3	1	2	D	1	D	0	0	0	0	0	0
Chemicals	325	75	211	22	1	19	9	29	108	5	92	0	0
Basic chemicals	3251	17	98	0	0	2	D	13	D	2	D	0	0
Resin, synthetic rubber, fibers, and filament	3252	5	13	1	*	2	D	2	D	0	0	0	0
Pharmaceuticals and medicines	3254	40	88	17	1	11	D	10	46	3	D	0	0
Other chemicals	other 325	12	12	4	*	4	1	4	11	0	0	0	0
Plastics and rubber products	326	30	27	26	2	0	0	4	26	0	0	0	0
Nonmetallic mineral products	327	27	78	2	D	2	D	23	77	0	0	0	0
Primary metals	331	7	13	4	D	1	D	2	D	0	0	0	0
Fabricated metal products	332	136	67 i	126	D	4	D	5	25	1	D	0	0
Machinery	333	120	106	62	D	43	14	14	52	2	D	0	0
Computer and electronic products	334	251	8,522	79	D	74	43	77	D	12	D	9	D
Computers and peripheral equipment	3341	9	D	3	D	4	D	0	0	2	D	0	0
Communications equipment	3342	43	D	19	3	12	D	7	18	4	87 i	1	D
Semiconductor and other electronic components	3344	83	354	40	1	20	D	22	68	1	D	1	D
Navigational, measuring, electromedical, and control instruments	3345	111	7,860	17	D	35	19	47	D	5	D	7	7,500
Other computer and electronic products	other 334	5	D	0	0	4	D	1	D	0	0	0	0
Electrical equipment, appliances, and components	335	21	66	3	*	9	D	7	19	2	D	0	0
Transportation equipment	336	52	D	10	1	9	D	12	D	10	D	10	D
Motor vehicles, trailers, and parts	3361–63	18	D	7	*	0	0	5	24	6	D	0	0
Aerospace products and parts	3364	28	4,372	3	*	8	5	4	7	4	81	8	4,279
Other transportation equipment	other 336	6	D	0	0	1	D	3	D	0	0	2	D
Furniture and related products	337	1	D	1	D	0	0	0	0	0	0	0	0
Miscellaneous manufacturing	339	70	114	31	D	18	D	19	87	1	D	0	0
Medical equipment and supplies	3391	38	101	8	1	17	D	12	76	1	D	0	0
Other miscellaneous manufacturing	other 339	31	14	23	D	1	D	7	11	0	0	0	0

TABLE 16. Federal funds for and companies performing industrial R&D in the United States, by industry and company size, by federally funded R&D program size: 2006

(Amount in millions of dollars)

Industry and company size	NAICS codes	All companies		Federally funded R&D program size: Less than $200,000		$200,000–$999,999		$1 million–$9.9 million		$10 million–$99.9 million		$100 million or more	
		Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
Nonmanufacturing industries	21–23, 42, 44–81	2,427	7,719	1,194	68	648	328	506	1,932	72	1,828	7	3,563
Mining, extraction, and support activities	21	4	D	0	0	0	0	4	D	0	0	0	0
Utilities	22	4	34	0	0	1	D	2	D	1	D	0	0
Construction	23	6	12	3	D	1	D	2	D	0	0	0	0
Wholesale trade	42	10	18	4	*	3	D	2	5	1	D	0	0
Retail trade	44, 45	2	D	2	D	0	0	0	0	0	0	0	0
Transportation and warehousing	48, 49	1	D	0	0	1	D	0	0	0	0	0	0
Information	51	49	136	15	2	25	18	6	D	3	D	0	0
Publishing	511	34	D	5	1	25	18	3	D	1	D	0	0
Newspaper, periodical, book, and directory	5111	1	D	0	0	1	D	0	0	0	0	0	0
Software	5112	33	D	5	1	24	D	3	D	1	D	0	0
Telecommunications	517	1	D	0	0	0	0	1	D	0	0	0	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	1	D	0	0	0	0	1	D	0	0	0	0
Satellite telecommunications	5174	0	0	0	0	0	0	0	0	0	0	0	0
Other telecommunications	other 517	0	0	0	0	0	0	0	0	0	0	0	0
Internet service providers, Web search portals, and data-processing services	518	8	93	4	1	0	0	2	D	2	D	0	0
Internet service providers and Web search portals	5181	0	0	0	0	0	0	0	0	0	0	0	0
Data-processing, hosting, and related services	5182	8	93	4	1	0	0	2	D	2	D	0	0
Other information	other 51	6	*	6	*	0	0	0	0	0	0	0	0
Finance, insurance, and real estate	52, 53	0	0	0	0	0	0	0	0	0	0	0	0
Professional, scientific, and technical services	54	1,582	7,438	415	27	612	305	482	1,849	67	1,693	7	3,563
Architectural, engineering, and related services	5413	151	1,714	6	1	53	D	76	488	13	D	2	D
Computer systems design and related services	5415	302	1,011	33	4	132	D	126	489	10	296	1	D
Scientific R&D services	5417	866	4,495	125	14	422	201	276	857	40	951	3	2,471
Other professional, scientific, and technical services	other 54	263	219	251	8	4	3	3	16	4	D	1	D
Health care services	621–23	262	37	256	28	3	2	3	7	0	0	0	0
Other nonmanufacturing[a]	55–56, 61 624, 71–72, 81	507	34	500	D	2	D	5	22	0	0	0	0

TABLE 16. Federal funds for and companies performing industrial R&D in the United States, by industry and company size, by federally funded R&D program size: 2006

(Amount in millions of dollars)

				Federally funded R&D program size									
		All companies		Less than $200,000		$200,000–$999,999		$1 million–$9.9 million		$10 million–$99.9 million		$100 million or more	
Industry and company size	NAICS codes	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
Company size (employees)													
All companies	-	3,425	24,304	1,759	105	831	422	703	2,651	106	2,599	26	18,527
5–24	-	2,059	1,121	1,258	79	526	265	275	776	0	0	0	0
25–49	-	405	D	100	D	165	79	139	625	2	D	0	0
50–99	-	500	704	334	9	35	22	113	397	19	275	0	0
100–249	-	195	1,206	32	3	53	D	79	424	31	636	1	D
250–499	-	72	D	11	D	18	11	29	107	13	376	0	0
500–999	-	56	878	6	D	18	D	17	68	13	511	2	D
1,000–4,999	-	58	1,847	9	1	8	5	26	119	10	348	5	1,374
5,000–9,999	-	23	657	5	*	4	D	5	22	6	D	3	536
10,000–24,999	-	24	1,816	3	D	1	D	12	46	4	90	4	1,679
25,000 or more	-	33	14,843	2	D	3	D	9	66	8	242	11	14,532

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded by the federal government. Excludes R&D not performed within the company (e.g., R&D contracted out to other organizations) and R&D not performed within the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 17. Federal funds for industrial R&D performed in the United States, by industry, by company size: 2006

(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
All industries	21–23, 31–33, 42, 44–81	24,304	1,121	D	704	1,206	D	878	1,847	657	1,816	14,843
Manufacturing industries	31–33	16,584	184	D	129	97	133	D	692	632	1,762	D
Food	311	4	0	0	0	D	*	0	0	0	D	D
Beverage and tobacco products	312	0	0	0	0	0	0	0	0	0	0	0
Textiles, apparel, and leather	313–16	11	6	D	0	D	D	D	0	0	0	0
Wood products	321	2	2	0	0	D	0	0	D	D	0	0
Paper, printing, and support activities	322, 323	D	0	D	0	0	0	0	0	0	0	D
Petroleum and coal products	324	1	D	0	0	0	0	0	0	0	0	D
Chemicals	325	211	D	32	17	17	5	16	67	D	D	D
Basic chemicals	3251	98	0	D	17	D	0	0	D	D	D	0
Resin, synthetic rubber, fibers, and filament	3252	13	0	*	0	D	D	0	0	0	D	D
Pharmaceuticals and medicines	3254	88	D	26	D	16	D	D	D	0	D	0
Other chemicals	other 325	12	D	D	D	D	D	D	0	D	0	0
Plastics and rubber products	326	27	0	D	D	3	0	D	D	0	0	0
Nonmetallic mineral products	327	78	4	33	39	0	0	D	D	0	D	0
Primary metals	331	13	0	D	*	0	0	D	0	D	0	D
Fabricated metal products	332	67 i	3	1	0	18	D	D	D	0	D	0
Machinery	333	106	D	4	2	6	16	7	23	D	D	D
Computer and electronic products	334	8,522	77	D	40	28	35	D	296	393	1,111	D
Computers and peripheral equipment	3341	D	1	1	D	D	0	D	0	0	0	0
Communications equipment	3342	D	2	7	D	D	20	D	D	0	0	D
Semiconductor and other electronic components	3344	354	D	12	8	11	D	11	D	D	0	D
Navigational, measuring, electromedical, and control instruments	3345	7,860	64	D	15	16	D	D	D	D	1,111	D
Other computer and electronic products	other 334	D	D	0	0	0	0	0	D	0	0	0
Electrical equipment, appliances, and components	335	66	D	1	D	15	38	D	D	0	0	0
Transportation equipment	336	D	*	4	20	5	D	D	D	D	D	D
Motor vehicles, trailers, and parts	3361–63	D	0	0	D	0	D	D	D	D	D	D
Aerospace products and parts	3364	4,372	*	4	15	D	D	D	D	D	D	3,316
Other transportation equipment	other 336	D	0	0	D	D	0	0	0	0	D	D
Furniture and related products	337	D	0	0	0	0	0	0	D	0	0	0
Miscellaneous manufacturing	339	114	D	8	11	3	3	D	D	D	D	0
Medical equipment and supplies	3391	101	D	D	D	D	3	D	D	D	D	0
Other miscellaneous manufacturing	other 339	14	D	D	D	D	0	D	0	0	0	0

TABLE 17. Federal funds for industrial R&D performed in the United States, by industry, by company size: 2006

(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Nonmanufacturing industries	21–23, 42, 44–81	7,719	936	D	575	1,108	D	D	1,156	25	53	D
Mining, extraction, and support activities	21	D	0	0	D	0	0	0	0	D	D	D
Utilities	22	34	0	0	0	0	D	0	0	D	0	D
Construction	23	12	0	0	D	0	0	D	D	D	D	0
Wholesale trade	42	18	D	D	D	2	D	0	0	0	0	0
Retail trade	44, 45	D	0	0	D	0	0	D	0	0	0	0
Transportation and warehousing	48, 49	D	0	0	0	0	0	0	0	0	0	D
Information	51	136	D	14	D	D	D	0	D	0	0	D
Publishing	511	D	D	14	4	D	0	0	D	0	0	0
Newspaper, periodical, book, and directory	5111	D	D	0	0	0	0	0	0	0	0	0
Software	5112	D	1	14	4	D	0	0	D	0	0	0
Telecommunications	517	D	0	0	0	0	0	0	0	0	0	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	D	0	0	0	0	0	0	0	0	0	D
Satellite telecommunications	5174	0	0	0	0	0	0	0	0	0	0	0
Other telecommunications	other 517	0	0	0	0	0	0	0	0	0	0	0
Internet service providers, Web search portals, and data-processing services	518	93	0	0	D	D	D	0	0	0	0	D
Internet service providers and Web search portals	5181	0	0	0	0	0	0	0	0	0	0	0
Data-processing, hosting, and related services	5182	93	0	0	D	D	D	0	0	0	0	D
Other information	other 51	*	0	0	*	0	0	0	0	0	0	0
Finance, insurance, and real estate	52, 53	0	0	0	0	0	0	0	0	0	0	0
Professional, scientific, and technical services	54	7,438	895	D	551	D	D	649	1,141	D	D	D
Architectural, engineering, and related services	5413	1,714	D	D	104	314	102	100	D	D	D	0
Computer systems design and related services	5415	1,011	D	115	D	37	77	D	D	0	D	D
Scientific R&D services	5417	4,495	D	D	344	D	D	D	D	0	0	D

TABLE 17. Federal funds for industrial R&D performed in the United States, by industry, by company size: 2006

(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Other professional, scientific, and technical services	other 54	219	10	D	D	140	0	0	D	0	0	D
Health care services	621–23	37	27	0	*	2	D	D	D	0	0	0
Other nonmanufacturing[a]	55–56, 61, 624, 71–72, 81	34	11	0	4	0	D	D	D	0	0	0

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded by the federal government. Excludes R&D not performed within the company (e.g., R&D contracted out to other organizations) and R&D not performed within the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 18. Domestic net sales of companies performing industrial R&D in the United States, by industry, by company size: 2006

(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
All industries	21–23, 31–33, 42, 44–81	6,642,500	51,371	56,748	90,817	171,854	158,493	301,337	1,044,304	604,787	1,332,843	2,829,945
Manufacturing industries	31–33	4,264,583	18,344	26,455	50,826	113,482	109,858	194,467	777,311	446,990	914,945	1,611,905
Food	311	414,425	456	311	2,838	8,585	10,384	15,436	59,079	48,540	82,718	186,079
Beverage and tobacco products	312	43,517	67	41	92	225	3,794	1,806 i	D	D	D	0
Textiles, apparel, and leather	313–16	41,672	159	597	D	1,828	D	3,664	15,981	D	D	D
Wood products	321	25,741	158	108	D	1,331	1,367	1,330	7,944	10,421	D	0
Paper, printing, and support activities	322, 323	223,644	346	463	2,460	4,409	2,216	4,070	18,038	15,780	22,400	153,462
Petroleum and coal products	324	446,821	322	257	D	1,504	D	D	D	0	D	D
Chemicals	325	612,885	3,768	4,529	5,824	15,574	12,482	27,394	187,777	76,681	172,919	105,937
Basic chemicals	3251	121,434	438	1,068	1,313	3,549	1,887	5,941	46,503	37,321	23,415	0
Resin, synthetic rubber, fibers, and filament	3252	90,226	134	291	708	2,170	2,068	D	48,475	0	D	D
Pharmaceuticals and medicines	3254	286,981	949	523	880	3,754	4,239	D	54,704	13,431	D	D
Other chemicals	other 325	114,244	2,247	2,646	2,924	6,100	4,289	D	38,096	25,929	21,862	D
Plastics and rubber products	326	114,989	732	1,376	D	7,446	9,085	11,593	31,887	23,201	D	D
Nonmetallic mineral products	327	48,393	411	988	881	1,351	1,059	D	D	D	24,799	0
Primary metals	331	127,138	358	429	559	3,687	4,299	2,408	D	D	52,553	D
Fabricated metal products	332	103,567	1,746	2,381	6,761	9,079	7,694	8,450	D	10,553	10,765	D
Machinery	333	272,687	2,269	6,325	8,623	17,986	12,420	20,566	59,326	38,165	40,361	66,647
Computer and electronic products	334	524,160	2,542	3,139	7,299	15,866	15,442	37,894	124,719	49,954	66,107	201,198
Computers and peripheral equipment	3341	116,094	285	281	746	1,933	1,347	6,663	D	D	D	D
Communications equipment	3342	80,092	315	664	971	3,579	4,889	10,150	D	D	0	D
Semiconductor and other electronic components	3344	168,585	794	681	2,430	4,154	2,994	12,924	23,337	20,589 i	21,618	79,063
Navigational, measuring, electromedical, and control instruments	3345	139,871	996	1,367	2,887	5,692	4,427	6,122	19,790	15,933	28,364	54,293
Other computer and electronic products	other 334	19,519	152	147	264	508	1,784	2,036 i	D	D	D	0
Electrical equipment, appliances, and components	335	88,519	1,619	1,204	1,536	4,678	5,953	7,872	31,642	7,170	26,845	0
Transportation equipment	336	1,019,882	1,152	1,196	2,462	10,593	6,301	22,319	91,595	121,162	120,819	642,282
Motor vehicles, trailers, and parts	3361–63	686,841	915	623	D	8,995	4,375	17,530	73,677	D	D	361,303
Aerospace products and parts	3364	243,110	57	175	167	721	637	888	4,968	D	D	221,712
Other transportation equipment	other 336	89,931	180	397 i	D	877	1,289	3,901	12,950	D	D	59,267
Furniture and related products	337	54,617	254	518	516	2,153	6,788	4,464	D	6,750	13,393	D
Miscellaneous manufacturing	339	101,926	1,985	2,593	2,856	7,189	7,807	22,985	37,397	7,971	11,141	0
Medical equipment and supplies	3391	71,882	1,218	D	1,357	4,788	3,840	20,178	24,094	D	11,141	0
Other miscellaneous manufacturing	other 339	30,044	767	D	1,499	2,402	3,967	2,807	13,303	D	0	0

TABLE 18. Domestic net sales of companies performing industrial R&D in the United States, by industry, by company size: 2006

(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Nonmanufacturing industries	21–23, 42, 44–81	2,377,917	33,027	30,293	39,992	58,372	48,635	106,870	266,993	157,797	417,898	1,218,040
Mining, extraction, and support activities	21	152,013	932	D	227	122	D	2,351	14,125	D	D	D
Utilities	22	184,192	130	D	D	0	D	27,211	18,667	57,101	D	D
Construction	23	59,868	1,161	1,844	D	15,237	777	3,651	5,624	6,456	D	0
Wholesale trade	42	101,302	8,562	12,059	11,860	10,855	13,096	9,245	35,624	0	0	0
Retail trade	44, 45	247,853	1,413	25	230	457	575 i	4,451	10,787	7,339	95,480 i	127,096
Transportation and warehousing	48, 49	88,756	70	0	D	D	327	D	2,533	D	D	73,907
Information	51	511,749	2,623	2,857	6,414	7,650	9,939	10,465	36,841	29,904	55,998	349,058
Publishing	511	118,956	1,704	1,373	2,422	4,767	4,837	4,301	24,050	12,938	25,137	37,426
Newspaper, periodical, book, and directory	5111	23,951	94	44	94	308	473	D	3,291	D	D	D
Software	5112	95,005	1,610	1,329	2,329	4,459	4,364	D	20,760	D	D	D
Telecommunications	517	303,954	110	128	296	561	2,043 i	1,693	D	D	D	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	228,449	D	D	D	302	D	D	D	D	D	D
Satellite telecommunications	5174	906	D	D	D	0	0	0	D	0	0	0
Other telecommunications	other 517	74,600	72	D	D	259	D	D	D	0	D	D
Internet service providers, Web search portals, and data-processing services	518	41,940	683	1,186	1,623	1,934	1,441	2,483	D	D	D	D
Internet service providers and Web search portals	5181	12,253	233	177	71	233	D	D	0	D	0	0
Data-processing, hosting, and related services	5182	29,687	450	1,009	1,552	1,701	D	D	D	D	D	D
Other information	other 51	46,899	126	169	2,072	389	1,618	1,988	D	0	D	D
Finance, insurance, and real estate	52, 53	522,683	1,622	29	1,550	3,341	2,191	24,757	84,440	6,659	43,758	354,336
Professional, scientific, and technical services	54	401,512	10,717	12,230	15,849	17,602	8,677	9,573	42,904	10,708	107,981	165,269
Architectural, engineering, and related services	5413	45,535	2,295	4,653	3,294	3,638	1,731	D	11,974	D	D	D
Computer systems design and related services	5415	281,633	6,440	5,635	3,749	7,669	3,820	4,656	12,372	5,738	97,909	133,644

TABLE 18. Domestic net sales of companies performing industrial R&D in the United States, by industry, by company size: 2006

(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Scientific R&D services	5417	41,410	1,732	1,895	2,638	5,395	D	2,359	16,015	D	0	D
Other professional, scientific, and technical services	other 54	32,935	251	46	6,168	901	D	D	2,544	D	D	D
Health care services	621–23	28,707	1,455	56	D	D	1,584	D	4,695	D	D	D
Other nonmanufacturing[a]	55–56, 61, 624, 71–72, 81	79,281	4,341	889	3,121	2,483	10,807	13,815	10,751	D	D	20,537

D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 19. Funds for industrial R&D as a percent of net sales of companies performing industrial R&D in the United States, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	% of net sales
All industries	21–23, 31–33, 42, 44–81	3.7
Manufacturing industries	31–33	4.0
Food	311	0.7
Beverage and tobacco products	312	1.3 i
Textiles, apparel, and leather	313–16	1.4
Wood products	321	0.8
Paper, printing, and support activities	322, 323	D
Petroleum and coal products	324	0.3
Chemicals	325	7.6
Basic chemicals	3251	1.8
Resin, synthetic rubber, fibers, and filament	3252	2.2
Pharmaceuticals and medicines	3254	13.6
Other chemicals	other 325	2.9
Plastics and rubber products	326	2.0
Nonmetallic mineral products	327	2.1
Primary metals	331	0.5
Fabricated metal products	332	1.4
Machinery	333	3.6
Computer and electronic products	334	10.8
Computers and peripheral equipment	3341	D
Communications equipment	3342	D
Semiconductor and other electronic components	3344	11.2
Navigational, measuring, electromedical, and control instruments	3345	13.1
Other computer and electronic products	other 334	D
Electrical equipment, appliances, and components	335	2.6
Transportation equipment	336	D
Motor vehicles, trailers, and parts	3361–63	D
Aerospace products and parts	3364	6.7
Other transportation equipment	other 336	D
Furniture and related products	337	D
Miscellaneous manufacturing	339	5.1
Medical equipment and supplies	3391	5.7
Other miscellaneous manufacturing	other 339	3.5
Nonmanufacturing industries	21–23, 42, 44–81	3.2
Mining, extraction, and support activities	21	D
Utilities	22	0.1
Construction	23	2.3
Wholesale trade	42	2.0
Retail trade	44, 45	D
Transportation and warehousing	48, 49	D
Information	51	5.3
Publishing	511	D
Newspaper, periodical, book, and directory	5111	D
Software	5112	D
Telecommunications	517	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	D
Satellite telecommunications	5174	D
Other telecommunications	other 517	D
Internet service providers, Web search portals, and data-processing services	518	9.6
Internet service providers and Web search portals	5181	D
Data-processing, hosting, and related services	5182	D

TABLE 19. Funds for industrial R&D as a percent of net sales of companies performing industrial R&D in the United States, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	% of net sales
Other information	other 51	1.6
Finance, insurance, and real estate	52, 53	0.4
Professional, scientific, and technical services	54	9.5
Architectural, engineering, and related services	5413	14.4
Computer systems design and related services	5415	5.3
Scientific R&D services	5417	35.1
Other professional, scientific, and technical services	other 54	6.4
Health care services	621–23	3.5
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	1.9
Company size (employees)		
All companies	-	3.7
5–24	-	14.0
25–49	-	D
50–99	-	10.0
100–249	-	7.7
250–499	-	D
500–999	-	4.4
1,000–4,999	-	3.6
5,000–9,999	-	3.4
10,000–24,999	-	2.8
25,000 or more	-	3.3

D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments. Excluded from this tables are R&D not performed within the company (e.g., R&D performed by other organizations) and R&D not performed within the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 20. Company and other nonfederal funds for industrial R&D as a percent of net sales of companies performing industrial R&D in the United States, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	% of net sales
All industries	21–23, 31–33, 42, 44–81	3.4
Manufacturing industries	31–33	3.6
Food	311	0.7
Beverage and tobacco products	312	1.3 i
Textiles, apparel, and leather	313–16	1.4
Wood products	321	0.7
Paper, printing, and support activities	322, 323	1.2
Petroleum and coal products	324	0.3
Chemicals	325	7.5
Basic chemicals	3251	1.7
Resin, synthetic rubber, fibers, and filament	3252	2.2
Pharmaceuticals and medicines	3254	13.5
Other chemicals	other 325	2.9
Plastics and rubber products	326	1.9
Nonmetallic mineral products	327	1.9
Primary metals	331	0.5
Fabricated metal products	332	1.4
Machinery	333	3.6
Computer and electronic products	334	9.2
Computers and peripheral equipment	3341	6.3
Communications equipment	3342	13.6
Semiconductor and other electronic components	3344	11.0
Navigational, measuring, electromedical, and control instruments	3345	7.5
Other computer and electronic products	other 334	5.5
Electrical equipment, appliances, and components	335	2.5
Transportation equipment	336	2.9
Motor vehicles, trailers, and parts	3361–63	2.4
Aerospace products and parts	3364	4.9
Other transportation equipment	other 336	1.6
Furniture and related products	337	0.7
Miscellaneous manufacturing	339	4.9
Medical equipment and supplies	3391	5.6
Other miscellaneous manufacturing	other 339	3.5
Nonmanufacturing industries	21–23, 42, 44–81	2.9
Mining, extraction, and support activities	21	0.7
Utilities	22	0.1
Construction	23	2.3
Wholesale trade	42	2.0
Retail trade	44, 45	0.6
Transportation and warehousing	48, 49	0.3
Information	51	5.2
Publishing	511	16.8
Newspaper, periodical, book, and directory	5111	4.1
Software	5112	19.9
Telecommunications	517	0.7
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	0.7
Satellite telecommunications	5174	D
Other telecommunications	other 517	D
Internet service providers, Web search portals, and data-processing services	518	9.4
Internet service providers and Web search portals	5181	D
Data-processing, hosting, and related services	5182	D
Other information	other 51	1.6

TABLE 20. Company and other nonfederal funds for industrial R&D as a percent of net sales of companies performing industrial R&D in the United States, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	% of net sales
Finance, insurance, and real estate	52, 53	0.4
Professional, scientific, and technical services	54	7.6
Architectural, engineering, and related services	5413	10.7
Computer systems design and related services	5415	4.9
Scientific R&D services	5417	24.2
Other professional, scientific, and technical services	other 54	5.7
Health care services	621–23	3.3
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	1.8
Company size (employees)		
All companies	-	3.4
5–24	-	11.8
25–49	-	11.4
50–99	-	9.2
100–249	-	7.0
250–499	-	5.0
500–999	-	4.1
1,000–4,999	-	3.4
5,000–9,999	-	3.3
10,000–24,999	-	2.7
25,000 or more	-	2.8

D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. The R&D in this table is the industrial R&D performed within company facilities funded from all sources except the federal government. The funds are predominantly the company's own but also include funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments. Excludes company-funded R&D not performed within the company (e.g., R&D performed by other organizations) and company-funded R&D not performed within the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 21. Funds for industrial R&D and as a percent of net sales of the top 20 industrial R&D-performing companies in the United States, by industry and company size, ranked by R&D program size: 2006

Industry and company size	NAICS codes	All funds ($millions)			% of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
All industries	21–23, 31–33, 42, 44–81	20,732	17,952	32,163	17.3	9.8	7.2
Manufacturing industries	31–33	19,556	15,289	28,672	16.6	5.8	6.8
Food	311	993	452	625	1.3	0.6	0.8
Beverage and tobacco products	312	485	40	21	1.7	0.6	0.2
Textiles, apparel, and leather	313–16	290	73	97	1.7	1.8	2.2
Wood products	321	123	22	24	1.5	0.4	0.3
Paper, printing, and support activities	322, 323	2,115	237	178	1.7	0.5	1.5
Petroleum and coal products	324	1,364	35	21	0.3	D	0.4
Chemicals	325	12,948	7,522	10,298	13.7	16.8	9.8
Basic chemicals	3251	637	369	552	2.0	3.8	1.7
Resin, synthetic rubber, fibers, and filament	3252	1,675	135	99	3.7	0.9	0.4
Pharmaceuticals and medicines	3254	12,948	7,522	9,106	13.7	16.8	13.0
Other chemicals	other 325	1,438	361	658	7.3	2.8	2.5
Plastics and rubber products	326	773	143	291	4.9	3.5	1.8
Nonmetallic mineral products	327	547	136	133	3.4	3.4	1.0
Primary metals	331	332	75	119	1.3	0.3	0.2
Fabricated metal products	332	219	128	208	3.0	1.9	0.8
Machinery	333	3,244	1,146	1,536	6.4	5.4	3.0
Computer and electronic products	334	16,143	7,289	9,743	18.3	9.8	7.7
Computers and peripheral equipment	3341	4,597	1,046	902	5.9	16.9	9.8
Communications equipment	3342	7,427	834	830	17.6	12.1	16.2
Semiconductor and other electronic components	3344	8,500	2,833	3,208	11.4	7.3	31.0
Navigational, measuring, electromedical, and control instruments	3345	9,485	2,123	3,056	17.5	9.9	11.1
Other computer and electronic products	other 334	676	202	118	7.0	3.7	5.5
Electrical equipment, appliances, and components	335	535	210	424	3.1	4.4	5.0
Transportation equipment	336	16,234	10,062	5,914	5.1	4.2	4.0
Motor vehicles, trailers, and parts	3361–63	10,956	1,520	2,067	3.3	2.2	2.4
Aerospace products and parts	3364	13,662	1,884	664	6.4	9.6	19.3
Other transportation equipment	other 336	3,943	149	111	6.6	1.1	0.9
Furniture and related products	337	143	67	70	0.9	0.9	0.6
Miscellaneous manufacturing	339	1,322	600	823	9.7	9.2	6.8
Medical equipment and supplies	3391	1,322	492	598	9.7	12.9	6.4
Other miscellaneous manufacturing	other 339	491	134	112	7.2	4.2	2.3

TABLE 21. Funds for industrial R&D and as a percent of net sales of the top 20 industrial R&D-performing companies in the United States, by industry and company size, ranked by R&D program size: 2006

Industry and company size	NAICS codes	All funds ($millions)			% of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
Nonmanufacturing industries	21–23, 42, 44–81	14,746	4,611	6,862	18.5	23.8	5.0
Mining, extraction, and support activities	21	933	80	85	0.8	0.8	0.4
Utilities	22	100	45	40	0.2	0.2	0.1
Construction	23	1,125	31	35	8.2	1.1	0.2
Wholesale trade	42	157	120	250	18.9	53.1	4.1
Retail trade	44, 45	1,081	126	104	3.6	0.7	0.1
Transportation and warehousing	48, 49	235	22	19	0.4	0.2	0.3
Information	51	10,276	2,561	4,142	21.0	2.5	16.5
Publishing	511	9,854	1,903	2,926	21.7	26.2	19.2
Newspaper, periodical, book, and directory	5111	784	83	56	7.0	D	1.4
Software	5112	9,854	1,903	2,477	21.7	26.2	23.1
Telecommunications	517	1,208	436	281	0.8	0.3	1.3
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	1,208	300	103	D	D	1.1
Satellite telecommunications	5174	D	D	0	D	D	0.0
Other telecommunications	other 517	302	28	16	0.4	1.0	2.1
Internet service providers, Web search portals, and data-processing services	518	2,444	452	293	10.5	5.6	10.6
Internet service providers and Web search portals	5181	D	20	23	D	D	12.1
Data-processing, hosting, and related services	5182	1,393	165	250	7.3	8.2	9.8
Other information	other 51	224	66	66	D	5.4	4.3
Finance, insurance, and real estate	52, 53	638	288	325	D	0.2	0.4
Professional, scientific, and technical services	54	8,831	1,597	2,422	19.5	1.7	13.5
Architectural, engineering, and related services	5413	2,205	358	574	78.1	6.0	24.2
Computer systems design and related services	5415	6,147	808	959	4.7	10.9	D
Scientific R&D services	5417	2,978	624	1,030	31.4	102.3	96.9
Other professional, scientific, and technical services	other 54	409	95	124	D	D	2.8
Health care services	621–23	724	35	31	6.9	D	0.5
Other nonmanufacturing [a]	55, 56, 61, 624, 71, 72, 81	635	134	161	5.6	3.0	3.5

TABLE 21. Funds for industrial R&D and as a percent of net sales of the top 20 industrial R&D-performing companies in the United States, by industry and company size, ranked by R&D program size: 2006

Industry and company size	NAICS codes	All funds ($millions)			% of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
Company size (employees)							
All companies	-	20,732	17,952	32,163	17.3	9.8	7.2
5–24	-	65	33	81	D	99.9	67.5
25–49	-	178	102	218	D	227.0	145.4
50–99	-	170	145	359	811.2	221.6 i	355.7
100–249	-	418	315	661	128.1	205.8	129.8
250–499	-	473	303	655	232.5	D	58.6
500–999	-	1,157	812	1,790	56.0	72.1	46.1
1,000–4,999	-	2,701	1,883	4,261	D	60.6	26.0
5,000–9,999	-	4,039	3,039	4,903	17.0	17.0	13.4
10,000–24,999	-	7,890	6,675	10,377	15.3	15.7	12.3
25,000 or more	-	20,732	17,952	31,670	17.3	9.8	5.9

D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Rankings were based on total funds from all sources (company, federal, and other) spent for R&D and are determined separately for each industry and company size category. Consequently, industry and company size detail does not add to totals. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 22. Company and other nonfederal funds for industrial R&D and as a percent of net sales of the top 20 companies performing company-funded industrial R&D in the United States, by industry and company size, ranked by nonfederally funded R&D program size: 2006

Industry and company size	NAICS codes	Company and other nonfederal R&D funds ($millions)			% of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
All industries	21–23, 31–33, 42, 44–81	20,091	16,482	27,527	16.1	9.3	5.4
Manufacturing industries	31–33	18,550	13,774	24,271	9.8	5.8	7.0
Food	311	993	451	623	1.3	0.6	0.8
Beverage and tobacco products	312	485	40	21	1.7	0.6	0.2
Textiles, apparel, and leather	313–16	290	73	97	1.7	1.8	2.2
Wood products	321	123	22	24	1.5	0.4	0.4
Paper, printing, and support activities	322, 323	2,103	237	178	1.7	0.5	1.5
Petroleum and coal products	324	1,364	35	21	0.3	D	0.4
Chemicals	325	12,943	7,511	10,287	13.7	16.8	9.8
Basic chemicals	3251	619	359	542	2.0	3.7	1.6
Resin, synthetic rubber, fibers, and filament	3252	1,663	135	99	3.7	0.9	0.4
Pharmaceuticals and medicines	3254	12,943	7,511	9,106	13.7	16.8	13.0
Other chemicals	other 325	1,433	361	658	7.3	2.8	2.5
Plastics and rubber products	326	773	143	283	4.9	3.5	1.8
Nonmetallic mineral products	327	545	136	132	3.4	3.4	1.0
Primary metals	331	323	75	118	1.3	0.3	0.2
Fabricated metal products	332	208	117	189	3.3	1.5	0.8
Machinery	333	3,230	1,131	1,536	6.3	5.3	3.0
Computer and electronic products	334	13,534	5,151	8,049	13.1	11.8	5.7
Computers and peripheral equipment	3341	4,597	1,046	854	5.9	16.9	9.1
Communications equipment	3342	7,420	822	769	17.6	11.9	16.2
Semiconductor and other electronic components	3344	8,491	2,833	3,075	11.4	7.3	29.8
Navigational, measuring, electromedical, and control instruments	3345	3,394	1,553	2,282	6.1	11.9	8.6
Other computer and electronic products	other 334	676	201	118	7.0	3.7	5.5
Electrical equipment, appliances, and components	335	535	208	412	3.1	4.1	5.0
Transportation equipment	336	15,417	6,271	3,878	4.9	2.8	2.4
Motor vehicles, trailers, and parts	3361–63	10,894	1,517	2,056	3.3	2.2	2.4
Aerospace products and parts	3364	10,794	791	282	5.1	4.9	3.2
Other transportation equipment	other 336	1,112	149	109	1.9	1.1	0.9
Furniture and related products	337	143	67	70	0.9	0.9	0.6
Miscellaneous manufacturing	339	1,322	600	823	9.7	9.2	6.8
Medical equipment and supplies	3391	1,322	492	597	9.7	12.9	6.3
Other miscellaneous manufacturing	other 339	491	134	112	7.2	4.2	2.3

TABLE 22. Company and other nonfederal funds for industrial R&D and as a percent of net sales of the top 20 companies performing company-funded industrial R&D in the United States, by industry and company size, ranked by nonfederally funded R&D program size: 2006

Industry and company size	NAICS codes	Company and other nonfederal R&D funds ($millions)			% of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
Nonmanufacturing industries	21–23, 42, 44–81	13,991	3,783	6,104	17.8	15.8	2.7
Mining, extraction, and support activities	21	927	80	82	0.8	0.8	0.5
Utilities	22	76	39	35	0.2	0.2	0.1
Construction	23	1,114	31	34	8.2	1.1	0.2
Wholesale trade	42	157	120	250	18.9	53.1	4.3
Retail trade	44, 45	1,081	126	104	3.6	0.7	0.1
Transportation and warehousing	48, 49	235	22	19	0.4	0.3	0.1
Information	51	10,276	2,486	4,142	21.0	2.5	16.5
Publishing	511	9,854	1,903	2,925	21.7	26.2	19.2
Newspaper, periodical, book, and directory	5111	784	83	56	7.0	D	1.4
Software	5112	9,854	1,903	2,476	21.7	26.2	23.1
Telecommunications	517	1,198	436	281	0.8	0.3	1.3
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	1,198	300	103	D	D	1.1
Satellite telecommunications	5174	D	D	0	D	D	0.0
Other telecommunications	other 517	302	28	16	0.4	1.0	2.4
Internet service providers, Web search portals, and data-processing services	518	2,369	452	293	10.2	5.6	10.6
Internet service providers and Web search portals	5181	D	20	23	D	D	12.1
Data-processing, hosting, and related services	5182	1,318	165	250	7.0	8.2	9.8
Other information	other 51	224	66	66	D	5.4	4.3
Finance, insurance, and real estate	52, 53	638	288	325	D	0.2	0.4
Professional, scientific, and technical services	54	6,822	1,087	1,895	15.7	1.2	1.7
Architectural, engineering, and related services	5413	1,485	250	418	40.3	5.0	13.6
Computer systems design and related services	5415	6,086	779	814	4.7	D	4.9
Scientific R&D services	5417	797	502	886	100.1	D	51.6
Other professional, scientific, and technical services	other 54	295	64	89	1.7	14.7	2.2
Health care services	621–23	719	35	30	6.8	D	0.5
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	635	134	155	5.6	3.0	3.8

TABLE 22. Company and other nonfederal funds for industrial R&D and as a percent of net sales of the top 20 companies performing company-funded industrial R&D in the United States, by industry and company size, ranked by nonfederally funded R&D program size: 2006

Industry and company size	NAICS codes	Company and other nonfederal R&D funds ($millions)			% of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
Company size (employees)							
All companies	-	20,091	16,482	27,527	16.1	9.3	5.4
5–24	-	65	31	74	D	209.9 i	61.1
25–49	-	178	102	217	D	226.7	145.1
50–99	-	169	145	355	803.8	221.6 i	387.6
100–249	-	388	289	624	206.3	D	81.2
250–499	-	473	297	693	232.5	D	63.4
500–999	-	1,157	799	1,707	56.0	71.0	46.2
1,000–4,999	-	2,479	1,826	4,112	D	60.0	24.9
5,000–9,999	-	4,039	3,039	4,875	17.0	17.0	13.3
10,000–24,999	-	7,886	6,664	10,142	15.3	15.7	10.1
25,000 or more	-	20,091	16,482	24,201	16.1	9.3	4.6

D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Rankings were based on company and other funds from nonfederal sources spent for R&D and are determined separately for each industry and company size. Consequently, industry and company size detail does not add to total. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. The R&D in this table is the industrial R&D performed within company facilities funded from all sources except the federal government. The funds are predominantly the company's own, but also include funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments. Excluded from this table are company-funded R&D not performed within the company (e.g., R&D performed by other organizations) and company-funded R&D not performed within the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 23. Federal funds for industrial R&D and as a percent of net sales of the top 20 companies performing federally funded industrial R&D in the United States, by industry and company size, ranked by federally funded R&D program size: 2006

Industry and company size	NAICS codes	Federal R&D funds ($millions)			% of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
All industries	21–23, 31–33, 42, 44–81	10,632	3,256	3,874	13.9	6.1	1.8
Manufacturing industries	31–33	9,826	2,337	2,873	12.6	1.7	2.3
Food	311	3	*	0	D	0.0	0.0
Beverage and tobacco products	312	0	0	0	0.0	0.0	0.0
Textiles, apparel, and leather	313–16	5	*	0	2.0	D	0.0
Wood products	321	*	0	0	D	0.0	0.0
Paper, printing, and support activities	322, 323	D	0	0	D	0.0	0.0
Petroleum and coal products	324	D	0	0	D	0.0	0.0
Chemicals	325	81	36	45	0.4	0.2	0.1
Basic chemicals	3251	69	11	D	0.7	D	D
Resin, synthetic rubber, fibers, and filament	3252	12	*	0	D	0.0	0.0
Pharmaceuticals and medicines	3254	45	20	10	D	0.0	1.2
Other chemicals	other 325	11	1	*	D	D	0.0
Plastics and rubber products	326	26	*	0	D	0.4	0.0
Nonmetallic mineral products	327	13	3	D	24.8	0.2	D
Primary metals	331	13	*	0	D	0.2	0.0
Fabricated metal products	332	56	6	1	D	4.5	0.3
Machinery	333	47	21	12	D	1.1	0.2
Computer and electronic products	334	6,929	825	442	13.9	6.5	4.7
Computers and peripheral equipment	3341	D	1	0	D	2.0	0.0
Communications equipment	3342	176	23	10	15.7	D	0.7
Semiconductor and other electronic components	3344	290	20	29	D	2.2	1.5
Navigational, measuring, electromedical, and control instruments	3345	6,929	644	134	13.9	5.4	0.7
Other computer and electronic products	other 334	3	0	0	D	0.0	0.0
Electrical equipment, appliances, and components	335	50	8	6	19.4	D	1.6
Transportation equipment	336	5,231	1,557	516	5.5	1.3	0.2
Motor vehicles, trailers, and parts	3361–63	96	38	6	D	0.0	D
Aerospace products and parts	3364	3,293	986	90	2.1	1.3	1.9
Other transportation equipment	other 336	D	D	0	D	D	0.0
Furniture and related products	337	D	0	0	D	0.0	0.0
Miscellaneous manufacturing	339	24	5	9	16.0	1.5	1.2
Medical equipment and supplies	3391	26	4	5	16.5	0.8	0.1
Other miscellaneous manufacturing	other 339	7	1	0	D	6.2	0.0

TABLE 23. Federal funds for industrial R&D and as a percent of net sales of the top 20 companies performing federally funded industrial R&D in the United States, by industry and company size, ranked by federally funded R&D program size: 2006

Industry and company size	NAICS codes	Federal R&D funds ($millions)			% of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
Nonmanufacturing industries	21–23, 42, 44–81	3,157	489	711	31.7	74.9	D
Mining, extraction, and support activities	21	10	0	0	D	0.0	0.0
Utilities	22	34	0	0	0.2	0.0	0.0
Construction	23	11	D	0	0.0	D	0.0
Wholesale trade	42	17	1	D	4.2	1.0	D
Retail trade	44, 45	D	0	0	D	0.0	0.0
Transportation and warehousing	48, 49	D	0	0	D	0.0	0.0
Information	51	109	6	7	0.1	11.2	1.4
Publishing	511	15	3	4	39.8	6.9	0.3
Newspaper, periodical, book, and directory	5111	D	0	0	D	0.0	0.0
Software	5112	15	3	4	39.8	6.9	0.3
Telecommunications	517	9	0	0	0.0	0.0	0.0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	D	0	0	D	0.0	0.0
Satellite telecommunications	5174	0	0	0	0.0	0.0	0.0
Other telecommunications	other 517	0	0	0	0.0	0.0	0.0
Internet service providers, Web search portals, and data-processing services	518	91	*	0	0.8	1.2	0.0
Internet service providers and Web search portals	5181	0	0	0	0.0	0.0	0.0
Data-processing, hosting, and related services	5182	D	*	0	D	1.2	0.0
Other information	other 51	*	0	0	0.8	0.0	0.0
Finance, insurance, and real estate	52, 53	0	0	0	0.0	0.0	0.0
Professional, scientific, and technical services	54	3,157	489	675	31.7	74.9	1.8
Architectural, engineering, and related services	5413	968	142	138	60.9	D	7.1
Computer systems design and related services	5415	331	72	99	D	23.5	78.6
Scientific R&D services	5417	2,551	230	328	D	96.4	72.8
Other professional, scientific, and technical services	other 54	179	29	2	D	51.0	24.5
Health care services	621–23	8	1	*	1.5	0.8	0.1
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	21	3	*	2.2	D	0.3

TABLE 23. Federal funds for industrial R&D and as a percent of net sales of the top 20 companies performing federally funded industrial R&D in the United States, by industry and company size, ranked by federally funded R&D program size: 2006

Industry and company size	NAICS codes	Federal R&D funds ($millions)			% of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
Company size (employees)							
All companies	-	10,632	3,256	3,874	13.9	6.1	1.8
5–24	-	30	17	38	88.3	93.9	90.7
25–49	-	40	31	76	86.3	85.6	95.7
50–99	-	81	58	135	94.5	91.7	70.5
100–249	-	272	127	212	82.4	75.7	66.0
250–499	-	183	118	128	71.6	63.6	11.9
500–999	-	452	255	127	80.3	44.6	7.3
1,000–4,999	-	1,273	271	224	50.2	12.6	1.9
5,000–9,999	-	564	59	35	5.2	0.5	0.1
10,000–24,999	-	1,679	90	46	10.6	0.3	0.0
25,000 or more	-	10,632	2,906	1,245	13.9	1.8	0.3

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Rankings were based on federal funds spent for R&D and are determined separately for each industry and company size category. Consequently, industry and company size detail does not add total. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded by the federal government. Excluded from this table are R&D not performed within the company (e.g., R&D contracted out to other organizations) and R&D not performed within the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 24. Funds for and companies performing industrial basic research, applied research, and development in the United States, by industry and company size, by source of funds: 2006
(Millions of dollars)

Industry and company size	NAICS codes	Companies (number)	All industrial R&D			Basic research		
			Total	Federal	Company and other	Total	Federal	Company and other
All industries	21–23, 31–33, 42, 44–81	44,266	247,669	24,304	223,365	8,384	1,444	6,940
Manufacturing industries	31–33	18,677	171,814	16,584	155,230	6,122	747	5,375
Food	311	728	2,720	4	2,716	156	D	D
Beverage and tobacco products	312	39	547 i	0	547 i	6	0	6
Textiles, apparel, and leather	313–16	505	594	11	583	D	0	D
Wood products	321	329	195	2	192	7 i	0	7 i
Paper, printing, and support activities	322, 323	573	D	D	2,793	54	0	54
Petroleum and coal products	324	107	1,432	1	1,431	D	*	D
Chemicals	325	1,921	46,329	211	46,119	2,571	D	D
Basic chemicals	3251	270	2,152	98	2,054	158	D	D
Resin, synthetic rubber, fibers, and filament	3252	152	1,975	13	1,963	171	0	171
Pharmaceuticals and medicines	3254	483	38,901	88	38,813	2,111	D	D
Other chemicals	other 325	1,016	3,300	12	3,288	130	*	130
Plastics and rubber products	326	1,236	2,245	27	2,217	D	D	D
Nonmetallic mineral products	327	398	1,014	78	936	D	D	81
Primary metals	331	236	651	13	638	7	D	D
Fabricated metal products	332	2,417	1,499	67 i	1,432	14	0	14
Machinery	333	3,114	9,848	106	9,743	88	17	71
Computer and electronic products	334	2,795	56,773	8,522	48,251	1,137	108	1,030
Computers and peripheral equipment	3341	289	D	D	7,289	D	D	D
Communications equipment	3342	500	D	D	10,911	D	D	D
Semiconductor and other electronic components	3344	728	18,888	354	18,534	540	14	526
Navigational, measuring, electromedical, and control instruments	3345	1,103	18,300	7,860	10,440	252	D	D
Other computer and electronic products	other 334	176	D	D	1,076	D	0	D
Electrical equipment, appliances, and components	335	986	2,281	66	2,215	D	D	D
Transportation equipment	336	1,129	D	D	30,010	D	D	D
Motor vehicles, trailers, and parts	3361–63	783	D	D	16,562	D	D	D
Aerospace products and parts	3364	132	16,367	4,372	11,995	604	155	449
Other transportation equipment	other 336	214	D	D	1,453	D	D	D
Furniture and related products	337	421	D	D	371	7	0	7
Miscellaneous manufacturing	339	1,741	5,150	114	5,036	219	6 i	214
Medical equipment and supplies	3391	923	4,098	101	3,998	193	D	D
Other miscellaneous manufacturing	other 339	818	1,052	14	1,038	26	D	D

TABLE 24. Funds for and companies performing industrial basic research, applied research, and development in the United States, by industry and company size, by source of funds: 2006
(Millions of dollars)

Industry and company size	NAICS codes	Companies (number)	All industrial R&D			Basic research		
			Total	Federal	Company and other	Total	Federal	Company and other
Nonmanufacturing industries	21–23, 42, 44–81	25,590	75,855	7,719	68,135	2,262	697	1,565
Mining, extraction, and support activities	21	142	D	D	1,123	D	0	D
Utilities	22	175	248	34	214	2	D	D
Construction	23	795	1,379	12	1,368	D	D	D
Wholesale trade	42	3,276	2,072	18	2,054	18	D	D
Retail trade	44, 45	577	D	D	1,372	D	0	D
Transportation and warehousing	48, 49	27	D	D	277	D	0	D
Information	51	3,138	26,883	136	26,748	177	D	D
Publishing	511	1,816	D	D	19,946	D	D	57
Newspaper, periodical, book, and directory	5111	235	D	D	992	D	0	D
Software	5112	1,581	D	D	18,953	D	D	D
Telecommunications	517	162	D	D	2,135	D	0	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	63	D	D	1,688	D	0	D
Satellite telecommunications	5174	6	D	0	D	0	0	0
Other telecommunications	other 517	94	D	0	D	D	0	D
Internet service providers, Web search portals, and data-processing services	518	774	4,029	93	3,936	D	D	D
Internet service providers and Web search portals	5181	143	D	0	D	D	0	D
Data-processing, hosting, and related services	5182	630	D	93	D	D	D	D
Other information	other 51	385	732	*	731	D	0	D
Finance, insurance, and real estate	52, 53	1,021	1,969	0	1,969	37	0	37
Professional, scientific, and technical services	54	10,856	38,049	7,438	30,611	1,719	676	1,043
Architectural, engineering, and related services	5413	2,444	6,579	1,714	4,866	121	52	69
Computer systems design and related services	5415	5,316	14,841	1,011	13,830	349	57	292
Scientific R&D services	5417	2,268	14,525	4,495	10,030	1,218	561	657
Other professional, scientific, and technical services	other 54	829	2,105	219	1,885	32	7	25
Health care services	621–23	1,945	992	37	955	D	D	D
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	3,637	1,479	34	1,445	18	D	D

TABLE 24. Funds for and companies performing industrial basic research, applied research, and development in the United States, by industry and company size, by source of funds: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Companies (number)	All industrial R&D			Basic research		
			Total	Federal	Company and other	Total	Federal	Company and other
Company size (employees)								
All companies	-	44,266	247,669	24,304	223,365	8,384	1,444	6,940
5–24	-	21,153	7,207	1,121	6,087	308	78	230
25–49	-	6,815	D	D	6,465	244	85	159
50–99	-	7,035	9,064	704	8,360	301	97	205
100–249	-	4,372	13,306	1,206	12,101	533	102	431
250–499	-	1,941	D	D	7,944	256	19	236
500–999	-	1,441	13,360	878	12,482	376	101	275
1,000–4,999	-	1,065	37,866	1,847	36,019	940	29	911
5,000–9,999	-	195	20,434	657	19,776	658	18	640
10,000–24,999	-	145	37,865	1,816	36,049	2,061	61	2,000
25,000 or more	-	105	92,925	14,843	78,082	2,707	854	1,853

TABLE 24. Funds for and companies performing industrial basic research, applied research, and development in the United States, by industry and company size, by source of funds: 2006
(Millions of dollars)

Industry and company size	NAICS codes	Applied research			Development		
		Total	Federal	Company and other	Total	Federal	Company and other
All industries	21–23, 31–33, 42, 44–81	51,173	6,140	45,033	188,111	16,719	171,392
Manufacturing industries	31–33	35,654	3,196	32,458	130,038	12,642	117,396
Food	311	552	D	D	2,012	D	D
Beverage and tobacco products	312	331	0	331	210	0	210
Textiles, apparel, and leather	313–16	D	D	D	534	D	D
Wood products	321	72 i	0	72 i	116	2	114
Paper, printing, and support activities	322, 323	D	D	D	D	D	D
Petroleum and coal products	324	D	*	D	D	*	D
Chemicals	325	11,776	86	11,689	31,983	D	D
Basic chemicals	3251	588	D	D	1,407	51	1,355
Resin, synthetic rubber, fibers, and filament	3252	1,114	D	D	691	D	D
Pharmaceuticals and medicines	3254	9,229	D	D	27,561	43	27,518
Other chemicals	other 325	845	1	844	2,325	11	2,314
Plastics and rubber products	326	D	D	D	D	D	D
Nonmetallic mineral products	327	319	9	310	D	D	546
Primary metals	331	177	D	D	466	D	D
Fabricated metal products	332	255	1	254	1,230	66 i	1,164
Machinery	333	1,550	27	1,522	8,210	61	8,149
Computer and electronic products	334	10,745	583	10,161	44,891	7,831	37,060
Computers and peripheral equipment	3341	D	D	D	6,183	D	D
Communications equipment	3342	D	D	2,759	8,136	D	D
Semiconductor and other electronic components	3344	4,559	54	4,505	13,789	286	13,503
Navigational, measuring, electromedical, and control instruments	3345	2,276	430	1,845	15,772	D	D
Other computer and electronic products	other 334	D	0	D	1,011	D	D
Electrical equipment, appliances, and components	335	D	D	D	1,826	D	D
Transportation equipment	336	6,190	2,365	3,824	29,725	D	D
Motor vehicles, trailers, and parts	3361–63	D	D	2,223	14,177	D	D
Aerospace products and parts	3364	3,361	1,944	1,417	12,402	2,273	10,129
Other transportation equipment	other 336	D	D	184	3,146	D	D
Furniture and related products	337	D	0	D	D	D	D
Miscellaneous manufacturing	339	1,103	89	1,014	3,828	20	3,808
Medical equipment and supplies	3391	965	D	D	2,940	17	2,923
Other miscellaneous manufacturing	other 339	138	D	D	888	3	885

TABLE 24. Funds for and companies performing industrial basic research, applied research, and development in the United States, by industry and company size, by source of funds: 2006
(Millions of dollars)

Industry and company size	NAICS codes	Applied research			Development		
		Total	Federal	Company and other	Total	Federal	Company and other
Nonmanufacturing industries	21–23, 42, 44–81	15,519	2,944	12,575	58,073	4,078	53,996
Mining, extraction, and support activities	21	D	D	D	706	D	D
Utilities	22	D	D	D	D	D	D
Construction	23	780	D	D	D	D	D
Wholesale trade	42	369	D	D	1,685	D	D
Retail trade	44, 45	D	0	D	1,211	D	D
Transportation and warehousing	48, 49	D	D	D	219	0	219
Information	51	2,958	12	2,947	23,748	D	D
Publishing	511	D	D	2,278	17,628	17	17,611
Newspaper, periodical, book, and directory	5111	D	D	D	981	0	981
Software	5112	D	D	D	16,647	17	16,630
Telecommunications	517	D	0	D	1,969	D	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	D	0	D	D	D	D
Satellite telecommunications	5174	0	0	0	D	0	D
Other telecommunications	other 517	27	0	27	D	0	D
Internet service providers, Web search portals, and data-processing services	518	D	D	D	3,503	D	D
Internet service providers and Web search portals	5181	34	0	34	1,487	0	1,487
Data-processing, hosting, and related services	5182	D	D	D	2,017	D	D
Other information	other 51	D	*	D	647	0	647
Finance, insurance, and real estate	52, 53	65	0	65	1,868	0	1,868
Professional, scientific, and technical services	54	10,232	2,855	7,377	26,098	3,906	22,192
Architectural, engineering, and related services	5413	1,702	512	1,190	4,757	1,150	3,607
Computer systems design and related services	5415	1,535	376	1,159	12,957	577	12,379
Scientific R&D services	5417	5,629	1,953	3,677	7,678	1,981	5,697
Other professional, scientific, and technical services	other 54	1,367	15	1,352	706	197	509
Health care services	621–23	264	D	D	D	D	D
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	201	D	D	1,260	11	1,249

TABLE 24. Funds for and companies performing industrial basic research, applied research, and development in the United States, by industry and company size, by source of funds: 2006
(Millions of dollars)

Industry and company size	NAICS codes	Applied research			Development		
		Total	Federal	Company and other	Total	Federal	Company and other
Company size (employees)							
All companies	-	51,173	6,140	45,033	188,111	16,719	171,392
5–24	-	2,301	444	1,857	4,598	599	3,999
25–49	-	D	D	1,980	4,651	325	4,326
50–99	-	3,277	301	2,976	5,486	306	5,179
100–249	-	2,643	274	2,369	10,130	830	9,300
250–499	-	D	D	1,643	6,393	329	6,064
500–999	-	3,667	325	3,342	9,318	452	8,866
1,000–4,999	-	8,085	738	7,347	28,841	1,081	27,760
5,000–9,999	-	4,833	66	4,766	14,943	573 i	14,370
10,000–24,999	-	8,984	281	8,703	26,820	1,474	25,346
25,000 or more	-	13,285	3,236	10,049	76,932	10,752	66,180

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. During statistical processing, when R&D was not allocated among the three character-of-work categories (basic research, applied research, and development) by survey respondents, algorithms were used to do the allocation. See table A-7 for the amount of undistributed R&D and the number of companies that reported R&D in each category. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Companies (number)	United States	Alabama	Alaska	Arizona	Arkansas	California
All industries	21–23, 31–33, 42, 44–81	44,266	247,669	1,835	49 e	3,590	285	58,424
Manufacturing industries	31–33	18,677	171,814	844	7 i	2,774	159	38,131
Food	311	728	2,720	3	1 e	1 i	21	104
Beverage and tobacco products	312	39	547 i	* e	* e	* e	* e	D
Textiles, apparel, and leather	313–16	505	594	2 e	* e	D	* i	20
Wood products	321	329	195	* e	* e	1 i	1 i	22
Paper, printing, and support activities	322, 323	573	D	6	*	1 e	6	56
Petroleum and coal products	324	107	1,432	* e	1	* e	* e	D
Chemicals	325	1,921	46,329	53	D	D	12	6,231
Basic chemicals	3251	270	2,152	19	0	* e	4	29
Resin, synthetic rubber, fibers, and filament	3252	152	1,975	* e	* e	D	D	25
Pharmaceuticals and medicines	3254	483	38,901	31	D	91	D	5,929
Other chemicals	other 325	1,016	3,300	3 e	0	42	4	249
Plastics and rubber products	326	1,236	2,245	7 e	D	19	17	129
Nonmetallic mineral products	327	398	1,014	2 e	* e	2 e	2 e	49
Primary metals	331	236	651	6	0	D	11	11
Fabricated metal products	332	2,417	1,499	10 e	* e	21 i	8	147
Machinery	333	3,114	9,848	27	*	67	19	2,898
Computer and electronic products	334	2,795	56,773	446	4 i	2,135	22 i	20,710
Computers and peripheral equipment	3341	289	D	24	0	3	* e	4,041
Communications equipment	3342	500	D	D	0	66	D	5,315 i
Semiconductor and other electronic components	3344	728	18,888	D	0	1,281	4	7,122
Navigational, measuring, electromedical, and control instruments	3345	1,103	18,300	85	4 i	775 i	13 i	4,104
Other computer and electronic products	other 334	176	D	* e	0	10	D	128
Electrical equipment, appliances, and components	335	986	2,281	4 e	0	7	26	256
Transportation equipment	336	1,129	D	268	* e	241	8	6,326
Motor vehicles, trailers, and parts	3361–63	783	D	14	* e	59	6	D
Aerospace products and parts	3364	132	16,367	219	* e	81	1 e	3,562
Other transportation equipment	other 336	214	D	35	* e	102	1 i	D
Furniture and related products	337	421	D	3	* e	1	1 i	19
Miscellaneous manufacturing	339	1,741	5,150	7 e	* e	136	4 e	1,106
Medical equipment and supplies	3391	923	4,098	5 e	* e	119	D	940
Other miscellaneous manufacturing	other 339	818	1,052	2 e	* e	16	D	165

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Companies (number)	United States	Alabama	Alaska	Arizona	Arkansas	California
Nonmanufacturing industries	21–23, 42, 44–81	25,590	75,855	991	42 e	816	126	20,294
Mining, extraction, and support activities	21	142	D	5 i	* e	D	* e	250
Utilities	22	175	248	D	* e	6 i	* e	18
Construction	23	795	1,379	3 e	12	14	1 e	D
Wholesale trade	42	3,276	2,072	24	1 e	14 e	13	588
Retail trade	44, 45	577	D	* e	D	1 e	D	1,012
Transportation and warehousing	48, 49	27	D	0	D	D	D	2
Information	51	3,138	26,883	101	3 e	110	55	8,933
Publishing	511	1,816	D	40	* e	63	2 e	6,633
Newspaper, periodical, book, and directory	5111	235	D	1 e	* e	10 i	* e	65
Software	5112	1,581	D	40	* e	53	2 e	6,568
Telecommunications	517	162	D	2 e	2 e	2 e	3 e	206 i
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	63	D	1 e	2 e	1 e	2 e	186 i
Satellite telecommunications	5174	6	D	0	0	0	0	D
Other telecommunications	other 517	94	D	1 e	* e	* e	* e	D
Internet service providers, Web search portals, and data-processing services	518	774	4,029	56	* e	40	D	1,747
Internet service providers and Web search portals	5181	143	D	* e	* e	1	* e	D
Data-processing, hosting, and related services	5182	630	D	56	* e	39	D	D
Other information	other 51	385	732	3 e	1 e	4 e	D	347
Finance, insurance, and real estate	52, 53	1,021	1,969	6 e	1 e	7 e	2 e	283
Professional, scientific, and technical services	54	10,856	38,049	809	23 e	604	51 e	8,981
Architectural, engineering, and related services	5413	2,444	6,579	302	13 e	60	11 e	1,880
Computer systems design and related services	5415	5,316	14,841	84	D	411	28 e	2,536
Scientific R&D services	5417	2,268	14,525	412	3	115	8 e	4,271
Other professional, scientific, and technical services	other 54	829	2,105	10 e	D	18 e	4 e	295 e
Health care services	621–23	1,945	992	D	* e	8 i	2 e	D
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	3,637	1,479	3 e	1 e	26	1 e	141

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Companies (number)	United States	Alabama	Alaska	Arizona	Arkansas	California
Company size (employees)								
All companies	-	44,266	247,669	1,835	49 e	3,590	285	58,424
5–24	-	21,153	7,207	81 e	14 e	92 e	34 e	1,433 e
25–49	-	6,815	D	65 e	17	97 e	23 e	1,686
50–99	-	7,035	9,064	106	7 e	88 e	20 e	2,471
100–249	-	4,372	13,306	148	6 e	147	D	3,696
250–499	-	1,941	D	87	* e	59	11	2,776
500–999	-	1,441	13,360	260	1 e	181	5 i	3,658
1,000–4,999	-	1,065	37,866	283	D	473	57	12,381
5,000–9,999	-	195	20,434	321	D	343	52	6,901
10,000–24,999	-	145	37,865	58	D	135	D	5,996 i
25,000 or more	-	105	92,925	426	*	1,974	24	17,425

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Colorado	Connecticut	Delaware	District of Columbia	Florida	Georgia	Hawaii
All industries	21–23, 31–33, 42, 44–81	4,657	8,273	1,446	276	4,139	2,786	155
Manufacturing industries	31–33	3,175	7,516	D	51	2,471	1,306	47
Food	311	19	189	1 e	* e	8	98	* e
Beverage and tobacco products	312	D	D	* e	D	* e	* i	D
Textiles, apparel, and leather	313–16	* e	1 i	* e	* e	2 i	32	* e
Wood products	321	* e	* e	D	0	4 i	11	* e
Paper, printing, and support activities	322, 323	9	29	D	* e	16	106	* e
Petroleum and coal products	324	D	* e	* e	0	* i	* e	D
Chemicals	325	141	4,563	D	2	624	413 i	42
Basic chemicals	3251	D	59 i	26 i	0	D	26	D
Resin, synthetic rubber, fibers, and filament	3252	D	31	D	D	D	34	D
Pharmaceuticals and medicines	3254	132	4,415	D	D	573	331 i	D
Other chemicals	other 325	5	57	D	* e	30	21	D
Plastics and rubber products	326	17	26	9	D	30	26	* e
Nonmetallic mineral products	327	6	8 i	1 e	* e	8 e	6 e	* e
Primary metals	331	*	3	D	0	1	5	* e
Fabricated metal products	332	37	50	6 i	* e	33	14 e	* e
Machinery	333	37	236 i	4	0	93	101	* i
Computer and electronic products	334	1,180	261	51	D	1,185	209	1 e
Computers and peripheral equipment	3341	405	6 i	0	0	6	35	D
Communications equipment	3342	D	72 i	* e	D	51	94	0
Semiconductor and other electronic components	3344	352	D	D	* e	241	25	D
Navigational, measuring, electromedical, and control instruments	3345	129	D	47	D	879	55	D
Other computer and electronic products	other 334	D	D	D	0	7 i	* e	0
Electrical equipment, appliances, and components	335	6 i	D	2 i	* e	20 i	42	0
Transportation equipment	336	1,368	D	11	3	355	177	*
Motor vehicles, trailers, and parts	3361–63	8	9 i	* e	D	17	D	0
Aerospace products and parts	3364	1,353	D	D	D	256	50	D
Other transportation equipment	other 336	7	D	D	D	82	D	D
Furniture and related products	337	D	* i	* e	* e	1	4 i	* e
Miscellaneous manufacturing	339	138	59	27 i	* e	90	60	1 e
Medical equipment and supplies	3391	119	48	D	*	85	41	1 e
Other miscellaneous manufacturing	other 339	19	10	D	* e	5 e	19	1

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Colorado	Connecticut	Delaware	District of Columbia	Florida	Georgia	Hawaii
Nonmanufacturing industries	21–23, 42, 44–81	1,481	758	D	225	1,668	1,480	108
Mining, extraction, and support activities	21	30	D	* e	* e	D	D	* e
Utilities	22	D	7	1 e	* e	17	D	*
Construction	23	16	44	1 e	* e	17 e	25	1 e
Wholesale trade	42	38	22	5 i	1 e	73	33 e	2 e
Retail trade	44, 45	3 i	2 i	* e	* e	2 e	3	* e
Transportation and warehousing	48, 49	D	D	0	0	D	D	0
Information	51	689	87	12 e	62	497	480	15
Publishing	511	487	48 i	2 e	40 i	287	101	5
Newspaper, periodical, book, and directory	5111	11	1 e	* e	1 e	9	1 e	* e
Software	5112	476	47 i	2 e	39 i	278	100	5
Telecommunications	517	89	2 e	1 e	2	55 i	240 i	1
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	13	1 e	1	1	50 i	193 i	D
Satellite telecommunications	5174	0	0	0	D	0	0	0
Other telecommunications	other 517	76	1 e	1 e	D	4 e	47	D
Internet service providers, Web search portals, and data-processing services	518	106	33	8 e	17	D	130	8
Internet service providers and Web search portals	5181	3 i	1 e	* e	3	D	D	D
Data-processing, hosting, and related services	5182	103	32	8 e	14	D	D	D
Other information	other 51	6 e	4 e	* e	4 e	D	9 e	1 e
Finance, insurance, and real estate	52, 53	51	53	3 e	2 e	D	62	1 e
Professional, scientific, and technical services	54	625	488	48 e	158 e	901	805	85
Architectural, engineering, and related services	5413	143	71	9 e	32	346	98 e	24 e
Computer systems design and related services	5415	198	167	19 e	44 e	255 e	479	16
Scientific R&D services	5417	260	215	16 e	42	210	176	41
Other professional, scientific, and technical services	other 54	24 e	35 e	5 e	40 e	90 e	52 e	4 e
Health care services	621–23	3 e	D	D	1 e	13 e	10	1 e
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	27	11	1 e	1 e	D	51	3 e

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Colorado	Connecticut	Delaware	District of Columbia	Florida	Georgia	Hawaii
Company size (employees)								
All companies	-	4,657	8,273	1,446	276	4,139	2,786	155
5–24	-	124 e	111 e	D	29 e	270 e	161 e	17 e
25–49	-	154 e	142	18 e	15 e	196 e	136 e	13 e
50–99	-	227 i	129	18 e	53 e	293 e	179 e	29
100–249	-	256	246	110	38	279	240	30 i
250–499	-	174	431	2 i	2	118	111	D
500–999	-	232	211	23	D	150	212	2 e
1,000–4,999	-	842	221	167	9	700	585	16
5,000–9,999	-	354	803	483	D	230	151	D
10,000–24,999	-	715	867	1	44	839	477	23
25,000 or more	-	1,578	5,112	D	40	1,064	534	23

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006
(Millions of dollars)

Industry and company size	NAICS codes	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana
All industries	21–23, 31–33, 42, 44–81	625	10,765	4,858	1,055	2,064 i	839	367
Manufacturing industries	31–33	D	8,847	4,475	902	1,812 i	690	D
Food	311	17	302	15	63	24	22	1 e
Beverage and tobacco products	312	* e	*	*	* e	* e	D	* e
Textiles, apparel, and leather	313–16	* e	D	* e	4	* i	1 i	* e
Wood products	321	* e	1	1 e	12	* e	1	* e
Paper, printing, and support activities	322, 323	13	29	9	4	D	3 e	2
Petroleum and coal products	324	* e	D	D	* e	1 i	D	D
Chemicals	325	11	2,478	D	D	95	48	63
Basic chemicals	3251	D	39	13	14	46	26	40
Resin, synthetic rubber, fibers, and filament	3252	D	27	D	D	D	13	D
Pharmaceuticals and medicines	3254	3 e	2,224	D	31	24	3	D
Other chemicals	other 325	6	188	23	50	D	6	5
Plastics and rubber products	326	2 e	132	D	10	5 e	15	2 e
Nonmetallic mineral products	327	* e	66	6	7	1 e	2 e	1 e
Primary metals	331	* e	13	D	D	* e	1 e	* e
Fabricated metal products	332	2 i	85	48	12 i	10	D	7 e
Machinery	333	6 e	1,263	286	462	95	48	14
Computer and electronic products	334	D	3,465	253	64	1,162 i	D	61
Computers and peripheral equipment	3341	* e	47 i	1 e	D	18	D	* e
Communications equipment	3342	4	D	3 e	D	6	* e	2 i
Semiconductor and other electronic components	3344	D	D	36	11	10	12	D
Navigational, measuring, electromedical, and control instruments	3345	3 i	239	102	11 i	D	18	D
Other computer and electronic products	other 334	* e	42	111	0	D	2 i	* e
Electrical equipment, appliances, and components	335	D	178	78	23	4 i	8	3 i
Transportation equipment	336	2	651	1,097	23	D	196	17
Motor vehicles, trailers, and parts	3361–63	* e	342	790	D	5	D	3 i
Aerospace products and parts	3364	1	267	297	D	D	D	D
Other transportation equipment	other 336	*	42	10	*	10 i	1	D
Furniture and related products	337	* e	7 i	38	D	1 i	7 i	* i
Miscellaneous manufacturing	339	2 e	123	178	8 e	7 e	16 i	3 e
Medical equipment and supplies	3391	1 e	43	135	3 e	6 e	10 i	2 e
Other miscellaneous manufacturing	other 339	1 e	80	43	5 i	1 e	5	1 e

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006
(Millions of dollars)

Industry and company size	NAICS codes	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana
Nonmanufacturing industries	21–23, 42, 44–81	D	1,918	383	153 e	253	149 e	D
Mining, extraction, and support activities	21	* e	8 i	* e	* e	D	1 e	6
Utilities	22	* e	8 e	D	1 e	1 e	* e	1 e
Construction	23	1 e	D	8	6	3	6	2 e
Wholesale trade	42	2 e	91	21 e	9 e	6 e	26	10 e
Retail trade	44, 45	D	31 i	8	3 i	1	3	* e
Transportation and warehousing	48, 49	0	D	D	0	D	0	D
Information	51	11	453	57	42	96	22 e	12 e
Publishing	511	8	350	D	8 e	11	3 e	3 e
Newspaper, periodical, book, and directory	5111	* e	31	1 e	1 e	1 e	1 e	* e
Software	5112	8	319	D	8 e	10	2 e	3 e
Telecommunications	517	* e	36	1 e	2 e	D	1 e	3 e
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	* e	28	1 e	2 e	D	1 e	3 e
Satellite telecommunications	5174	0	0	0	0	0	0	0
Other telecommunications	other 517	* e	7 e	1 e	* e	* e	1 e	* e
Internet service providers, Web search portals, and data-processing services	518	2	52	D	30	D	13	3 e
Internet service providers and Web search portals	5181	* e	10	1 e	* e	1	1 e	* e
Data-processing, hosting, and related services	5182	2	43	D	30	D	12	3 e
Other information	other 51	1 e	15 e	4 e	2 e	2 e	5 e	3 e
Finance, insurance, and real estate	52, 53	1 e	101	12	7 e	3 e	3 e	4 e
Professional, scientific, and technical services	54	59	616 e	212	77 e	136	80 e	80 e
Architectural, engineering, and related services	5413	11 e	109 e	44 e	12 e	58	18 e	41 e
Computer systems design and related services	5415	10 e	239 e	65 e	22 e	35 e	36	20 e
Scientific R&D services	5417	31	168	89	11 e	36 i	17 e	6 e
Other professional, scientific, and technical services	other 54	8 i	100 e	14 e	31	7 e	8 e	12 e
Health care services	621–23	1 e	D	51	1 e	3 i	3 e	3 e
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	1 e	27	5 e	6 i	3 e	4 e	D

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana
Company size (employees)								
All companies	-	625	10,765	4,858	1,055	2,064 i	839	367
5–24	-	16 e	292 e	112 e	43 e	44 e	41 e	45 e
25–49	-	11 e	225 e	94 e	41 e	35 e	30 e	31 e
50–99	-	19 e	369 e	86 e	40 e	34 e	39 e	37 e
100–249	-	D	300	85 e	77	51 i	59	26 e
250–499	-	3 i	194	85	38	37	40	7
500–999	-	9 i	421	83	19	18	29	25
1,000–4,999	-	51	1,774	477	143	265	352	30
5,000–9,999	-	12	394	393	34	45	23	6
10,000–24,999	-	D	1,082	2,762	142	31	43	25
25,000 or more	-	41	5,715	682	478	1,504 i	184	134

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri
All industries	21–23, 31–33, 42, 44–81	253	3,421	15,562	16,477	6,296	231	2,675
Manufacturing industries	31–33	171	1,732	10,542	15,329	5,113	107	1,800
Food	311	* e	84	9 i	180	277	4	43
Beverage and tobacco products	312	* e	* e	D	* i	* i	* e	D
Textiles, apparel, and leather	313–16	3 i	D	81	16	3 i	2 i	1
Wood products	321	* e	D	D	7	D	* e	* e
Paper, printing, and support activities	322, 323	19 i	26	D	15 i	D	1	12
Petroleum and coal products	324	* e	D	D	1 i	D	D	5 i
Chemicals	325	51	777	2,249	1,292	321	20	762
Basic chemicals	3251	* e	34	67	196	5	5	D
Resin, synthetic rubber, fibers, and filament	3252	D	D	31	D	15	5	D
Pharmaceuticals and medicines	3254	45	723	2,091	D	162	4 i	385
Other chemicals	other 325	D	D	59	109	140	6	324 i
Plastics and rubber products	326	1 e	6 i	46 i	173	83	3 e	30
Nonmetallic mineral products	327	* e	2 e	D	101	9	1 e	D
Primary metals	331	* e	3 i	2 i	57	11 i	D	4
Fabricated metal products	332	1 e	9	D	121	D	9	25
Machinery	333	3	91	263	267	332	7 e	452
Computer and electronic products	334	60	381	5,874 i	458 i	2,239	16	123
Computers and peripheral equipment	3341	0	19	959 i	6	448	* e	* e
Communications equipment	3342	1 e	97	595 i	3 e	D	4	6 i
Semiconductor and other electronic components	3344	55	30	1,103	127	136	11	D
Navigational, measuring, electromedical, and control instruments	3345	4	234	2,986 i	319 i	1,600	* e	8 e
Other computer and electronic products	other 334	* e	2 i	231	4	D	0	D
Electrical equipment, appliances, and components	335	* e	6	174	225	34	5	24 i
Transportation equipment	336	25	220	D	12,229	311	23	264
Motor vehicles, trailers, and parts	3361–63	1	7	25	12,145	51	D	118
Aerospace products and parts	3364	D	181	342	34	157	3	140
Other transportation equipment	other 336	D	33	D	49	103	D	7 i
Furniture and related products	337	* i	* e	10	93	16	10	5 i
Miscellaneous manufacturing	339	6 e	105	526	96	337	2 e	26
Medical equipment and supplies	3391	5 e	103	484	73	326	2 e	20
Other miscellaneous manufacturing	other 339	1 e	2 e	42	23 i	11	1 e	6 i

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri
Nonmanufacturing industries	21–23, 42, 44–81	82	1,689	5,021	1,147	1,183	125	875
Mining, extraction, and support activities	21	* e	* e	D	8 i	D	2	D
Utilities	22	4 i	1 e	D	5 e	1 e	* e	3 e
Construction	23	1 e	20	83	7 e	10	1 e	20
Wholesale trade	42	2 e	41	142	38 e	26 e	4 e	39 i
Retail trade	44, 45	* e	2	13	D	9	1	2 i
Transportation and warehousing	48, 49	0	0	0	D	D	0	D
Information	51	19	169	1,577	357	332	14	221
Publishing	511	11	122 i	1,059	177	276	9	86
Newspaper, periodical, book, and directory	5111	D	D	D	20	4 i	* e	D
Software	5112	D	D	D	157	272	9	D
Telecommunications	517	5 i	7 e	D	4 e	3 e	1 e	3 e
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	4 i	4	D	1 e	2 e	1 e	1 e
Satellite telecommunications	5174	0	0	0	0	0	0	0
Other telecommunications	other 517	1 i	3 e	13 i	3 e	1 e	1 e	1 e
Internet service providers, Web search portals, and data-processing services	518	2 e	26	D	169	47	3	127 i
Internet service providers and Web search portals	5181	1	1 e	19 i	1 e	1 e	* e	3 i
Data-processing, hosting, and related services	5182	2 e	25	D	169	46	3	124 i
Other information	other 51	1 e	14 e	18 i	7 e	6 e	1 e	5 e
Finance, insurance, and real estate	52, 53	1 e	26	110	17 e	14 e	2 e	55 i
Professional, scientific, and technical services	54	52	1,419	3,056	659	780	96	522
Architectural, engineering, and related services	5413	23	275	189	247	76 e	26	85
Computer systems design and related services	5415	14	394	1,276	161 e	572	20 i	362
Scientific R&D services	5417	11 e	711	1,502	206	98	46	54
Other professional, scientific, and technical services	other 54	3 e	39	89 e	46 e	34 e	4 e	20 e
Health care services	621–23	2 i	3	6 e	6 e	4 e	2 e	4 e
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	1 e	8	12 e	47	6 e	2 e	9 e

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri
Company size (employees)								
All companies	-	253	3,421	15,562	16,477	6,296	231	2,675
5–24	-	18 e	234 e	376 e	238 e	154 e	19 e	103 e
25–49	-	22 e	260 e	521	204 e	120 e	20 e	93 e
50–99	-	14 e	223 e	649	217 e	151 e	21 e	86 e
100–249	-	30	327	1,058	312	261	15 e	130
250–499	-	3 i	131	704	232	195	9	41 i
500–999	-	7	406	1,176	558	421	33	110 i
1,000–4,999	-	116	978	2,740	1,276	636	D	385
5,000–9,999	-	6	201	672	1,048	669	3	431
10,000–24,999	-	1	300	2,356	1,076	744	13	675
25,000 or more	-	37	362	5,311 i	11,315	2,945	D	621

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York
All industries	21–23, 31–33, 42, 44–81	103 i	447	535	1,774 i	14,606	676	9,518
Manufacturing industries	31–33	40 i	D	D	1,334 i	11,774	466	5,944
Food	311	*	58	1	2	306	2	185
Beverage and tobacco products	312	* e	* e	* e	* e	* i	* e	D
Textiles, apparel, and leather	313–16	* e	* e	* e	D	D	* e	17
Wood products	321	* e	1 i	* e	* e	* e	* e	1 i
Paper, printing, and support activities	322, 323	* e	1 e	1 i	5 i	33	* e	17
Petroleum and coal products	324	* e	* e	* e	* e	D	* e	9
Chemicals	325	10 i	18	9	13	9,576	7	2,790
Basic chemicals	3251	D	D	D	3	D	D	D
Resin, synthetic rubber, fibers, and filament	3252	0	D	D	* e	D	0	D
Pharmaceuticals and medicines	3254	D	9	8	6	8,761	D	1,923
Other chemicals	other 325	* e	4	1 i	4	475	* e	708
Plastics and rubber products	326	1 i	3 e	2 e	3 e	55	* e	38
Nonmetallic mineral products	327	* e	1 e	1 e	4	19	1 e	D
Primary metals	331	* e	D	11	D	2 i	D	D
Fabricated metal products	332	D	12	9 i	8	23 i	1 e	46
Machinery	333	D	24	5 i	94	89	11	387
Computer and electronic products	334	2 i	14	58	1,133 i	994	D	738
Computers and peripheral equipment	3341	* i	* e	D	44 i	D	D	47 i
Communications equipment	3342	* e	* e	D	D	77	* e	81
Semiconductor and other electronic components	3344	*	6	2 e	50	221	25	164
Navigational, measuring, electromedical, and control instruments	3345	1 i	7	10 i	D	539	D	420
Other computer and electronic products	other 334	0	* e	*	D	D	D	26
Electrical equipment, appliances, and components	335	* e	2 i	13 i	5 i	64	1 e	135
Transportation equipment	336	* e	13	D	7	158	D	905
Motor vehicles, trailers, and parts	3361–63	* e	7	1 i	D	21	* e	277
Aerospace products and parts	3364	* e	D	D	D	132	D	590
Other transportation equipment	other 336	* e	D	* e	* e	5	D	38
Furniture and related products	337	* e	D	*	* e	2	* e	7 i
Miscellaneous manufacturing	339	6	8	218	26	243 i	4 e	323
Medical equipment and supplies	3391	3 i	7	2 e	23	232 i	2 e	250 i
Other miscellaneous manufacturing	other 339	3	1 i	217	3	11	2 i	73

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York
Nonmanufacturing industries	21–23, 42, 44–81	63	D	D	441	2,832	210	3,574
Mining, extraction, and support activities	21	* e	* e	D	* e	D	1	* e
Utilities	22	1 e	* e	1 i	* e	5 i	* e	27
Construction	23	1 e	1 e	3 e	2	D	1 e	28
Wholesale trade	42	1 e	6 e	11 i	4 e	79	4 e	92 e
Retail trade	44, 45	* e	* e	* e	* e	6 i	* e	16 i
Transportation and warehousing	48, 49	0	D	0	0	D	0	0
Information	51	30	80	41	256	903	10	1,013
Publishing	511	15	17 e	28	249	306	7	787
Newspaper, periodical, book, and directory	5111	* e	1 e	* e	* e	79	2 i	504
Software	5112	15	17 e	28	249	227	5	284
Telecommunications	517	1 e	1 e	1 e	1 e	534	1 e	20 e
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	1 e	1 e	* e	* e	D	* e	14
Satellite telecommunications	5174	0	0	0	0	D	0	D
Other telecommunications	other 517	* e	* e	* e	1 e	D	* e	D
Internet service providers, Web search portals, and data-processing services	518	14	58	1 e	5	44	1 e	144
Internet service providers and Web search portals	5181	* e	* e	* e	* e	1 e	* e	53
Data-processing, hosting, and related services	5182	13	58	1 e	5	43	1 e	91
Other information	other 51	1 e	4	11	1 e	19	1 e	62 e
Finance, insurance, and real estate	52, 53	1 e	D	14	2 e	139	1 e	163
Professional, scientific, and technical services	54	28 e	119 i	90 e	167	1,068	190	2,192
Architectural, engineering, and related services	5413	7 e	12 e	27 e	14 e	105 e	36	158 e
Computer systems design and related services	5415	6 i	23	18 e	72	310 e	26	1,584
Scientific R&D services	5417	12 i	75 i	35	77	600	120	275
Other professional, scientific, and technical services	other 54	2 e	10 e	9 e	5 e	54 e	7 e	175 e
Health care services	621–23	* e	3	1 e	1 e	23	1 e	12 e
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	1 i	2 e	5 e	8 i	71	2 e	30 e

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York
Company size (employees)								
All companies	-	103 i	447	535	1,774 i	14,606	676	9,518
5–24	-	10 e	26 e	35 e	D	324 e	39 e	408 e
25–49	-	15 i	22 e	48 e	39 e	329 e	25 e	363 e
50–99	-	12 e	27 e	50 e	69	360	29 e	461 e
100–249	-	14 i	28	52	153	503	35	468
250–499	-	D	20 i	12 i	40	382	36	272
500–999	-	33 i	8	66	86	718	D	652
1,000–4,999	-	D	148	203	159	1,155	24	957
5,000–9,999	-	*	6	21	34	1,403	D	680
10,000–24,999	-	4	35	9 i	151	5,535	34	2,038
25,000 or more	-	3	127	38	D	3,898	236	3,218

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island
All industries	21–23, 31–33, 42, 44–81	5,486	120	6,852	474	3,419	9,819	1,330 i
Manufacturing industries	31–33	3,307	81	5,385	279	2,792	7,670	D
Food	311	60	1 i	98	D	8	75	* i
Beverage and tobacco products	312	D	* e	*	* e	* e	* i	* e
Textiles, apparel, and leather	313–16	58	D	5 i	1 i	D	10 i	3 i
Wood products	321	D	* e	D	D	7 i	28 i	* e
Paper, printing, and support activities	322, 323	17	*	656	6	7	34	2 i
Petroleum and coal products	324	* e	* e	D	D	* e	19	* e
Chemicals	325	1,508	2	911	39	21	5,157	9 i
Basic chemicals	3251	53	* e	214	1 i	D	290	1 i
Resin, synthetic rubber, fibers, and filament	3252	54	D	62 i	D	D	61	* e
Pharmaceuticals and medicines	3254	1,355	D	480	7	8 e	4,630	2 e
Other chemicals	other 325	45	D	155	D	6	176	6 i
Plastics and rubber products	326	67	2 i	347	8 i	D	120	7 i
Nonmetallic mineral products	327	8	* e	121	1 e	1 e	41	D
Primary metals	331	5	* e	43	* e	68 i	105	1
Fabricated metal products	332	19	1 e	190	8 e	16	59	10
Machinery	333	169	60	300	42	85	222	6 e
Computer and electronic products	334	927	3	275	30	2,155	749	D
Computers and peripheral equipment	3341	9 i	0	1 e	4	D	83	D
Communications equipment	3342	515 i	0	13	11	55	46	* e
Semiconductor and other electronic components	3344	328	1 i	30	4 e	1,873	383 i	14
Navigational, measuring, electromedical, and control instruments	3345	73	D	230	12	186	236	D
Other computer and electronic products	other 334	2 e	D	* e	* e	D	* e	0
Electrical equipment, appliances, and components	335	55	* e	192	5 i	47	101 i	5
Transportation equipment	336	272	9	2,152	56	111	714	2
Motor vehicles, trailers, and parts	3361–63	187	D	1,201	D	79	58	1
Aerospace products and parts	3364	D	D	918	35	29	644	D
Other transportation equipment	other 336	D	* i	33	D	3 i	12	D
Furniture and related products	337	33	* e	4	4 i	4 i	11	* e
Miscellaneous manufacturing	339	52	1 e	74	6	30	227	103
Medical equipment and supplies	3391	49	1 e	61	4	21	207	16
Other miscellaneous manufacturing	other 339	3 e	* e	13 i	2	9	20	87

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island
Nonmanufacturing industries	21–23, 42, 44–81	2,179	39 i	1,467	195	628	2,148	D
Mining, extraction, and support activities	21	1 i	* e	1 e	53	* e	D	* e
Utilities	22	12 i	D	11	1 e	D	24	* e
Construction	23	15	* e	D	5	5 i	14	1 e
Wholesale trade	42	32 e	5 i	47 e	6 e	48 i	68	4 i
Retail trade	44, 45	25 i	D	119	* e	D	46	* e
Transportation and warehousing	48, 49	0	0	D	0	D	D	0
Information	51	454	5 e	192	27	316	433	7
Publishing	511	377	1 e	106	5 e	266	194	5
Newspaper, periodical, book, and directory	5111	1 e	* e	18	* e	4 i	20 i	* e
Software	5112	376	1 e	88	5 e	262	173	5
Telecommunications	517	5 e	1 e	4 e	2 e	3 e	83	* e
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	3 e	* e	2 e	1 e	1 e	15	* e
Satellite telecommunications	5174	0	0	0	0	0	0	0
Other telecommunications	other 517	2 e	* e	2 e	* e	3 i	69	* e
Internet service providers, Web search portals, and data-processing services	518	68	3 i	68	18	43	139	2
Internet service providers and Web search portals	5181	1	D	3 i	* e	6	6	* e
Data-processing, hosting, and related services	5182	66	D	65	18	37	133	2
Other information	other 51	5 e	1 e	14 e	3 e	3 e	18	1 e
Finance, insurance, and real estate	52, 53	98 i	1 e	19 e	12	4 e	195	22
Professional, scientific, and technical services	54	1,487	16 e	859	84 e	D	1,323	65
Architectural, engineering, and related services	5413	61 e	4 e	201	43	69	366	7 e
Computer systems design and related services	5415	1,023	6	341	22 e	44 e	420	27
Scientific R&D services	5417	382	6 i	278	11	D	437	27
Other professional, scientific, and technical services	other 54	21 e	1 e	39 e	9 e	14 e	100 e	5 e
Health care services	621–23	7 e	* e	9 e	2 e	3 e	13 e	1 e
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	48	* e	D	5 e	3 e	16 e	D

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island
Company size (employees)								
All companies	-	5,486	120	6,852	474	3,419	9,819	1,330 i
5–24	-	186 e	9 e	249 e	45 e	D	274 e	24 e
25–49	-	155 e	6 e	206 e	40 e	62 e	276 e	20 e
50–99	-	215	12 i	255 e	30 e	74 e	310 e	17 e
100–249	-	336	10 i	315	62	202	429	20
250–499	-	167	1 e	141	15	138	324	25
500–999	-	203	3	282	8	133	233	9
1,000–4,999	-	911	D	1,328	62	498	1,565	D
5,000–9,999	-	579	D	393	26	53	605	9
10,000–24,999	-	1,252	D	883	84	325	2,814	3
25,000 or more	-	1,482	48	2,800	102	D	2,988	D

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia
All industries	21–23, 31–33, 42, 44–81	1,396	95	1,428	13,334	1,274	360	4,816
Manufacturing industries	31–33	1,159	59	958	8,106	625	146	1,722
Food	311	D	3	18	83	6	2	D
Beverage and tobacco products	312	* e	* e	9	* i	* e	* e	D
Textiles, apparel, and leather	313–16	23	* i	1 i	5	* e	D	10
Wood products	321	2 i	* e	4 i	4 i	* e	* i	* e
Paper, printing, and support activities	322, 323	32	* e	21	79	3	2 i	23
Petroleum and coal products	324	* e	* e	* e	702	* e	* e	D
Chemicals	325	77	3 e	308	584	84	D	192
Basic chemicals	3251	15	1 e	260	98	13 i	* e	54
Resin, synthetic rubber, fibers, and filament	3252	14	*	20	234	*	* e	62
Pharmaceuticals and medicines	3254	41	1 e	12	184	58	D	62
Other chemicals	other 325	7	1	16	68	13	2 i	13
Plastics and rubber products	326	512	2 e	23	37 e	4 e	9	D
Nonmetallic mineral products	327	2 e	* e	4 e	12 e	1 e	1 e	6 i
Primary metals	331	D	D	D	34	*	* e	6
Fabricated metal products	332	19	D	11 e	85	17	1 i	39 i
Machinery	333	47	5 e	134	549	28	16 i	36
Computer and electronic products	334	120	7	92	4,658	130	12	363
Computers and peripheral equipment	3341	* e	*	5	D	25	0	11
Communications equipment	3342	3 i	D	12 i	604	D	2 i	53
Semiconductor and other electronic components	3344	89	D	49	3,197	31	7	137
Navigational, measuring, electromedical, and control instruments	3345	27	1 e	26 i	D	48	4 i	162
Other computer and electronic products	other 334	* e	0	* e	6	D	* e	* e
Electrical equipment, appliances, and components	335	46	1 i	D	70 i	6 i	1 e	11 i
Transportation equipment	336	251	17	D	830	271	72	300
Motor vehicles, trailers, and parts	3361–63	43 i	D	58	77	D	D	31
Aerospace products and parts	3364	D	D	D	731	D	D	207
Other transportation equipment	other 336	D	* e	7	22	D	D	63
Furniture and related products	337	* e	* e	8 i	2	1 i	* e	6 i
Miscellaneous manufacturing	339	9 e	16	87 i	372	73	7	20
Medical equipment and supplies	3391	8	1	72 i	359	57	* e	10 e
Other miscellaneous manufacturing	other 339	1 e	15	15 i	13 e	17	7	10

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia
Nonmanufacturing industries	21–23, 42, 44–81	237	36	470	5,227	649	214	3,093
Mining, extraction, and support activities	21	* e	* e	* e	636	* e	* e	D
Utilities	22	D	* e	* e	18 i	* e	2	2 e
Construction	23	3 e	* e	35	22 e	1 e	* e	28
Wholesale trade	42	28	2 e	29	103	8 e	5 i	45
Retail trade	44, 45	1 i	D	1 e	9	* e	2 i	1 e
Transportation and warehousing	48, 49	D	0	21	D	0	0	D
Information	51	39	4 e	48	934	315	7	370
Publishing	511	32	1	9 e	630	288	5	183
Newspaper, periodical, book, and directory	5111	* e	* e	1 e	17 i	3	* e	2 e
Software	5112	32	1	8 e	613	285	5	181
Telecommunications	517	2 e	1 e	2 e	D	3 i	* e	90 i
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	1 e	* e	1 e	D	2 i	* e	65 i
Satellite telecommunications	5174	0	0	0	0	0	0	D
Other telecommunications	other 517	1 e	1 i	1 e	3 e	1 e	* e	D
Internet service providers, Web search portals, and data-processing services	518	3 e	1 e	26	221	9	1 e	89
Internet service providers and Web search portals	5181	* e	* e	* e	17	1 e	* e	6
Data-processing, hosting, and related services	5182	2 e	1 e	26	204	9	1	83
Other information	other 51	2 e	1 e	11 e	D	16	* e	7 e
Finance, insurance, and real estate	52, 53	28	D	10 e	93	D	1 e	26
Professional, scientific, and technical services	54	125 e	17	313	3,295	231	195	2,583
Architectural, engineering, and related services	5413	25 e	7	51 e	486	48	5 e	401
Computer systems design and related services	5415	72	5	155 i	2,075	95	D	465 e
Scientific R&D services	5417	17 e	4 e	84	602	75	10	1,530
Other professional, scientific, and technical services	other 54	11 e	1 e	22 e	132 e	14 e	D	187
Health care services	621–23	5 i	1 i	5 e	17 e	D	* e	7 e
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	3 e	2 i	8 e	D	2 e	2 i	27

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia
Company size (employees)								
All companies	-	1,396	95	1,428	13,334	1,274	360	4,816
5–24	-	47 e	9 e	75 e	449 e	64 e	16 e	330 e
25–49	-	35 e	9 e	58 e	392 e	74 e	17 i	244 e
50–99	-	41 e	12 e	99 e	476 e	61 e	12 e	295 e
100–249	-	46	15	71	690	130	19 i	541
250–499	-	50 i	12	49	362	50	17	149 i
500–999	-	128	2 i	72	413	155	D	565 i
1,000–4,999	-	574	29	286	1,905	404	27	535
5,000–9,999	-	105	D	100	2,030	49	D	147
10,000–24,999	-	76	1	367	3,157	233	51	265
25,000 or more	-	296	D	252	3,459	54	D	1,745

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Washington	West Virginia	Wisconsin	Wyoming	Undistributed[b]
All industries	21–23, 31–33, 42, 44–81	11,320	221	3,020	27 e	3,814 i
Manufacturing industries	31–33	4,002	165	2,524	13	1,813 i
Food	311	18	* e	68	*	10 i
Beverage and tobacco products	312	*	* e	D	* e	5
Textiles, apparel, and leather	313–16	5	* e	9	* e	2 i
Wood products	321	2 i	* e	12 i	* e	0
Paper, printing, and support activities	322, 323	56	* e	315	* e	6 i
Petroleum and coal products	324	1	* e	D	D	15 i
Chemicals	325	543 i	122	236	4	415 i
Basic chemicals	3251	10 i	1	24	2	3 i
Resin, synthetic rubber, fibers, and filament	3252	1	D	8	D	2 i
Pharmaceuticals and medicines	3254	528 i	D	46	2 i	408 i
Other chemicals	other 325	3	* e	158	D	2 i
Plastics and rubber products	326	17	8	90	1 i	13
Nonmetallic mineral products	327	4	1 e	87	* e	11 i
Primary metals	331	5	* e	8	* e	6 i
Fabricated metal products	332	38	3 e	70	1 i	26 i
Machinery	333	77	4 e	318	D	42
Computer and electronic products	334	609	4	244	2	1,029 i
Computers and peripheral equipment	3341	114	*	70	D	14 i
Communications equipment	3342	D	0	7 i	0	104 i
Semiconductor and other electronic components	3344	89	1 e	52	1	501 i
Navigational, measuring, electromedical, and control instruments	3345	373	4	116	D	365
Other computer and electronic products	other 334	D	0	* e	0	46 i
Electrical equipment, appliances, and components	335	7 i	2 i	187	* e	29 i
Transportation equipment	336	2,535	16	805	* e	155 i
Motor vehicles, trailers, and parts	3361–63	D	D	189	* e	145 i
Aerospace products and parts	3364	D	D	D	* e	0
Other transportation equipment	other 336	D	* e	D	* e	10 i
Furniture and related products	337	5	* e	20	* e	0
Miscellaneous manufacturing	339	82	4	51	* e	47 i
Medical equipment and supplies	3391	51	4	35 i	* e	42 i
Other miscellaneous manufacturing	other 339	30	* e	16	* e	4 i

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Washington	West Virginia	Wisconsin	Wyoming	Undistributed[b]
Nonmanufacturing industries	21–23, 42, 44–81	7,318	56	496	13 e	2,001
Mining, extraction, and support activities	21	D	1 e	2 i	1 e	0
Utilities	22	1 e	* e	1	* e	11 i
Construction	23	7 e	1 e	5 e	* e	0
Wholesale trade	42	82	2 e	18 e	1 e	71 i
Retail trade	44, 45	9 i	* e	4 i	* i	0
Transportation and warehousing	48, 49	D	0	D	0	5 i
Information	51	6,270	4 e	135	2 e	560 i
Publishing	511	D	* e	91	1	385 i
Newspaper, periodical, book, and directory	5111	D	* e	1 e	* e	5 i
Software	5112	D	* e	90	1	380 i
Telecommunications	517	D	2	15 i	* e	145
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	D	1	14 i	* e	29 i
Satellite telecommunications	5174	0	0	0	0	0
Other telecommunications	other 517	D	* e	1 e	* e	117
Internet service providers, Web search portals, and data-processing services	518	86	2 e	24	* e	29 i
Internet service providers and Web search portals	5181	D	* e	* e	* e	0
Data-processing, hosting, and related services	5182	D	1 e	24	* e	29 i
Other information	other 51	13 e	1 e	4 e	* e	0
Finance, insurance, and real estate	52, 53	17	1 e	128	* e	27 i
Professional, scientific, and technical services	54	911	43	D	8 e	819
Architectural, engineering, and related services	5413	97 e	10 e	45 e	5 e	88 i
Computer systems design and related services	5415	213	20	58 e	1 e	114 i
Scientific R&D services	5417	563	11	D	1 e	387 i
Other professional, scientific, and technical services	other 54	38 e	3 e	18 e	1 e	230
Health care services	621–23	4 e	1 e	3 e	* e	4 i
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	16 i	2 i	8	* e	505

TABLE 25. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Washington	West Virginia	Wisconsin	Wyoming	Undistributed[b]
Company size (employees)						
All companies	-	11,320	221	3,020	27 e	3,814 i
5–24	-	173 e	13 e	115 e	6 e	30 i
25–49	-	165 e	24	106 e	3 e	D
50–99	-	256	10 e	98 e	5 e	171 i
100–249	-	451	11 e	145	4 e	574 i
250–499	-	335	14	147	2 i	D
500–999	-	368	D	160	* e	548 i
1,000–4,999	-	541	D	610	D	697 i
5,000–9,999	-	168	D	401	* e	23 i
10,000–24,999	-	381 i	51	643	5	587
25,000 or more	-	8,483	D	595	D	810

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; e = estimated, more than 50% of cell value is imputed due to raking of state data; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

[b] Includes data reported on Form RD-1 that were not allocated to a specific state. Data reported on the Form RD-1A were allocated to the state in the address on the company's survey form which is usually the company's headquarters.

NOTES: Detail does not add to total because of rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 26. Domestic employment of companies performing industrial R&D in the United States, by industry, by company size: 2006

(Thousands)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
All industries	21–23, 31–33, 42, 44–81	16,298	243	241	482	689	665	1,087	2,393	1,393	2,270	6,835
Manufacturing industries	31–33	9,415	83	122	218	430	428	543	1,866	976	1,528	3,221
Food	311	1,021	3	D	D	25	32	33	152	115	184	D
Beverage and tobacco products	312	57	*	*	D	1	1	2	D	D	D	0
Textiles, apparel, and leather	313–16	176	2	5	D	9	D	16	67	D	D	D
Wood products	321	109	1	1	D	7	8	6	D	38	D	0
Paper, printing, and support activities	322, 323	455	2	2	12	17	11	14	56	44	61	237
Petroleum and coal products	324	145	1	1	D	2	D	D	7	0	59	D
Chemicals	325	1,083	8	11	18	42	41	53	269	109	317	214
Basic chemicals	3251	153	1	2	3	6	4	7	73	24	31	0
Resin, synthetic rubber, fibers, and filament	3252	101	*	1	3	3	5	3	D	0	D	D
Pharmaceuticals and medicines	3254	509	2	3	3	16	13	26	D	28	D	D
Other chemicals	other 325	320	5	6	10	17	19	16	D	57	75	D
Plastics and rubber products	326	435	3	5	D	35	63	46	119	88	D	D
Nonmetallic mineral products	327	177	2	4	4	7	5	5	D	D	82	0
Primary metals	331	229	1	D	D	8	9	D	48	29	82	D
Fabricated metal products	332	409	12	15	D	51	34	33	120	42	39	D
Machinery	333	871	14	30	36	74	50	62	173	96	122	213
Computer and electronic products	334	1,325	14	19	29	62	50	84	232	152	163	520
Computers and peripheral equipment	3341	162	1	1	3	5	3	12	D	23	D	D
Communications equipment	3342	152	2	3	5	11	12	18	D	D	0	D
Semiconductor and other electronic components	3344	456	3	6	7	18	13	28	77	54	42	208
Navigational, measuring, electromedical, and control instruments	3345	495	6	7	13	26	19	21	63	57	79	203
Other computer and electronic products	other 334	60	1	1	1	2	3	4	D	D	D	0
Electrical equipment, appliances, and components	335	289	5	7	8	19	20	23	83	27	97	0
Transportation equipment	336	1,981	6	6	11	29	23	42	261	136	156	1,310
Motor vehicles, trailers, and parts	3361–63	1,030	4	4	D	22	16	28	209	D	D	525
Aerospace products and parts	3364	620	*	1	D	3	2	5	21	18	D	538
Other transportation equipment	other 336	331	1	1	D	4	5	9	30	D	D	248
Furniture and related products	337	269	1	2	D	11	37	27	43	34	59	D
Miscellaneous manufacturing	339	385	8	12	16	31	31	91	133	26	37	0
Medical equipment and supplies	3391	267	4	D	7	18	16	80	88	D	37	0
Other miscellaneous manufacturing	other 339	118	4	D	9	13	15	11	45	D	0	0

TABLE 26. Domestic employment of companies performing industrial R&D in the United States, by industry, by company size: 2006

(Thousands)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Nonmanufacturing industries	21–23, 42, 44–81	6,883	161	119	264	259	237	544	526	417	741	3,614
Mining, extraction, and support activities	21	133	2	D	1	*	2	2	19	36	D	D
Utilities	22	280	1	D	D	0	D	61	D	73	95	D
Construction	23	172	4	9	D	58	D	9	25	19	46	0
Wholesale trade	42	203	23	20	37	20	48	16	40	0	0	0
Retail trade	44, 45	653 i	6	*	*	2	1	22	24	25	117	455 i
Transportation and warehousing	48, 49	685	*	0	D	D	1	D	14	D	D	603
Information	51	1,651	D	20	40	35	29	32	D	85	162	D
Publishing	511	410	11	10	12	21	19	16	78	50	90	102
Newspaper, periodical, book, and directory	5111	119	1	D	D	1	2	D	12	D	D	D
Software	5112	291	10	D	D	20	17	D	66	D	D	D
Telecommunications	517	895	1	*	1	4	3	2	12	D	D	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	693	D	D	D	D	D	D	D	D	D	D
Satellite telecommunications	5174	2	D	D	D	0	0	0	D	0	0	0
Other telecommunications	other 517	200	D	D	D	D	D	D	D	0	D	D
Internet service providers, Web search portals, and data-processing services	518	155	5	8	10	8	5	8	D	D	D	D
Internet service providers and Web search portals	5181	17	1	D	*	1	D	D	0	D	0	0
Data-processing, hosting, and related services	5182	138	3	D	10	7	D	D	D	D	D	D
Other information	other 51	191	D	1	16	1	1	4	D	0	D	D
Finance, insurance, and real estate	52, 53	1,037	D	*	19	54	2	96	D	25	78	D
Professional, scientific, and technical services	54	1,088	71	60	83	83	41	43	140	53	128	386
Architectural, engineering, and related services	5413	210	17	16	17	15	9	9	56	D	D	D
Computer systems design and related services	5415	551	38	30	26	37	17	20	42	27	65	250
Scientific R&D services	5417	162	D	15	16	28	11	11	21	D	0	D

TABLE 26. Domestic employment of companies performing industrial R&D in the United States, by industry, by company size: 2006

(Thousands)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Other professional, scientific, and technical services	other 54	165	D	*	23	3	4	4	21	D	D	D
Health care services	621–23	132	14	*	14	D	9	D	12	D	D	D
Other nonmanufacturing[a]	55–56, 61, 624, 71–72, 81	848	21	8	70	4	102	256	65	69	D	D

* = amount < 500; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. Data recorded in March represent entire year. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 27. R&D funds per full-time equivalent R&D scientist or engineer spent by companies performing industrial R&D in the United States, by industry, by company size: 2006

(Dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
All industries	21–23, 31–33, 42, 44–81	235,208	159,349	211,863	188,690	205,521	197,858	225,174	225,470	199,249	216,962	295,972
Manufacturing industries	31–33	254,891	182,841	198,955	168,808	177,277	198,273	229,106	225,651	221,890 i	230,787 i	322,291
Food	311	248,783	66,239 i	86,549 i	146,322	200,967	184,269	159,690	158,042	235,441	299,201	326,059
Beverage and tobacco products	312	116,550 i	70,251 i	104,274 i	10,227 i	252,512 i	D	D	129,398	D	D	0
Textiles, apparel, and leather	313–16	105,811	59,928 i	118,964	39,846	142,846	164,479	189,861 i	68,474 i	D	D	D
Wood products	321	135,946 i	50,000 i	93,529	28,619 i	138,666	126,035	144,925	191,990	130,711 i	D	0
Paper, printing, and support activities	322, 323	309,420 i	58,948	40,812 i	86,669 i	214,381 i	151,139	195,461	149,010	355,084 i	161,913 i	502,311 i
Petroleum and coal products	324	330,728 i	134,924	139,613	84,202	95,311 i	D	D	489,522 i	0	D	D
Chemicals	325	385,179	333,870	308,196	286,174	344,805	319,537	332,661	328,640	286,663 i	406,943	470,710 i
Basic chemicals	3251	233,351	210,581	113,935	185,135	163,647	165,148	322,777	272,737 i	166,380 i	D	0
Resin, synthetic rubber, fibers, and filament	3252	243,304	139,860	191,096	138,442	176,331	132,133	223,349	227,273 i	0	D	D
Pharmaceuticals and medicines	3254	462,279 i	D	616,435	716,639	495,824	419,210	348,620	484,906 i	464,314	432,794 i	514,481 i
Other chemicals	other 325	175,682	75,474	109,644	103,858	147,663	175,906	149,591	132,815	188,313 i	265,195	D
Plastics and rubber products	326	194,762	152,018 i	85,667 i	268,218	139,073	199,744	168,675	248,711	149,490	D	D
Nonmetallic mineral products	327	156,153 i	71,917 i	273,979	190,218	109,729	146,710	163,192 i	151,000	D	160,830 i	0
Primary metals	331	204,051 i	262,934	172,658	233,497	87,402	235,556	130,274	245,435 i	129,111 i	194,431	D
Fabricated metal products	332	82,960	141,003 i	93,923	103,230 i	69,031 i	125,184	92,882	45,186	141,284	282,194	D
Machinery	333	164,676	159,542 i	182,975	128,462	145,797	168,410	149,886	185,824	242,004	105,977	174,829 i
Computer and electronic products	334	230,291	195,239	199,118	171,959	172,167	184,599	232,408	244,018	248,953 i	168,802 i	254,502
Computers and peripheral equipment	3341	228,244	106,365 i	150,202	219,525	172,650	182,462	225,222	239,547	412,340	D	D
Communications equipment	3342	224,116	310,867 i	220,336	175,082	204,279	190,177	215,181	228,438	D	0	D
Semiconductor and other electronic components	3344	226,684	251,906	188,511	148,831	173,065	197,534	261,853	273,099	268,716 i	D	196,166
Navigational, measuring, electromedical, and control instruments	3345	240,372 i	166,170	215,263	168,751	153,410	182,302	207,750	230,195	182,996 i	125,978 i	382,687 i
Other computer and electronic products	other 334	211,829 i	176,665	195,765	199,570	125,119	93,627	218,250	195,530 i	D	D	0
Electrical equipment, appliances, and components	335	151,666	130,252	135,123	80,035	132,295	174,506	163,388	177,005	117,519 i	145,443	0
Transportation equipment	336	282,222	220,124	159,962	179,784	169,603	210,935	329,323	198,874	116,704 i	100,652 i	375,341
Motor vehicles, trailers, and parts	3361–63	193,853 i	D	233,817	135,373	151,409	206,443	264,673	209,606	94,597 i	61,077 i	279,144
Aerospace products and parts	3364	419,381 i	D	110,544	300,222	229,457	364,831	800,209 i	201,249	D	D	427,248 i
Other transportation equipment	other 336	596,719	98,150 i	D	190,363	133,486	132,315	176,027	131,557	D	D	D
Furniture and related products	337	117,681	150,903 i	68,824 i	135,393 i	129,686	98,312	105,398 i	62,359 i	201,438	122,000 i	D
Miscellaneous manufacturing	339	239,121	283,008	260,584	189,721	161,249	205,992	225,545	238,394	308,260 i	254,420	0
Medical equipment and supplies	3391	267,132	363,086	295,308 i	231,625	167,217	226,996	249,951	303,227 i	D	254,420	0
Other miscellaneous manufacturing	other 339	169,753	184,256	161,350	122,991	137,052	167,231	151,966	154,399	D	0	0

TABLE 27. R&D funds per full-time equivalent R&D scientist or engineer spent by companies performing industrial R&D in the United States, by industry, by company size: 2006

(Dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Nonmanufacturing industries	21–23, 42, 44–81	200,193	152,423	217,591	196,178	223,675	197,296	217,244	224,977	161,250	175,673	220,374
Mining, extraction, and support activities	21	299,958	500,000 i	D	553,468	D	272,643	D	253,039 i	279,393 i	D	D
Utilities	22	222,859	23,583 i	104,111	D	0	D	D	201,207	165,836 i	331,768 i	D
Construction	23	118,055	58,222	115,362 i	D	206,319	389,510	82,793	242,813	D	D	0
Wholesale trade	42	131,178	22,202	182,870	121,347	164,781	185,788	232,947	171,982	0	0	0
Retail trade	44, 45	238,522	D	201,470	D	133,573	D	300,049 i	167,311	D	263,825	197,300
Transportation and warehousing	48, 49	284,706 i	D	0	D	D	D	D	D	D	D	D
Information	51	201,371	162,595	181,860	133,594	163,364	203,691	196,975	217,185	228,787	246,819	189,837
Publishing	511	201,588	160,561	179,209	151,711	151,056	210,833 i	205,232	224,602	191,987	D	D
Newspaper, periodical, book, and directory	5111	177,187	93,047 i	100,000	D	104,508 i	93,858 i	D	D	D	D	D
Software	5112	203,050	178,874	180,046	150,702	153,886	217,525 i	209,138	229,035	188,049	D	D
Telecommunications	517	255,463 i	232,864	83,599	233,240 i	224,148 i	174,596 i	D	D	D	D	321,368 i
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	258,689	D	82,431	D	244,774 i	342,193 i	D	D	D	D	328,566 i
Satellite telecommunications	5174	D	D	D	D	0	0	0	D	0	0	0
Other telecommunications	other 517	243,299 i	14,000	D	151,542 i	D	D	D	D	0	D	D
Internet service providers, Web search portals, and data-processing services	518	183,995	162,296	179,003	90,501	186,428	198,332	173,782	206,622	321,296	D	D
Internet service providers and Web search portals	5181	330,987	124,442 i	D	18,831	D	D	D	0	D	0	0
Data-processing, hosting, and related services	5182	144,936	191,863	188,274	104,478	184,102	207,013	181,434	206,622	D	D	D
Other information	other 51	178,263	112,627	266,847 i	D	187,257 i	D	158,363	D	0	D	D
Finance, insurance, and real estate	52, 53	98,279	200,000	D	137,849	183,053 i	D	168,187 i	128,312 i	D	47,295 i	59,974
Professional, scientific, and technical services	54	222,459	192,608	237,088	247,102	253,149	198,898	246,655	254,598	50,796	102,380 i	318,634
Architectural, engineering, and related services	5413	170,805	207,863	270,678	329,143	194,375 i	194,162	208,472	280,732	D	D	D
Computer systems design and related services	5415	183,437	172,388	153,931	113,962	197,434	140,859	198,934	146,746	D	D	D
Scientific R&D services	5417	347,970	226,143	329,378	356,907	336,876	252,049	384,524	337,986	D	0	D

TABLE 27. R&D funds per full-time equivalent R&D scientist or engineer spent by companies performing industrial R&D in the United States, by industry, by company size: 2006

(Dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Other professional, scientific, and technical services	other 54	213,109	153,758	56,615	251,778	311,989 i	158,489	D	224,056	D	D	D
Health care services	621–23	183,926	88,993	14,579 i	108,719 i	167,592 i	116,693	D	D	D	D	D
Other nonmanufacturing[a]	55–56, 61 624, 71–72, 81	150,292	60,766 i	123,560	55,912 i	182,299 i	112,415	142,678 i	132,915	88,318	D	D

D = suppressed to avoid disclosure of confidential data; i = more than 50% of the value is imputed.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: The method used to assign industry classifications has changed; industry-specific estimates for 2004 are not directly comparable with those for previous years. Excludes federally funded research and development centers. R&D scientist and engineer data recorded in January represent employment for the previous year; the number of full-time-equivalent R&D scientists or engineers used to estimate the cost per R&D scientist or engineer is the arithmetic mean of the numbers of R&D scientists and engineers reported for January 2006 and January 2007. This number is then divided into the total R&D expenditures for 2006, and the ratio is attributed to 2006. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 28. Full-time equivalent R&D scientists and engineers in companies performing industrial R&D in the United States, by industry and company size, by source of R&D funds: January 2007

(Thousands)

Industry and company size	NAICS codes	All R&D	Federal	Company and other
All industries	21–23, 31–33, 42, 44–81	1,135.5	75.2 i	1,060.4
Manufacturing industries	31–33	696.1	40.6 i	655.5
Food	311	11.6	* i	11.5
Beverage and tobacco products	312	4.6 i	0.0	4.6 i
Textiles, apparel, and leather	313–16	5.7	* i	5.6
Wood products	321	1.7 i	* i	1.6
Paper, printing, and support activities	322, 323	9.7 i	* i	9.6 i
Petroleum and coal products	324	D	D	4.9 i
Chemicals	325	128.3	0.8 i	127.5 i
Basic chemicals	3251	9.6	*	9.1
Resin, synthetic rubber, fibers, and filament	3252	8.5	* i	8.4 i
Pharmaceuticals and medicines	3254	90.5	* i	90.3 i
Other chemicals	other 325	19.8	* i	19.7
Plastics and rubber products	326	13.5	* i	13.4
Nonmetallic mineral products	327	6.9 i	* i	6.5
Primary metals	331	3.4	* i	3.3
Fabricated metal products	332	22.1	0.5	21.6
Machinery	333	65.0	0.8 i	64.2
Computer and electronic products	334	241.0	24.5 i	216.5
Computers and peripheral equipment	3341	32.6	* i	32.4
Communications equipment	3342	49.8	1.5 i	48.3
Semiconductor and other electronic components	3344	77.7	1.4	76.3
Navigational, measuring, electromedical, and control instruments	3345	75.6 i	21.4 i	54.2
Other computer and electronic products	other 334	5.3 i	* i	5.3 i
Electrical equipment, appliances, and components	335	15.9	* i	15.6
Transportation equipment	336	134.7	12.3	122.3
Motor vehicles, trailers, and parts	3361–63	D	D	89.1 i
Aerospace products and parts	3364	37.5	9.5	28.0
Other transportation equipment	other 336	D	D	5.3
Furniture and related products	337	D	D	3.1
Miscellaneous manufacturing	339	24.1	*	23.7
Medical equipment and supplies	3391	17.1	*	16.7
Other miscellaneous manufacturing	other 339	7.0	* i	6.9
Nonmanufacturing industries	21–23, 42, 44–81	439.4	34.6 i	404.8
Mining, extraction, and support activities	21	D	D	3.8
Utilities	22	1.7	*	1.6
Construction	23	14.3	*	14.1 i
Wholesale trade	42	18.4	* i	18.3
Retail trade	44, 45	D	D	6.5
Transportation and warehousing	48, 49	D	D	1.1 i
Information	51	144.5	1.3	143.2
Publishing	511	105.3	*	104.9
Newspaper, periodical, book, and directory	5111	D	D	5.9
Software	5112	D	D	99.0
Telecommunications	517	D	D	9.9 i
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	D	D	7.1
Satellite telecommunications	5174	*	0.0	*
Other telecommunications	other 517	2.8 i	0.0	2.8 i
Internet service providers, Web search portals, and data-processing services	518	22.7	0.9	21.8
Internet service providers and Web search portals	5181	5.3	0.0	5.3
Data-processing, hosting, and related services	5182	17.5	0.9	16.6

TABLE 28. Full-time equivalent R&D scientists and engineers in companies performing industrial R&D in the United States, by industry and company size, by source of R&D funds: January 2007

(Thousands)

Industry and company size	NAICS codes	All R&D	Federal	Company and other
Other information	other 51	D	D	6.5
Finance, insurance, and real estate	52, 53	23.4	0.0	23.4
Professional, scientific, and technical services	54	208.9	31.2 i	177.7
Architectural, engineering, and related services	5413	52.2	12.7 i	39.5
Computer systems design and related services	5415	95.8	5.0	90.9
Scientific R&D services	5417	45.9	12.6 i	33.3
Other professional, scientific, and technical services	other 54	14.9	0.9	14.0
Health care services	621–23	7.4	0.8 i	6.6
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	9.6	0.8 i	8.7
Company size (employees)				
All companies	-	1,135.5	75.2 i	1,060.4
5–24	-	67.6	6.2 i	61.4
25–49	-	44.4	3.6	40.9
50–99	-	61.8	3.6 i	58.2
100–249	-	78.8	6.9 i	71.9
250–499	-	47.9	2.6 i	45.4
500–999	-	64.3	3.9	60.4
1,000–4,999	-	178.1	5.3	172.9
5,000–9,999	-	101.6	4.6	96.9
10,000–24,999	-	177.1	7.2 i	169.9
25,000 or more	-	313.8	31.3 i	282.5

* = amount < 50; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. Data for number of full-time equivalent scientists and engineers by funding source are collected only on Form RD-1, the questionnaire sent to larger R&D-performing companies. Consequently, data for smaller R&D-performing companies are not distributed by source of R&D funds. Data recorded in January represent employment for the previous year. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 29. Full-time equivalent R&D scientists and engineers per 1,000 employees in companies performing industrial R&D in the United States, by industry and company size: 2006

Industry and company size	NAICS codes	Per 1,000 employees
All industries	21–23, 31–33, 42, 44–81	65
Manufacturing industries	31–33	72
Food	311	11
Beverage and tobacco products	312	82 i
Textiles, apparel, and leather	313–16	32 i
Wood products	321	13 i
Paper, printing, and support activities	322, 323	20 i
Petroleum and coal products	324	D
Chemicals	325	111
Basic chemicals	3251	60
Resin, synthetic rubber, fibers, and filament	3252	80
Pharmaceuticals and medicines	3254	165 i
Other chemicals	other 325	59
Plastics and rubber products	326	27
Nonmetallic mineral products	327	37 i
Primary metals	331	14 i
Fabricated metal products	332	44
Machinery	333	69
Computer and electronic products	334	186
Computers and peripheral equipment	3341	200
Communications equipment	3342	328
Semiconductor and other electronic components	3344	183
Navigational, measuring, electromedical, and control instruments	3345	154 i
Other computer and electronic products	other 334	85 i
Electrical equipment, appliances, and components	335	52
Transportation equipment	336	67 i
Motor vehicles, trailers, and parts	3361–63	D
Aerospace products and parts	3364	63 i
Other transportation equipment	other 336	D
Furniture and related products	337	D
Miscellaneous manufacturing	339	56
Medical equipment and supplies	3391	57
Other miscellaneous manufacturing	other 339	53
Nonmanufacturing industries	21–23, 42, 44–81	55
Mining, extraction, and support activities	21	D
Utilities	22	4
Construction	23	68
Wholesale trade	42	78
Retail trade	44, 45	D
Transportation and warehousing	48, 49	D
Information	51	81
Publishing	511	242
Newspaper, periodical, book, and directory	5111	D
Software	5112	D
Telecommunications	517	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	D
Satellite telecommunications	5174	61
Other telecommunications	other 517	9 i
Internet service providers, Web search portals, and data-processing services	518	141
Internet service providers and Web search portals	5181	269
Data-processing, hosting, and related services	5182	125

TABLE 29. Full-time equivalent R&D scientists and engineers per 1,000 employees in companies performing industrial R&D in the United States, by industry and company size: 2006

Industry and company size	NAICS codes	Per 1,000 employees
Other information	other 51	D
Finance, insurance, and real estate	52, 53	19
Professional, scientific, and technical services	54	157
Architectural, engineering, and related services	5413	183
Computer systems design and related services	5415	147
Scientific R&D services	5417	258
Other professional, scientific, and technical services	other 54	60
Health care services	621–23	41
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	12
Company size (employees)		
All companies	-	65
5–24	-	186
25–49	-	141
50–99	-	100
100–249	-	94
250–499	-	64
500–999	-	55
1,000–4,999	-	70
5,000–9,999	-	74
10,000–24,999	-	77
25,000 or more	-	46

D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. Data recorded in January represent employment for the previous year. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE 30. Funds for industrial R&D for companies performing industrial R&D in the United States, by industry and company size: 2006 and 2007

(Millions of dollars)

Industry and company size	NAICS codes	All R&D		Federal R&D		Company and other R&D	
		2006	2007	2006	2007	2006	2007
All industries	21–23, 31–33, 42, 44–81	247,669	269,267	24,304	26,585	223,365	242,682
Manufacturing industries	31–33	171,814	187,477	16,584	18,170	155,230	169,307
Food	311	2,720	D	4	D	2,716	2,722
Beverage and tobacco products	312	547 i	217	0	0	547 i	217
Textiles, apparel, and leather	313–16	594	806	11	10	583	796
Wood products	321	195	D	2	D	192	202
Paper, printing, and support activities	322, 323	D	D	D	D	2,793	2,596
Petroleum and coal products	324	1,432	D	1	D	1,431	1,718
Chemicals	325	46,329	D	211	D	46,119	55,319
Basic chemicals	3251	2,152	3,234	98	76	2,054	3,158
Resin, synthetic rubber, fibers, and filament	3252	1,975	963	13	12	1,963	951
Pharmaceuticals and medicines	3254	38,901	D	88	D	38,813	47,624
Other chemicals	other 325	3,300	3,601	12	14	3,288	3,587
Plastics and rubber products	326	2,245	D	27	D	2,217	2,072
Nonmetallic mineral products	327	1,014	1,125	78	13	936	1,112
Primary metals	331	651	896	13	10	638	886
Fabricated metal products	332	1,499	1,709	67 i	115 i	1,432	1,594
Machinery	333	9,848	9,865	106	69	9,743	9,796
Computer and electronic products	334	56,773	58,599	8,522	8,838	48,251	49,760
Computers and peripheral equipment	3341	D	D	D	D	7,289	6,869
Communications equipment	3342	D	11,654	D	219	10,911	11,435
Semiconductor and other electronic components	3344	18,888	18,683	354	368	18,534	18,315
Navigational, measuring, electromedical, and control instruments	3345	18,300	20,438	7,860	8,176	10,440	12,262
Other computer and electronic products	other 334	D	D	D	D	1,076	879
Electrical equipment, appliances, and components	335	2,281	2,708	66	90	2,215	2,617
Transportation equipment	336	D	D	D	D	30,010	30,974
Motor vehicles, trailers, and parts	3361–63	D	D	D	D	16,562	16,034
Aerospace products and parts	3364	16,367	18,436	4,372	5,040	11,995	13,397
Other transportation equipment	other 336	D	D	D	D	1,453	1,543
Furniture and related products	337	D	582	D	1	371	581
Miscellaneous manufacturing	339	5,150	6,410	114	66	5,036	6,344
Medical equipment and supplies	3391	4,098	5,176	101	60	3,998	5,116
Other miscellaneous manufacturing	other 339	1,052	1,234	14	6	1,038	1,228

TABLE 30. Funds for industrial R&D for companies performing industrial R&D in the United States, by industry and company size: 2006 and 2007

(Millions of dollars)

Industry and company size	NAICS codes	All R&D		Federal R&D		Company and other R&D	
		2006	2007	2006	2007	2006	2007
Nonmanufacturing industries	21–23, 42, 44–81	75,855	81,790	7,719	8,415	68,135	73,375
Mining, extraction, and support activities	21	D	1,445	D	9	1,123	1,436
Utilities	22	248	235	34	35	214	200
Construction	23	1,379	D	12	D	1,368	386
Wholesale trade	42	2,072	2,294	18	16	2,054	2,277
Retail trade	44, 45	D	2,530	D	12	1,372	2,517
Transportation and warehousing	48, 49	D	D	D	D	277	166
Information	51	26,883	D	136	D	26,748	28,767
Publishing	511	D	20,900	D	22	19,946	20,878
Newspaper, periodical, book, and directory	5111	D	D	D	D	992	1,245
Software	5112	D	D	D	D	18,953	19,634
Telecommunications	517	D	D	D	D	2,135	3,107
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	D	D	D	D	1,688	2,320
Satellite telecommunications	5174	D	D	0	0	D	D
Other telecommunications	other 517	D	D	0	0	D	D
Internet service providers, Web search portals, and data-processing services	518	4,029	D	93	D	3,936	4,190
Internet service providers and Web search portals	5181	D	2,351	0	0	D	2,351
Data-processing, hosting, and related services	5182	D	D	93	D	D	1,838
Other information	other 51	732	593	*	0	731	593
Finance, insurance, and real estate	52, 53	1,969	2,021	0	0	1,969	2,021
Professional, scientific, and technical services	54	38,049	40,533	7,438	7,608	30,611	32,924
Architectural, engineering, and related services	5413	6,579	5,882	1,714	1,885	4,866	3,997
Computer systems design and related services	5415	14,841	14,407	1,011	804	13,830	13,603
Scientific R&D services	5417	14,525	16,849	4,495	4,831	10,030	12,017
Other professional, scientific, and technical services	other 54	2,105	3,394	219	87	1,885	3,307
Health care services	621–23	992	1,280	37	7	955	1,274
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	1,479	1,857	34	450	1,445	1,406

TABLE 30. Funds for industrial R&D for companies performing industrial R&D in the United States, by industry and company size: 2006 and 2007

(Millions of dollars)

Industry and company size	NAICS codes	All R&D		Federal R&D		Company and other R&D	
		2006	2007	2006	2007	2006	2007
Company size (employees)							
All companies	-	247,669	269,267	24,304	26,585	223,365	242,682
5–24	-	7,207	10,854	1,121	1,671	6,087	9,183
25–49	-	D	7,884	D	615	6,465	7,269
50–99	-	9,064	10,068	704	760	8,360	9,308
100–249	-	13,306	13,354	1,206	1,264	12,101	12,090
250–499	-	D	8,258	D	556	7,944	7,702
500–999	-	13,360	14,279	878	662	12,482	13,617
1,000–4,999	-	37,866	41,103	1,847	1,287	36,019	39,816
5,000–9,999	-	20,434	22,673	657	1,516	19,776	21,157
10,000–24,999	-	37,865	45,946	1,816	1,930	36,049	44,016
25,000 or more	-	92,925	94,848	14,843	16,325	78,082	78,523

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D not performed within the company (e.g., R&D performed by other organizations) and R&D not performed within the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 31. Sales and employment for companies performing industrial R&D in the United States, by industry and company size: 2006 and 2007

Industry and company size	NAICS codes	Domestic net sales		R&D scientists and engineers[a]		Domestic employment (March)	
		2006	2007	2007	2008	2006	2007
		$millions		Thousands			
All industries	21–23, 31–33, 42, 44–81	6,642,500	7,027,049	1,135.5	1,130.5	16,298	16,737
Manufacturing industries	31–33	4,264,583	4,594,252	696.1	717.1	9,415	9,598
Food	311	414,425	405,129	11.6	12.3	1,021	985
Beverage and tobacco products	312	43,517	50,882	4.6 i	1.2	57	86
Textiles, apparel, and leather	313–16	41,672	47,573	5.7	6.3	176	197
Wood products	321	25,741	25,585	1.7 i	D	109	104
Paper, printing, and support activities	322, 323	223,644	205,991	9.7 i	D	455	418
Petroleum and coal products	324	446,821	510,798	D	D	145	154
Chemicals	325	612,885	699,520	128.3	139.6	1,083	1,101
Basic chemicals	3251	121,434	144,565	9.6	13.8	153	191
Resin, synthetic rubber, fibers, and filament	3252	90,226	50,517	8.5	4.9	101	63
Pharmaceuticals and medicines	3254	286,981	374,517	90.5	103.0	509	513
Other chemicals	other 325	114,244	129,920	19.8	17.9	320	333
Plastics and rubber products	326	114,989	138,972	13.5	12.6	435	470
Nonmetallic mineral products	327	48,393	61,161	6.9 i	5.8	177	238
Primary metals	331	127,138	144,737	3.4	3.8	229	287
Fabricated metal products	332	103,567	102,467	22.1	16.0	409	387
Machinery	333	272,687	264,841	65.0	58.8	871	822
Computer and electronic products	334	524,160	589,918	241.0	276.5	1,325	1,397
Computers and peripheral equipment	3341	116,094	135,239	32.6	D	162	156
Communications equipment	3342	80,092	78,043	49.8	55.1	152	146
Semiconductor and other electronic components	3344	168,585	152,990	77.7	91.8	456	393
Navigational, measuring, electromedical, and control instruments	3345	139,871	201,270	75.6 i	90.4	495	652
Other computer and electronic products	other 334	19,519	22,377	5.3 i	D	60	51
Electrical equipment, appliances, and components	335	88,519	87,972	15.9	15.6	289	279
Transportation equipment	336	1,019,882	1,005,804	134.7	121.4	1,981	2,015
Motor vehicles, trailers, and parts	3361–63	686,841	655,250	D	D	1,030	1,070
Aerospace products and parts	3364	243,110	263,321	37.5	42.9	620	659
Other transportation equipment	other 336	89,931	87,233	D	D	331	286
Furniture and related products	337	54,617	47,140	D	3.5	269	229
Miscellaneous manufacturing	339	101,926	205,763	24.1	29.1	385	430
Medical equipment and supplies	3391	71,882	172,473	17.1	20.1	267	305
Other miscellaneous manufacturing	other 339	30,044	33,290	7.0	9.0	118	125

TABLE 31. Sales and employment for companies performing industrial R&D in the United States, by industry and company size: 2006 and 2007

Industry and company size	NAICS codes	Domestic net sales		R&D scientists and engineers[a]		Domestic employment (March)	
		2006	2007	2007	2008	2006	2007
		$millions		Thousands			
Nonmanufacturing industries	21–23, 42, 44–81	2,377,917	2,432,797	439.4	413.4	6,883	7,139
Mining, extraction, and support activities	21	152,013	151,265	D	D	133	150
Utilities	22	184,192	206,435	1.7	0.7	280	250
Construction	23	59,868	42,379	14.3	D	172	138
Wholesale trade	42	101,302	122,878	18.4	15.1	203	234
Retail trade	44, 45	247,853	295,850	D	14.7	653 i	1,098
Transportation and warehousing	48, 49	88,756	92,190	D	D	685	721
Information	51	511,749	562,929	144.5	139.1	1,651	1,568
Publishing	511	118,956	128,622	105.3	100.5	410	402
Newspaper, periodical, book, and directory	5111	23,951	28,615	D	D	119	129
Software	5112	95,005	100,006	D	D	291	273
Telecommunications	517	303,954	343,618	D	D	895	832
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	228,449	260,455	D	D	693	638
Satellite telecommunications	5174	906	60	*	*	2	*
Other telecommunications	other 517	74,600	83,103	2.8 i	5.3	200	193
Internet service providers, Web search portals, and data-processing services	518	41,940	43,685	22.7	D	155	153
Internet service providers and Web search portals	5181	12,253	17,530	5.3	7.0	17	28
Data-processing, hosting, and related services	5182	29,687	26,155	17.5	D	138	125
Other information	other 51	46,899	47,005	D	2.8	191	182
Finance, insurance, and real estate	52, 53	522,683	524,874	23.4	19.3	1,037	1,067
Professional, scientific, and technical services	54	401,512	345,529	208.9	196.1	1,088	1,192
Architectural, engineering, and related services	5413	45,535	49,091	52.2	44.7	210	214
Computer systems design and related services	5415	281,633	204,946	95.8	80.3	551	523
Scientific R&D services	5417	41,410	40,075	45.9	54.8	162	188
Other professional, scientific, and technical services	other 54	32,935	51,417	14.9	16.4	165	268
Health care services	621–23	28,707	28,319	7.4	7.7	132	123
Other nonmanufacturing[b]	55, 56, 61, 624, 71, 72, 81	79,281	60,149	9.6	8.1	848	597

TABLE 31. Sales and employment for companies performing industrial R&D in the United States, by industry and company size: 2006 and 2007

Industry and company size	NAICS codes	Domestic net sales		R&D scientists and engineers[a]		Domestic employment (March)	
		2006	2007	2007	2008	2006	2007
		$millions		Thousands			
Company size (employees)							
All companies	-	6,642,500	7,027,049	1,135.5	1,130.5	16,298	16,737
5–24	-	51,371	68,796	67.6	69.3	243	250
25–49	-	56,748	48,623	44.4	40.5	241	243
50–99	-	90,817	106,287	61.8	48.6	482	415
100–249	-	171,854	176,457	78.8	66.2	689	674
250–499	-	158,493	184,423	47.9	46.5	665	633
500–999	-	301,337	313,263	64.3	64.2	1,087	888
1,000–4,999	-	1,044,304	973,112	178.1	181.7	2,393	2,322
5,000–9,999	-	604,787	738,398	101.6	105.7	1,393	1,515
10,000–24,999	-	1,332,843	1,337,729	177.1	187.5	2,270	2,459
25,000 or more	-	2,829,945	3,079,961	313.8	320.3	6,835	7,339

* = amount < 50; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Data recorded in January represent domestic employment for the previous year.

[b] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates for 2004 are not directly comparable with those for previous years. Excludes federally funded research and development centers. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 32. Industrial R&D performed in the United States, by source of funds: 1953–2007

(Millions of current and constant 2000 dollars)

Year	All sources		Federal		Company and other	
	Current $	Constant $	Current $	Constant $	Current $	Constant $
1953	3,630	19,896	1,430	7,838	2,200	12,058
1954	4,070	22,098	1,750	9,502	2,320	12,597
1955	4,640	24,753	2,180	11,629	2,460	13,123
1956	6,605	34,056	3,328	17,160	3,277	16,897
1957	7,731	38,581	4,335	21,634	3,396	16,948
1958	8,389	40,925	4,759	23,216	3,630	17,709
1959	9,618	46,349	5,635	27,155	3,983	19,194
1960	10,509	49,946	6,081	28,901	4,428	21,045
1961	10,908	51,266	6,240	29,327	4,668	21,939
1962	11,464	53,154	6,434	29,832	5,029	23,318
1963	12,630	57,946	7,270	33,355	5,360	24,592
1964	13,512	61,056	7,720	34,884	5,792	26,172
1965	14,185	62,948	7,740	34,347	6,445	28,601
1966	15,548	67,085	8,332	35,950	7,216	31,135
1967	16,385	68,575	8,365	35,009	8,020	33,565
1968	17,429	69,959	8,560	34,359	8,869	35,600
1969	18,308	70,015	8,451	32,319	9,857	37,696
1970	18,067	65,621	7,779	28,254	10,288	37,367
1971	18,320	63,368	7,666	26,516	10,654	36,852
1972	19,552	64,815	8,017	26,577	11,535	38,239
1973	21,249	66,719	8,145	25,574	13,104	41,145
1974	22,887	65,908	8,220	23,671	14,667	42,237
1975	24,187	63,648	8,605	22,644	15,582	41,004
1976	26,997	67,162	9,561	23,785	17,436	43,377
1977	29,825	69,764	10,485	24,526	19,340	45,238
1978	33,304	72,785	11,189	24,453	22,115	48,332
1979	38,226	77,150	12,518	25,265	25,708	51,885
1980	44,505	82,352	14,029	25,959	30,476	56,393
1981	51,810	87,637	16,382	27,710	35,428	59,927
1982	58,650	93,503	18,545	29,565	40,105	63,938
1983	65,268	100,093	20,680	31,714	44,588	68,379
1984	74,800	110,561	23,396	34,581	51,404	75,979
1985	84,239	120,834	27,196	39,011	57,043	81,824
1986	87,823	123,261	27,891	39,145	59,932	84,115
1987	92,155	125,902	30,752	42,013	61,403	83,889
1988	97,015	128,168	30,343	40,087	66,672	88,081
1989	102,055	129,912	28,554	36,348	73,501	93,564
1990	109,727	134,486	28,125	34,471	81,602	100,015
1991	116,952	138,498	26,372	31,230	90,580	107,267
1992	119,110	137,883	24,722	28,618	94,388	109,265
1993	117,400	132,835	22,809	25,808	94,591	107,028
1994	119,595	132,503	22,463	24,887	97,131	107,614
1995	132,103	143,425	23,451	25,461	108,652	117,964
1996	144,667	154,143	23,653	25,202	121,015	128,941
1997	157,539	165,112	23,928	25,078	133,611	140,034
1998	169,180	175,367	24,164	25,048	145,016	150,320
1999	184,129	188,140	22,535	23,026	161,594	165,114
2000	201,962	201,961	19,118	19,118	182,844	182,844
2001	202,017	197,284	16,899	16,503	185,118	180,781
2002	193,868	186,077	16,401	15,742	177,467	170,335

TABLE 32. Industrial R&D performed in the United States, by source of funds: 1953–2007

(Millions of current and constant 2000 dollars)

Year	All sources		Federal		Company and other	
	Current $	Constant $	Current $	Constant $	Current $	Constant $
2003	200,724 r	188,644 r	17,798 r	16,727 r	182,926 r	171,917 r
2004	208,301	190,357	20,266	18,520	188,035	171,837
2005	226,159	200,609	21,909	19,434	204,250	181,175
2006	247,669	213,348	24,304	20,936	223,365	192,412
2007	269,267	224,970	26,585	22,212	242,682	202,759

r = data significantly revised; replaces previously published data.

NOTES: Beginning with 2001, excludes federally funded research and development centers. Gross domestic product implicit price deflators were used to convert current dollars to constant 2000 dollars. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside sources, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 33. Funds for and companies performing industrial R&D in the United States, by industry and company size, by total R&D program size: 2007

(Amount in millions of dollars)

Industry and company size	NAICS codes	All companies		R&D program size: Less than $200,000		$200,000–$999,999		$1 million–$9.9 million		$10 million–$99.9 million		$100 million or more	
		Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
All industries	21–23, 31–33, 42, 44–81	43,419	269,267	17,528	1,137	15,020	7,056	8,889	27,199	1,669	47,704	314	186,171
Manufacturing industries	31–33	18,872	187,477	7,467	503	6,315	2,962	3,941	12,180	919	28,718	230	143,115
Food	311	828	D	D	D	D	D	144	357	26	886	8	1,347
Beverage and tobacco products	312	39	217	14	1	10	3	8	28	7	186	0	0
Textiles, apparel, and leather	313–16	379	806	132	9	D	D	145	253 i	13	270	D	D
Wood products	321	157	D	D	D	34	13	17	42	D	D	0	0
Paper, printing, and support activities	322, 323	797	D	D	D	D	D	62	196	16	403	4	1,891
Petroleum and coal products	324	193	D	D	D	148	73	8	34	D	D	4	1,597
Chemicals	325	2,445	D	D	D	D	D	754	2,689	226	7,646	68	45,040
Basic chemicals	3251	321	3,234	151	11	65	34	71	260	29	1,028	6	1,901
Resin, synthetic rubber, fibers, and filament	3252	221	963	137	8	41	15	D	D	8	277	D	D
Pharmaceuticals and medicines	3254	895	D	D	D	94	46	D	D	157	5,054	54	40,786
Other chemicals	other 325	1,008	3,601	496	31	D	D	D	D	32	1,287	D	D
Plastics and rubber products	326	1,255	D	D	D	493	224	275	654	23	638	D	D
Nonmetallic mineral products	327	406	1,125	275	16	D	D	37	118	18	467	D	D
Primary metals	331	306	896	74	5	D	D	49	152	17	425	D	D
Fabricated metal products	332	1,672	1,709	D	D	594	355	240	556	22	625	D	D
Machinery	333	2,711	9,865	1,182	79	1,037	498	389	1,085	84	2,273	18	5,931
Computer and electronic products	334	3,236	58,599	600	49	1,527	669	771	2,618	262	8,665	76	46,597
Computers and peripheral equipment	3341	229	D	D	D	D	D	80	269	31	1,059	10	5,573
Communications equipment	3342	457	11,654	84	7	145	74	141	528	78	2,447	9	8,598
Semiconductor and other electronic components	3344	637	18,683	104	11	231	107	200	669	72	2,434	30	15,462
Navigational, measuring, electromedical, and control instruments	3345	1,798	20,438	348	26	1,035	434	318	1,035	75	2,532	23	16,410
Other computer and electronic products	other 334	114	D	D	D	D	D	32	116	6	192	4	553 i
Electrical equipment, appliances, and components	335	788	2,708	D	D	232	107	213	743	49	1,412	D	D
Transportation equipment	336	1,265	D	D	D	209	102	D	D	76	2,659	30	35,759
Motor vehicles, trailers, and parts	3361–63	819	D	D	D	122	64	D	D	48	1,935	16	13,428
Aerospace products and parts	3364	242	18,436	144	13	41	17	29	105	19	530	10	17,771
Other transportation equipment	other 336	203	D	D	D	46	21	D	D	9	194	4	4,560
Furniture and related products	337	441	582	D	D	117	48	31	91	10	280	D	D
Miscellaneous manufacturing	339	1,954	6,410	811	43	562	281	508	1,595	62	1,730	12	2,760
Medical equipment and supplies	3391	969	5,176	272	15	233	106	406	1,316	49	1,412	9	2,327
Other miscellaneous manufacturing	other 339	985	1,234	539	28	328	175	102	279	13	318	3	433

TABLE 33. Funds for and companies performing industrial R&D in the United States, by industry and company size, by total R&D program size: 2007

(Amount in millions of dollars)

Industry and company size	NAICS codes	All companies		R&D program size: Less than $200,000		$200,000–$999,999		$1 million–$9.9 million		$10 million–$99.9 million		$100 million or more	
		Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
Nonmanufacturing industries	21–23, 42, 44–81	24,547	81,790	10,060	633	8,705	4,094	4,948	15,019	750	18,987	84	43,056
Mining, extraction, and support activities	21	216	1,445	145	9	11	5	49	188	8	196	3	1,047
Utilities	22	43	235	8	1	11	6	18	64	6	164	0	0
Construction	23	538	D	D	D	261	125	18	57	D	D	D	D
Wholesale trade	42	3,648	2,294	2,524	130	729	245	341	786	54	1,132	0	0
Retail trade	44, 45	1,587	2,530	D	D	D	D	277	458	25	493	D	D
Transportation and warehousing	48, 49	281	D	D	D	D	D	12	49	4	112	0	0
Information	51	2,423	D	D	D	D	D	681	2,110	149	4,108	38	22,293
Publishing	511	1,408	20,900	237	29	617	256	429	1,412	100	2,903	25	16,301
Newspaper, periodical, book, and directory	5111	104	D	24	3	48	12	D	D	9	210	D	D
Software	5112	1,305	D	213	26	569	243	D	D	91	2,693	D	D
Telecommunications	517	237	D	D	D	D	D	66	147	19	437	D	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	98	D	D	D	D	D	D	D	11	194	D	D
Satellite telecommunications	5174	4	D	D	D	D	D	D	D	0	0	0	0
Other telecommunications	other 517	135	D	37	5	D	D	48	93	8	243	D	D
Internet service providers, Web search portals, and data-processing services	518	562	D	D	D	D	D	141	405	22	548	5	3,329
Internet service providers and Web search portals	5181	172	2,351	D	D	D	D	D	D	4	70	D	D
Data-processing, hosting, and related services	5182	390	D	65	9	D	D	D	D	18	477	D	D
Other information	other 51	216	593	110	13	D	D	46	146	8	220	D	D
Finance, insurance, and real estate	52, 53	331	2,021	253	21	18	9	29	130	26	780	5	1,081
Professional, scientific, and technical services	54	11,146	40,533	3,171	294	4,300	2,140	3,184	10,332	458	11,522	32	16,245
Architectural, engineering, and related services	5413	1,996	5,882	D	D	D	D	442	1,393	58	1,335	D	D
Computer systems design and related services	5415	4,252	14,407	1,471	150	1,548	896	1,116	3,075	105	2,568	12	7,720
Scientific R&D services	5417	1,851	16,849	110	13	317	193	1,133	3,606	279	7,293	13	5,744
Other professional, scientific, and technical services	other 54	3,047	3,394	D	D	D	D	494	2,258	16	326	D	D
Health care services	621–23	2,849	1,280	D	D	1,310	605	19	65	D	D	D	D
Other nonmanufacturing[a]	55–56, 61, 624, 71–72, 81	1,484	1,857	870	19	D	D	320	781	15	379	D	D

TABLE 33. Funds for and companies performing industrial R&D in the United States, by industry and company size, by total R&D program size: 2007

(Amount in millions of dollars)

				R&D program size									
		All companies		Less than $200,000		$200,000–$999,999		$1 million–$9.9 million		$10 million–$99.9 million		$100 million or more	
Industry and company size	NAICS codes	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
Company size (employees)													
All companies	-	43,419	269,267	17,528	1,137	15,020	7,056	8,889	27,199	1,669	47,704	314	186,171
5–24	-	21,701	10,854	10,600	683	8,483	3,958	2,589	5,833	27	380	0	0
25–49	-	6,852	7,884	3,039	191	1,988	867	1,742	5,245	83	1,581	0	0
50–99	-	5,960	10,068	2,372	139	2,007	911	1,384	4,942	197	4,076	0	0
100–249	-	4,309	13,354	842	D	1,709	908	1,436	4,292	320	7,738	3	D
250–499	-	1,809	8,258	481	D	469	227	640	2,204	218	5,679	1	D
500–999	-	1,275	14,279	152	12	251	122	610	2,495	238	7,318	24	4,332
1,000–4,999	-	1,039	41,103	31	3	95	55	395	1,766	411	13,972	106	25,306
5,000–9,999	-	211	22,673	8	D	13	D	48	212	98	3,477	45	18,977
10,000–24,999	-	158	45,946	1	D	5	D	27	D	57	2,481	68	43,336
25,000 or more	-	106	94,848	1	D	0	0	17	D	21	1,002	67	93,763

D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; – = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or performed by other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 34. Funds for industrial R&D performed in the United States, by industry, by company size: 2007

(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
All industries	21–23, 31–33, 42, 44–81	269,267	10,854	7,884	10,068	13,354	8,258	14,279	41,103	22,673	45,946	94,848
Manufacturing industries	31–33	187,477	3,448	D	3,303	5,727	4,665	D	30,191	D	D	D
Food	311	D	16	43	37	D	D	88	386	164	D	D
Beverage and tobacco products	312	217	1	1	*	1	D	0	55	69	D	0
Textiles, apparel, and leather	313–16	806	5	D	D	D	D	51	180	D	D	D
Wood products	321	D	0	4	2	14	D	D	64	D	D	0
Paper, printing, and support activities	322, 323	D	22	28	35	45	65	68	168	115	339	D
Petroleum and coal products	324	D	3	63	4	10 i	3	D	21	0	D	D
Chemicals	325	D	1,300	1,579	1,419	1,381	925	3,526	8,658	D	D	D
Basic chemicals	3251	3,234	8	D	D	D	D	194	D	D	D	D
Resin, synthetic rubber, fibers, and filament	3252	963	D	18	D	D	21	37	D	0	0	D
Pharmaceuticals and medicines	3254	D	1,221	D	1,274	D	D	D	D	D	D	D
Other chemicals	other 325	3,601	D	D	D	D	D	D	D	D	D	D
Plastics and rubber products	326	D	15	D	105	D	149	D	D	230	D	D
Nonmetallic mineral products	327	1,125	1	D	D	D	33	D	D	48 i	D	0
Primary metals	331	896	2	D	11	D	D	D	D	D	D	D
Fabricated metal products	332	1,709	D	46	82	D	D	D	D	257	D	0
Machinery	333	9,865	D	D	271	D	D	D	2,092	D	D	D
Computer and electronic products	334	58,599	752	680	873	1,830	1,629	D	11,575	D	D	D
Computers and peripheral equipment	3341	D	D	57	D	127	D	D	D	1,397	D	D
Communications equipment	3342	11,654	63	134	D	D	D	882	D	0	D	D
Semiconductor and other electronic components	3344	18,683	183	190	D	D	D	D	D	D	4,418	D
Navigational, measuring, electromedical, and control instruments	3345	20,438	446	282	D	523	D	D	2,474	D	D	D
Other computer and electronic products	other 334	D	D	17	31	23	D	71	405 i	0	D	0
Electrical equipment, appliances, and components	335	2,708	D	59	61	214	278	313	D	D	606	0
Transportation equipment	336	D	117	173	129	444	336	D	D	D	D	D
Motor vehicles, trailers, and parts	3361–63	D	D	153	103	D	D	D	D	D	D	D
Aerospace products and parts	3364	18,436	D	15	21	D	D	D	D	D	D	15,759
Other transportation equipment	other 336	D	73	5	5	D	D	D	D	D	D	D
Furniture and related products	337	582	2	D	19	D	19	D	74	D	133	D
Miscellaneous manufacturing	339	6,410	534	D	209	362	D	D	1,988	D	D	D

TABLE 34. Funds for industrial R&D performed in the United States, by industry, by company size: 2007

(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Medical equipment and supplies	3391	5,176	D	D	136	D	D	D	1,440	D	D	D
Other miscellaneous manufacturing	other 339	1,234	D	D	73	D	D	81	547	D	0	0
Nonmanufacturing industries	21–23, 42, 44–81	81,790	7,406	D	6,765	7,626	3,593	D	10,912	D	D	D
Mining, extraction, and support activities	21	1,445	89	24	D	7	D	22	D	D	D	D
Utilities	22	235	D	D	D	D	D	3	41	D	D	D
Construction	23	D	D	D	D	125	D	D	D	D	D	0
Wholesale trade	42	2,294	417	D	D	484	D	170	D	0	D	0
Retail trade	44, 45	2,530	401	D	11	D	D	D	43	D	D	175
Transportation and warehousing	48, 49	D	D	0	1	D	D	22	8	D	37	D
Information	51	D	D	D	D	1,202	D	1,211	5,107	4,761	4,223	D
Publishing	511	20,900	D	304	D	D	D	943	4,697	D	D	D
Newspaper, periodical, book, and directory	5111	D	D	3	D	D	5	27	D	494	D	D
Software	5112	D	D	300	D	D	D	916	D	D	D	D
Telecommunications	517	D	117	20	D	D	D	D	D	D	D	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	D	D	10	D	118	D	D	D	D	D	D
Satellite telecommunications	5174	D	D	0	D	0	0	0	0	0	0	0
Other telecommunications	other 517	D	D	9	D	D	D	D	D	0	D	D
Internet service providers, Web search portals, and data-processing services	518	D	119	118	129	D	D	113	165	D	D	D
Internet service providers and Web search portals	5181	2,351	D	22	D	D	17	D	D	D	D	0
Data-processing, hosting, and related services	5182	D	D	96	D	D	D	D	D	D	0	D
Other information	other 51	593	D	D	96	18	D	D	D	0	D	D
Finance, insurance, and real estate	52, 53	2,021	20	1	D	27	84	82	474	281	116	D
Professional, scientific, and technical services	54	40,533	4,631	D	5,504	5,617	D	D	4,785	D	D	D
Architectural, engineering, and related services	5413	5,882	1,007	511	D	605	D	241	D	D	D	D
Computer systems design and related services	5415	14,407	D	1,081	D	1,450	D	D	D	D	D	D
Scientific R&D services	5417	16,849	D	1,924	D	3,444	800	1,048	D	D	0	D

TABLE 34. Funds for industrial R&D performed in the United States, by industry, by company size: 2007

(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Other professional, scientific, and technical services	other 54	3,394	D	D	1,533	118	D	632	D	D	D	D
Health care services	621–23	1,280	D	11	D	D	D	D	D	D	D	D
Other nonmanufacturing[a]	55–56, 61, 624, 71–72, 81	1,857	584	D	44	D	D	D	D	D	D	D

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 35. Funds for industrial R&D and companies in manufacturing and nonmanufacturing industries performing industrial R&D in the United States, by company size: 2007

Company size (employees)	Companies performing R&D (number)			Funds for industrial R&D ($millions)		
	All industries	Manufacturing	Nonmanufacturing	All industries	Manufacturing	Nonmanufacturing
All companies	43,419	18,872	24,547	269,267	187,478	81,790
5–24	21,701	5,970	15,730	10,854	3,448 i	7,406
25–49	6,852	3,433	3,419	7,884	D	D
50–99	5,960	2,961	2,998	10,068	3,303	6,765
100–249	4,309	3,098	1,211	13,354	5,727	7,626
250–499	1,809	1,338	471	8,258	4,665	3,593
500–999	1,275	957	318	14,279	D	D
1,000–4,999	1,039	808	231	41,103	30,191	10,912
5,000–9,999	211	137	75	22,673	D	D
10,000–24,999	158	111	47	45,946	D	D
25,000 or more	106	58	48	94,848	D	D

D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed.

NOTES: Detail does not add to total due to rounding or suppression. Excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 36. Costs for industrial R&D performed in the United States, by industry and company size, by type of cost: 2007
(Percent distribution)

Industry and company size	NAICS codes	All R&D costs $millions	All R&D costs Percent	Wages of R&D personnel	Employer's cost of fringe benefits for R&D personnel	Materials and supplies	R&D depreciation	Other costs
All industries	21–23, 31–33, 42, 44–81	269,267	100.0	46.7	10.1	11.7	3.9	27.6
Manufacturing industries	31–33	187,477	100.0	43.4	10.0	13.2	4.1	29.3
Food	311	D	100.0	43.7	12.8	11.2	5.4	26.9
Beverage and tobacco products	312	217	100.0	47.4	17.2	7.7	4.8	22.8
Textiles, apparel, and leather	313–16	806	100.0	61.5	8.3	8.2	2.5	19.4
Wood products	321	D	100.0	53.6	7.2	16.0	1.5	21.7
Paper, printing, and support activities	322, 323	D	100.0	48.6 i	10.7 i	16.8 i	4.5 i	19.3 i
Petroleum and coal products	324	D	100.0	22.9 i	5.9 i	6.0 i	2.0 i	63.1 i
Chemicals	325	D	100.0	33.2	10.3	10.9	5.1	40.5
Basic chemicals	3251	3,234	100.0	43.3	6.7	9.9	7.3	32.8
Resin, synthetic rubber, fibers, and filament	3252	963	100.0	43.6	14.6	9.3	6.8	25.7
Pharmaceuticals and medicines	3254	D	100.0	31.2	10.2	11.1	4.7	42.9
Other chemicals	other 325	3,601	100.0	47.4	15.1	9.1	8.1	20.3
Plastics and rubber products	326	D	100.0	46.5	8.3	27.6	2.6	15.0
Nonmetallic mineral products	327	1,125	100.0	36.9	12.2	20.5	5.1	25.2
Primary metals	331	896	100.0	32.0	7.1	32.9	5.1	23.0
Fabricated metal products	332	1,709	100.0	60.1	12.8	11.2	2.0	14.0
Machinery	333	9,865	100.0	46.0	10.6	14.6	4.6	24.2
Computer and electronic products	334	58,599	100.0	50.5	10.3	10.8	4.6	23.7 i
Computers and peripheral equipment	3341	D	100.0	57.9	11.7	8.8 i	5.8	15.8 i
Communications equipment	3342	11,654	100.0	54.1	13.1	6.3 i	3.0	23.6 i
Semiconductor and other electronic components	3344	18,683	100.0	51.7	7.6	11.5	7.3	21.9
Navigational, measuring, electromedical, and control instruments	3345	20,438	100.0	45.1 i	10.9 i	13.7 i	2.8 i	27.5 i
Other computer and electronic products	other 334	D	100.0	41.2	6.6	6.3	5.3	40.5 i
Electrical equipment, appliances, and components	335	2,708	100.0	49.5	9.9	14.7	2.2	23.6
Transportation equipment	336	D	100.0	45.2	8.8 i	19.2	2.4	24.4
Motor vehicles, trailers, and parts	3361–63	D	100.0	46.8	9.7	19.0	3.9	20.7
Aerospace products and parts	3364	18,436	100.0	41.3	7.5 i	20.9	1.4	29.0
Other transportation equipment	other 336	D	100.0	54.8 i	11.0 i	13.8 i	1.3	19.1 i
Furniture and related products	337	582	100.0	56.0	8.9	11.8	1.3	22.0
Miscellaneous manufacturing	339	6,410	100.0	45.7	10.5	10.1	3.4	30.3
Medical equipment and supplies	3391	5,176	100.0	45.0	10.4	10.0	3.9	30.6
Other miscellaneous manufacturing	other 339	1,234	100.0	48.4	10.5	10.4	1.6	29.1 i

TABLE 36. Costs for industrial R&D performed in the United States, by industry and company size, by type of cost: 2007
(Percent distribution)

Industry and company size	NAICS codes	All R&D costs $millions	All R&D costs Percent	Wages of R&D personnel	Employer's cost of fringe benefits for R&D personnel	Materials and supplies	R&D depreciation	Other costs
Nonmanufacturing industries	21–23, 42, 44–81	81,790	100.0	54.5	10.2	8.1	3.2	24.0
Mining, extraction, and support activities	21	1,445	100.0	42.8	9.2	13.8	1.6	32.5
Utilities	22	235	100.0	35.3	7.3	11.3	5.7	40.4
Construction	23	D	100.0	46.7	10.0	33.1	1.0	9.1
Wholesale trade	42	2,294	100.0	53.3	7.8	8.5	3.0	27.5
Retail trade	44, 45	2,530	100.0	65.3	10.0	9.9	4.2	10.7
Transportation and warehousing	48, 49	D	100.0	58.6	12.9	5.9	2.5	20.1
Information	51	D	100.0	61.3	10.3	2.3	3.4	22.7
Publishing	511	20,900	100.0	59.8	11.8	1.8	3.5	23.1
Newspaper, periodical, book, and directory	5111	D	100.0	44.5	7.1	1.8	33.6	13.0
Software	5112	D	100.0	60.8	12.1	1.8	1.6	23.8
Telecommunications	517	D	100.0	58.6	8.9 i	4.9	1.7	25.9
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	D	100.0	61.3	8.8 i	5.1	0.8	24.1
Satellite telecommunications	5174	D	100.0	5.3	0.7	7.2	0.1	86.7
Other telecommunications	other 517	D	100.0	51.1	9.6	4.3	4.3	30.7
Internet service providers, Web search portals, and data-processing services	518	D	100.0	71.6	4.3	2.7	4.0	17.4
Internet service providers and Web search portals	5181	2,351	100.0	72.4	3.5	3.8	6.0	14.3
Data-processing, hosting, and related services	5182	D	100.0	70.7	5.1	1.5	1.8	20.9
Other information	other 51	593	100.0	52.6	11.7 i	2.1 i	2.8 i	30.9 i
Finance, insurance, and real estate	52, 53	2,021	100.0	68.1	9.7	2.4	3.9	15.8
Professional, scientific, and technical services	54	40,533	100.0	48.6	10.5	11.9	3.2	25.8
Architectural, engineering, and related services	5413	5,882	100.0	43.6	16.5	14.8	2.0	23.1
Computer systems design and related services	5415	14,407	100.0	62.2	9.2	5.8	3.9	18.9
Scientific R&D services	5417	16,849	100.0	36.5	9.7	18.0	3.4	32.5
Other professional, scientific, and technical services	other 54	3,394	100.0	59.8	9.1	2.8	1.9	26.5 i
Health care services	621–23	1,280	100.0	51.3	7.9	11.8	1.0	28.0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	1,857	100.0	63.0 i	9.8 i	7.7	0.9	18.6 i

TABLE 36. Costs for industrial R&D performed in the United States, by industry and company size, by type of cost: 2007
(Percent distribution)

Industry and company size	NAICS codes	All R&D costs $millions	All R&D costs Percent	Wages of R&D personnel	Employer's cost of fringe benefits for R&D personnel	Materials and supplies	R&D depreciation	Other costs
Company size (employees)								
All companies	-	269,267	100.0	46.7	10.1	11.7	3.9	27.6
5–24	-	10,854	100.0	53.5	7.0	12.4	1.9	25.2
25–49	-	7,884	100.0	49.3	7.6	15.1	2.6	25.4
50–99	-	10,068	100.0	45.9	7.7	9.2	2.7	34.6
100–249	-	13,354	100.0	48.2	9.8	12.1	3.2	26.8
250–499	-	8,258	100.0	51.0	10.0	9.9	3.5	25.6
500–999	-	14,279	100.0	47.0	9.6	10.7	3.8	28.8
1,000–4,999	-	41,103	100.0	45.6	9.9	10.1	3.9	30.4
5,000–9,999	-	22,673	100.0	48.3	10.2	10.4	4.8	26.2
10,000–24,999	-	45,946	100.0	42.3	11.0	9.8	4.0	32.8
25,000 or more	-	94,848	100.0	47.5	10.6	13.7	4.1	24.1

D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). Data for R&D by type of expense are collected only on Form RD-1, the questionnaire sent to larger R&D-performing companies. Consequently, the universe of companies may not be represented by the statistics in this table.
For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 37. Funds for and companies performing industrial R&D in the United States, by industry and company size, by R&D area: 2007

(Amount in millions of dollars)

Industry and company size	NAICS codes	All R&D		Software development		Materials synthesis and processing	
		Companies	Amount	Companies	Amount	Companies	Amount
All industries	21–23, 31–33, 42, 44–81	43,419	269,267	16,200	55,602	9,126	24,290
Manufacturing industries	31–33	18,872	187,477	4,143	12,001	5,615	18,725
Food	311	828	D	69	D	199	428
Beverage and tobacco products	312	39	217	1	D	12	14
Textiles, apparel, and leather	313–16	379	806	24	31	144	310
Wood products	321	157	D	21	D	42	51
Paper, printing, and support activities	322, 323	797	D	149	29	240	245
Petroleum and coal products	324	193	D	3	D	38	63
Chemicals	325	2,445	D	81	D	1,019	4,218
Basic chemicals	3251	321	3,234	29	D	175	698
Resin, synthetic rubber, fibers, and filament	3252	221	963	2	D	178	289
Pharmaceuticals and medicines	3254	895	D	19	D	107	2,106
Other chemicals	other 325	1,008	3,601	31	54	559	1,125
Plastics and rubber products	326	1,255	D	221	D	508	504
Nonmetallic mineral products	327	406	1,125	118	D	245	437
Primary metals	331	306	896	114	D	195	262
Fabricated metal products	332	1,672	1,709	373	78	532	280
Machinery	333	2,711	9,865	547	D	746	D
Computer and electronic products	334	3,236	58,599	1,790	5,776	933	7,891
Computers and peripheral equipment	3341	229	D	157	1,444	31	D
Communications equipment	3342	457	11,654	269	1,306	48	D
Semiconductor and other electronic components	3344	637	18,683	195	D	144	6,665
Navigational, measuring, electromedical, and control instruments	3345	1,798	20,438	1,134	2,530	701	900
Other computer and electronic products	other 334	114	D	34	D	9	D
Electrical equipment, appliances, and components	335	788	2,708	162	85	137	227
Transportation equipment	336	1,265	D	95	D	250	D
Motor vehicles, trailers, and parts	3361–63	819	D	57	D	193	709
Aerospace products and parts	3364	242	18,436	21	D	27	D
Other transportation equipment	other 336	203	D	18	71	30	83
Furniture and related products	337	441	582	108	D	84	80
Miscellaneous manufacturing	339	1,954	6,410	268	160	292	681
Medical equipment and supplies	3391	969	5,176	95	86	163	472
Other miscellaneous manufacturing	other 339	985	1,234	173	74	129	209

TABLE 37. Funds for and companies performing industrial R&D in the United States, by industry and company size, by R&D area: 2007

(Amount in millions of dollars)

Industry and company size	NAICS codes	All R&D		Software development		Materials synthesis and processing	
		Companies	Amount	Companies	Amount	Companies	Amount
Nonmanufacturing industries	21–23, 42, 44–81	24,547	81,790	12,057	43,601	3,511	5,565
Mining, extraction, and support activities	21	216	1,445	24	286	131	349
Utilities	22	43	235	10	D	9	D
Construction	23	538	D	260	D	265	144
Wholesale trade	42	3,648	2,294	558	506	1,011	481
Retail trade	44, 45	1,587	2,530	539	1,333	768	464
Transportation and warehousing	48, 49	281	D	10	76	255	D
Information	51	2,423	D	2,152	23,559	25	D
Publishing	511	1,408	20,900	1,305	17,514	3	D
Newspaper, periodical, book, and directory	5111	104	D	40	141	1	D
Software	5112	1,305	D	1,265	17,373	2	D
Telecommunications	517	237	D	182	2,024 i	12	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	98	D	86	1,448 i	0	0
Satellite telecommunications	5174	4	D	2	D	0	0
Other telecommunications	other 517	135	D	94	D	12	D
Internet service providers, Web search portals, and data-processing services	518	562	D	533	3,740	8	D
Internet service providers and Web search portals	5181	172	2,351	154	D	5	1
Data-processing, hosting, and related services	5182	390	D	379	D	3	D
Other information	other 51	216	593	131	282	2	D
Finance, insurance, and real estate	52, 53	331	2,021	49	1,252	4	D
Professional, scientific, and technical services	54	11,146	40,533	7,636	15,473	764	3,993
Architectural, engineering, and related services	5413	1,996	5,882	989	667	155	D
Computer systems design and related services	5415	4,252	14,407	3,850	9,608	161	2,549
Scientific R&D services	5417	1,851	16,849	383	3,580	432	1,258
Other professional, scientific, and technical services	other 54	3,047	3,394	2,415	1,619	15	D
Health care services	621–23	2,849	1,280	256	5	5	14
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	1,484	1,857	564	1,044 i	274	47

TABLE 37. Funds for and companies performing industrial R&D in the United States, by industry and company size, by R&D area: 2007

(Amount in millions of dollars)

Industry and company size	NAICS codes	All R&D		Software development		Materials synthesis and processing	
		Companies	Amount	Companies	Amount	Companies	Amount
Company size (employees)							
All companies	-	43,419	269,267	16,200	55,602	9,126	24,290
5–24	-	21,701	10,854	9,327	3,178	4,137	1,366
25–49	-	6,852	7,884	2,470	2,375	1,291	614
50–99	-	5,960	10,068	2,009	2,164	1,203	904
100–249	-	4,309	13,354	1,309	3,417	1,397	1,210
250–499	-	1,809	8,258	442	2,130	489	967
500–999	-	1,275	14,279	295	3,047	209	1,066
1,000–4,999	-	1,039	41,103	224	8,002	273	5,227
5,000–9,999	-	211	22,673	39	5,521	51	1,258
10,000–24,999	-	158	45,946	42	4,931	48	2,760
25,000 or more	-	106	94,848	43	20,838	27	8,917

TABLE 37. Funds for and companies performing industrial R&D in the United States, by industry and company size, by R&D area: 2007
(Amount in millions of dollars)

Industry and company size	NAICS codes	Other areas		Undistributed R&D	
		Companies	Amount	Companies	Amount
All industries	21–23, 31–33, 42, 44–81	22,081	127,238	5,342	62,138
Manufacturing industries	31–33	11,997	100,506	2,237	56,246
Food	311	584	2,051	138	228
Beverage and tobacco products	312	29	D	4	26
Textiles, apparel, and leather	313–16	250	349	23	116
Wood products	321	94	101	25	49
Paper, printing, and support activities	322, 323	431	D	72	1,686
Petroleum and coal products	324	28	650	133	1,004
Chemicals	325	1,450	38,957	278	12,336
Basic chemicals	3251	223	D	15	1,331
Resin, synthetic rubber, fibers, and filament	3252	56	D	11	37
Pharmaceuticals and medicines	3254	760	35,060	88	10,608
Other chemicals	other 325	410	2,063	164	359
Plastics and rubber products	326	943	D	87	305
Nonmetallic mineral products	327	144	D	57	259
Primary metals	331	220	D	10	64
Fabricated metal products	332	752	907	280	445
Machinery	333	2,130	6,152	137	1,569
Computer and electronic products	334	1,838	20,076	257	24,855
Computers and peripheral equipment	3341	153	D	18	2,790
Communications equipment	3342	271	D	59	7,467
Semiconductor and other electronic components	3344	418	D	40	3,707
Navigational, measuring, electromedical, and control instruments	3345	925	6,484	118	10,524
Other computer and electronic products	other 334	71	D	22	367
Electrical equipment, appliances, and components	335	487	2,028	143	367
Transportation equipment	336	950	D	127	11,552
Motor vehicles, trailers, and parts	3361–63	581	D	70	5,502
Aerospace products and parts	3364	213	D	16	2,095
Other transportation equipment	other 336	156	D	41	3,955
Furniture and related products	337	346	D	32	28
Miscellaneous manufacturing	339	1,323	4,211	433	1,358
Medical equipment and supplies	3391	659	3,379	234	1,238
Other miscellaneous manufacturing	other 339	663	832	199	120

TABLE 37. Funds for and companies performing industrial R&D in the United States, by industry and company size, by R&D area: 2007

(Amount in millions of dollars)

Industry and company size	NAICS codes	Other areas		Undistributed R&D	
		Companies	Amount	Companies	Amount
Nonmanufacturing industries	21–23, 42, 44–81	10,083	26,732	3,105	5,892
Mining, extraction, and support activities	21	88	800 i	3	10
Utilities	22	36	D	3	10
Construction	23	524	201	1	2
Wholesale trade	42	2,306	1,253	248	54
Retail trade	44, 45	538	594	260	138
Transportation and warehousing	48, 49	17	D	2	31
Information	51	273	3,061	100	2,402
Publishing	511	81	D	56	2,245
Newspaper, periodical, book, and directory	5111	64	D	3	50
Software	5112	17	D	53	2,195
Telecommunications	517	65	D	7	30
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	25	D	6	29
Satellite telecommunications	5174	4	D	0	0
Other telecommunications	other 517	36	D	1	1
Internet service providers, Web search portals, and data-processing services	518	48	D	28	86
Internet service providers and Web search portals	5181	24	D	23	21
Data-processing, hosting, and related services	5182	24	D	5	65
Other information	other 51	79	D	9	40
Finance, insurance, and real estate	52, 53	26	D	260	131
Professional, scientific, and technical services	54	4,024	18,267	462	2,800
Architectural, engineering, and related services	5413	1,496	D	275	1,317
Computer systems design and related services	5415	543	1,736	59	514
Scientific R&D services	5417	1,351	11,091	123	919
Other professional, scientific, and technical services	other 54	634	D	5	49
Health care services	621–23	1,589	972	1,506	289
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	661	740	260	25

TABLE 37. Funds for and companies performing industrial R&D in the United States, by industry and company size, by R&D area: 2007

(Amount in millions of dollars)

Industry and company size	NAICS codes	Other areas		Undistributed R&D	
		Companies	Amount	Companies	Amount
Company size (employees)					
All companies	-	22,081	127,238	5,342	62,138
5–24	-	9,501	5,098	2,946	1,212
25–49	-	3,301	4,462	1,028	433
50–99	-	3,383	6,580	689	420
100–249	-	2,922	7,653	223	1,074
250–499	-	1,165	4,681	84	481
500–999	-	783	8,445	153	1,722
1,000–4,999	-	683	21,579	124	6,295
5,000–9,999	-	146	11,490	38	4,404
10,000–24,999	-	128	26,672	26	11,583
25,000 or more	-	68	30,579	30	34,515

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total for money amounts because of rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. Detail does not add to total for number of companies because categories are not mutually exclusive. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 38. Companies using nanotechnology to perform R&D, by industry and company size, by R&D area: 2007

Industry and company size	NAICS codes	Biotechnology	Software development	Materials and synthesis processing	Other areas
All industries	21–23, 31–33, 42, 44–81	62	77	247	160
Manufacturing industries	31–33	32	39	196	119
Food	311	2	0	2	3
Beverage and tobacco products	312	1	0	0	0
Textiles, apparel, and leather	313–16	1	1	5	3
Wood products	321	0	1	2	0
Paper, printing, and support activities	322, 323	0	0	5	2
Petroleum and coal products	324	0	0	2	0
Chemicals	325	11	5	72	30
Basic chemicals	3251	2	2	24	4
Resin, synthetic rubber, fibers, and filament	3252	1	0	14	2
Pharmaceuticals and medicines	3254	7	1	5	5
Other chemicals	other 325	1	2	29	19
Plastics and rubber products	326	0	0	21	4
Nonmetallic mineral products	327	1	0	6	1
Primary metals	331	0	0	7	2
Fabricated metal products	332	0	0	9	8
Machinery	333	1	3	12	19
Computer and electronic products	334	8	24	28	26
Computers and peripheral equipment	3341	0	1	0	4
Communications equipment	3342	0	2	2	1
Semiconductor and other electronic components	3344	1	5	10	3
Navigational, measuring, electromedical, and control instruments	3345	7	14	13	17
Other computer and electronic products	other 334	0	2	3	1
Electrical equipment, appliances, and components	335	0	0	4	3
Transportation equipment	336	1	0	7	5
Motor vehicles, trailers, and parts	3361–63	0	0	4	3
Aerospace products and parts	3364	1	0	1	0
Other transportation equipment	other 336	0	0	2	2
Furniture and related products	337	0	0	0	1
Miscellaneous manufacturing	339	6	5	14	12
Medical equipment and supplies	3391	5	3	9	6
Other miscellaneous manufacturing	other 339	1	2	5	6
Nonmanufacturing industries	21–23, 42, 44–81	30	38	51	41
Mining, extraction, and support activities	21	0	1	2	2
Utilities	22	0	0	0	1
Construction	23	0	0	1	0
Wholesale trade	42	4	2	7	6
Retail trade	44, 45	0	1	0	0
Transportation and warehousing	48, 49	0	0	0	0
Information	51	0	14	1	2
Publishing	511	0	9	0	2
Newspaper, periodical, book, and directory	5111	0	0	0	0
Software	5112	0	9	0	2
Telecommunications	517	0	2	0	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	0	1	0	0
Satellite telecommunications	5174	0	0	0	0
Other telecommunications	other 517	0	1	0	0

TABLE 38. Companies using nanotechnology to perform R&D, by industry and company size, by R&D area: 2007

Industry and company size	NAICS codes	Biotechnology	Software development	Materials and synthesis processing	Other areas
Internet service providers, Web search portals, and data-processing services	518	0	3	1	0
Internet service providers and Web search portals	5181	0	1	0	0
Data-processing, hosting, and related services	5182	0	2	1	0
Other information	other 51	0	0	0	0
Finance, insurance, and real estate	52, 53	0	0	1	0
Professional, scientific, and technical services	54	25	19	35	29
Architectural, engineering, and related services	5413	0	3	2	5
Computer systems design and related services	5415	0	11	3	3
Scientific R&D services	5417	24	2	28	20
Other professional, scientific, and technical services	other 54	1	3	2	1
Health care services	621–23	1	0	0	0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	0	1	4	1
Company size (employees)					
All companies	-	62	77	247	160
5–24	-	11	12	42	19
25–49	-	8	18	31	27
50–99	-	14	14	31	23
100–249	-	11	13	46	40
250–499	-	7	6	31	17
500–999	-	1	5	17	13
1,000–4,999	-	5	7	31	9
5,000–9,999	-	2	1	6	6
10,000–24,999	-	2	1	5	3
25,000 or more	-	1	0	7	3

- = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 39. Funds for and companies performing energy R&D in the United States, by selected industry, company size, and primary energy source, by source of funds: 2007

(Amount in millions of dollars)

Industry and company size	NAICS codes	All R&D		Federal		Company and other	
		Companies	Amount	Companies	Amount	Companies	Amount
All industries	21–23, 31–33, 42, 44–81	144	5,671	42	411	138	5,260
Manufacturing	31–33	86	3,775	22	336	86	3,439
Petroleum and coal products	324	2	D	0	0	2	D
Chemicals	325	18	337	5	17	18	319
Machinery	333	13	677	1	D	13	D
Computer and electronic products	334	15	1,159	6	201	15	958
Electrical equipment, appliances, and components	335	11	183	7	53	11	131
Transportation equipment	336	8	D	2	D	8	737
All other manufacturing	-	19	D	1	D	19	84
Nonmanufacturing	21–23, 42, 44–81	58	1,896	20	75	52	1,821
Mining, extraction, and support activities	21	11	D	2	D	10	992
All other nonmanufacturing	22, 23, 42, 44–81	47	D	18	D	42	829
Company size (employees)							
All companies	-	144	5,671	42	411	138	5,260
5–24	-	1	D	0	0	1	D
25–49	-	15	93	6	13	14	80
50–99	-	5	28	3	*	3	27
100–249	-	18	120	7	34	16	86
250–499	-	11	143	4	34	11	109
500–999	-	10	142	3	D	10	D
1,000–4,999	-	35	1,350	4	12	35	1,338
5,000–9,999	-	14	284	5	25	13	259
10,000–24,999	-	18	D	3	D	18	1,731
25,000 or more	-	17	1,765	7	207	17	1,558
Primary energy source							
All energy	-	144	5,671	42	411	138	5,260
Fossil fuels	-	63	2,984	14	164	60	2,819
Nuclear	-	14	D	3	D	11	472
Total geothermal, solar, and conservation and utilization	-	27	D	10	D	25	304 i
All other energy	-	85	1,835	24	171	81	1,664

D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable; * = amount < $500,000.

NOTES: Detail does not add to total for number of companies for primary energy source because categories are not mutually exclusive. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. Energy R&D data are collected only on Form RD-1, the questionnaire sent to larger R&D-performing companies. Consequently, the universe of companies that performs energy R&D may not be represented by the statistics in this table. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 40. Company and other nonfederal funds for industrial R&D performed in the United States, by industry, by company size: 2007

(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
All industries	21–23, 31–33, 42, 44–81	242,682	9,183	7,269	9,308	12,090	7,702	13,617	39,816	21,157	44,016	78,523
Manufacturing industries	31–33	169,307	3,160	2,918	3,213	5,565	4,558	9,371	29,172	13,035	36,943	61,372
Food	311	2,722	16	43	37	92	124	88	386	164	1,085	687
Beverage and tobacco products	312	217	1	1	*	1	D	0	55	69	D	0
Textiles, apparel, and leather	313–16	796	5	D	16	D	34	51	180	D	318	D
Wood products	321	202	0	4	2	14	D	D	64	57 i	D	0
Paper, printing, and support activities	322, 323	2,596	22	28	35	45	65	68	168	115	339	1,710
Petroleum and coal products	324	1,718	3	63	4	10	3	D	21	0	D	D
Chemicals	325	55,319	1,153	1,566	1,410	1,359	921	3,489	8,587	3,332	18,874	14,628
Basic chemicals	3251	3,158	8	D	28	D	61	194	D	D	411	D
Resin, synthetic rubber, fibers, and filament	3252	951	13	18	11	33	21	37	D	0	0	D
Pharmaceuticals and medicines	3254	47,624	1,076	D	1,271	1,120	689	3,181	6,231	D	17,336	D
Other chemicals	other 325	3,587	57	D	100	D	151	78	D	D	1,127	D
Plastics and rubber products	326	2,072	15	D	105	246	149	D	446	230	D	D
Nonmetallic mineral products	327	1,112	1	D	19	17	33	45	279	48 i	D	0
Primary metals	331	886	2 i	5	11	D	D	D	305	D	D	D
Fabricated metal products	332	1,594	145	44	82	318	176	105	384	257	84	0
Machinery	333	9,796	204	159	267	498	527	472	2,075	1,499	1,412	2,682
Computer and electronic products	334	49,760	665	563	823	1,741	1,604	3,075	11,295	4,681 i	10,206	15,107
Computers and peripheral equipment	3341	6,869	45	56	106	127	D	520	1,573	1,397	D	D
Communications equipment	3342	11,435	63	112	156	791	D	789	2,222	0	D	D
Semiconductor and other electronic components	3344	18,315	169	185	D	343	D	1,129 i	4,767	1,917 i	4,418	D
Navigational, measuring, electromedical, and control instruments	3345	12,262	376	192	D	456	D	566	2,328	1,367	1,673	4,607
Other computer and electronic products	other 334	879	12	17	31	23	D	71	405 i	0	D	0
Electrical equipment, appliances, and components	335	2,617	326	53	61	180	256	299	757	78	606	0
Transportation equipment	336	30,974	104	169	119	439	296	578	2,108	1,479	1,401	24,282
Motor vehicles, trailers, and parts	3361–63	16,034	D	149	103	D	D	430	1,590	D	D	D
Aerospace products and parts	3364	13,397	D	14	12	D	38	109	313	165	D	12,332
Other transportation equipment	other 336	1,543	73	5	5	D	D	38	204	D	D	D
Furniture and related products	337	581	2	D	19	D	19	D	74	D	133	D

TABLE 40. Company and other nonfederal funds for industrial R&D performed in the United States, by industry, by company size: 2007

(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Miscellaneous manufacturing	339	6,344	495	D	200	359	D	790	1,988	837	1,046	D
Medical equipment and supplies	3391	5,116	369	D	130	266	D	709	1,440	D	1,046	D
Other miscellaneous manufacturing	other 339	1,228	126	D	71	93	D	81	547	D	0	0
Nonmanufacturing industries	21–23, 42, 44–81	73,375	6,023	4,351	6,095	6,525	3,143	4,246	10,645	8,122	7,073	17,151
Mining, extraction, and support activities	21	1,436	89	24	D	7	D	22	D	114	D	D
Utilities	22	200	D	D	D	D	D	3	41	45	D	D
Construction	23	386	D	D	D	125	D	D	22	142	D	0
Wholesale trade	42	2,277	417	156	266	484	D	170	D	0	D	0
Retail trade	44, 45	2,517	389	D	11	D	D	D	43	D	D	175
Transportation and warehousing	48, 49	166	D	0	1	D	D	22	8	D	37	74
Information	51	28,767	608	D	D	1,189	847	1,211	5,104	4,761	4,223	9,512
Publishing	511	20,878	D	302	D	D	D	943	4,694	D	D	D
Newspaper, periodical, book, and directory	5111	1,245	D	3	D	D	5	27	D	494	D	D
Software	5112	19,634	D	299	D	D	D	916	D	D	D	D
Telecommunications	517	3,107	117	20	D	D	D	D	D	D	D	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	2,320	D	10	D	118	D	D	D	D	D	D
Satellite telecommunications	5174	D	D	0	D	0	0	0	0	0	0	0
Other telecommunications	other 517	D	D	9	D	D	D	D	D	0	D	D
Internet service providers, Web search portals, and data-processing services	518	4,190	119	118	129	D	144	113	165	D	D	D
Internet service providers and Web search portals	5181	2,351	D	22	D	D	17	D	D	D	D	0
Data-processing, hosting, and related services	5182	1,838	D	96	D	D	126	D	D	D	0	D
Other information	other 51	593	D	D	96	18	D	D	D	0	D	D
Finance, insurance, and real estate	52, 53	2,021	20	1	D	27	84	82	474	281	116	D
Professional, scientific, and technical services	54	32,924	3,699	3,306	4,851	4,531	1,403	2,338	4,534	1,802	1,143	5,318
Architectural, engineering, and related services	5413	3,997	D	466	D	364	136	223	1,431	129	D	D
Computer systems design and related services	5415	13,603	1,307	1,019	D	1,365	637	659	1,741	D	D	D
Scientific R&D services	5417	12,017	1,041	1,583	2,458	2,720	569	824	1,279	D	0	D

TABLE 40. Company and other nonfederal funds for industrial R&D performed in the United States, by industry, by company size: 2007

(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Other professional, scientific, and technical services	other 54	3,307	D	238	1,515	81	60	632	83	D	D	D
Health care services	621–23	1,274	642	11	14	36	D	D	D	D	D	D
Other nonmanufacturing[a]	55–56, 61, 624, 71–72, 81	1,406	149	D	44	85	D	64	185	D	D	D

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Energy R&D data are collected only on Form RD-1, the questionnaire sent to larger R&D-performing companies. Consequently, the universe of companies that performs energy R&D may not be represented by the statistics in this table. The R&D in this table is the industrial R&D performed within company facilities funded from all sources except the federal government. The funds are predominantly the company's own but also include funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 41. Company and other nonfederal funds for and companies performing R&D in the United States, by industry and company size, by nonfederally funded R&D program size: 2007

(Amount in millions of dollars)

Industry and company size	NAICS codes	All companies		R&D program size: Less than $200,000		$200,000–$999,999		$1 million–$9.9 million		$10 million–$99.9 million		$100 million or more	
		Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
All industries	21–23, 31–33, 42, 44–81	42,784	242,682	17,752	1,130	15,177	7,048	7,967	24,406	1,591	45,727	297	164,372
Manufacturing industries	31–33	18,724	169,307	7,441	496	6,285	2,942	3,865	11,654	914	28,500	220	125,715
Food	311	828	2,722	442	33	208	101	144	357	26	884	8	1,347
Beverage and tobacco products	312	39	217	14	1	10	3	8	28	7	186	0	0
Textiles, apparel, and leather	313–16	379	796	134	9	D	D	144	243	13	269	D	D
Wood products	321	157	202	D	D	34	13	17	42	D	D	0	0
Paper, printing, and support activities	322, 323	797	2,596	441	27	274	92	62	196	16	403	4	1,879
Petroleum and coal products	324	193	1,718	D	D	148	73	8	34	D	D	4	1,596
Chemicals	325	2,439	55,319	871	55	538	247	739	2,541	223	7,540	68	44,937
Basic chemicals	3251	320	3,158	153	11	65	35	69	249	28	982	6	1,880
Resin, synthetic rubber, fibers, and filament	3252	221	951	140	9	39	14	D	D	8	271	D	D
Pharmaceuticals and medicines	3254	891	47,624	83	5	91	42	507	1,848	156	5,015	54	40,714
Other chemicals	other 325	1,007	3,587	496	31	343	156	D	D	31	1,271	D	D
Plastics and rubber products	326	1,255	2,072	D	D	493	224	274	649	23	630	D	D
Nonmetallic mineral products	327	405	1,112	276	16	D	D	35	107	18	466	D	D
Primary metals	331	306	886	74	5	D	D	48	148	17	424	D	D
Fabricated metal products	332	1,670	1,594	816	56	591	354	239	549	23	636	0	0
Machinery	333	2,707	9,796	1,185	79	1,033	496	388	1,077	83	2,243	18	5,902
Computer and electronic products	334	3,131	49,760	557	42	1,508	658	734	2,372	260	8,427	72	38,260
Computers and peripheral equipment	3341	229	6,869	28	3	81	37	80	269	30	986	10	5,573
Communications equipment	3342	453	11,435	83	7	149	77	136	511	77	2,389	8	8,451
Semiconductor and other electronic components	3344	607	18,315	102	11	207	95	197	621	72	2,421	29	15,167
Navigational, measuring, electromedical, and control instruments	3345	1,728	12,262	309	19	1,033	432	290	857	74	2,439	21	8,515
Other computer and electronic products	other 334	114	879	36	2	37	17	31	114	6	192	4	553 i
Electrical equipment, appliances, and components	335	786	2,617	D	D	231	104	209	733	47	1,335	D	D
Transportation equipment	336	1,257	30,974	659	50	211	103	283	945	79	2,910	25	26,967
Motor vehicles, trailers, and parts	3361–63	819	16,034	435	29	127	64	193	669	49	2,010	15	13,262
Aerospace products and parts	3364	235	13,397	144	13	38	16	26	87	21	705	6	12,574
Other transportation equipment	other 336	203	1,543	80	8	46	22	64	188	9	194	4	1,130
Furniture and related products	337	427	581	D	D	117	48	31	91	10	280	D	D
Miscellaneous manufacturing	339	1,949	6,344	810	43	563	281	502	1,544	62	1,715	12	2,760
Medical equipment and supplies	3391	966	5,116	270	15	234	106	403	1,271	49	1,397	9	2,327
Other miscellaneous manufacturing	other 339	983	1,228	540	28	328	175	99	273	13	318	3	433

TABLE 41. Company and other nonfederal funds for and companies performing R&D in the United States, by industry and company size, by nonfederally funded R&D program size: 2007

(Amount in millions of dollars)

Industry and company size	NAICS codes	All companies		R&D program size: Less than $200,000		$200,000–$999,999		$1 million–$9.9 million		$10 million–$99.9 million		$100 million or more	
		Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
Nonmanufacturing industries	21–23, 42, 44–81	24,060	73,375	10,311	633	8,893	4,106	4,102	12,751	677	17,227	77	38,657
Mining, extraction, and support activities	21	216	1,436	145	9	12	6	48	183	8	194	3	1,044
Utilities	22	43	200	8	1	11	6	18	58	6	135	0	0
Construction	23	538	386	255	8	D	D	18	55	4	84	D	D
Wholesale trade	42	3,646	2,277	2,525	130	728	244	341	788	53	1,115	0	0
Retail trade	44, 45	1,587	2,517	517	23	766	383	277	458	D	D	D	D
Transportation and warehousing	48, 49	281	166	255	1	10	4	12	49	4	112	0	0
Information	51	2,423	28,767	546	63	1,012	462	679	2,100	148	4,079	38	22,063
Publishing	511	1,408	20,878	238	29	619	256	426	1,404	99	2,889	25	16,300
Newspaper, periodical, book, and directory	5111	104	1,245	25	3	47	12	D	D	9	210	D	D
Software	5112	1,305	19,634	213	26	572	244	D	D	90	2,679	D	D
Telecommunications	517	237	3,107	40	5	D	D	D	D	19	437	D	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	98	2,320	D	D	D	D	D	D	11	194	D	D
Satellite telecommunications	5174	4	D	D	D	D	D	D	D	0	0	0	0
Other telecommunications	other 517	135	D	37	5	D	D	48	93	8	243	D	D
Internet service providers, Web search portals, and data-processing services	518	562	4,190	158	16	236	129	141	403	22	533	5	3,110
Internet service providers and Web search portals	5181	172	2,351	92	7	D	D	D	D	4	70	D	D
Data-processing, hosting, and related services	5182	390	1,838	66	9	D	D	D	D	18	462	D	D
Other information	other 51	216	593	110	13	D	D	D	D	8	220	D	D
Finance, insurance, and real estate	52, 53	331	2,021	253	21	18	9	29	130	26	780	5	1,081
Professional, scientific, and technical services	54	10,666	32,924	3,420	294	4,238	2,103	2,595	8,589	387	9,753	26	12,185
Architectural, engineering, and related services	5413	1,712	3,997	D	D	D	D	389	1,214	40	910	D	D
Computer systems design and related services	5415	4,181	13,603	1,552	153	1,618	903	904	2,658	96	2,398	11	7,490
Scientific R&D services	5417	1,732	12,017	285	20	385	228	813	2,475	238	6,181	11	3,113
Other professional, scientific, and technical services	other 54	3,041	3,307	D	D	D	D	489	2,242	13	263	D	D
Health care services	621–23	2,846	1,274	1,518	65	1,308	602	D	D	D	D	D	D
Other nonmanufacturing[a]	55–56, 61 624, 71–72, 81	1,482	1,406	870	19	D	D	D	D	14	365	D	D

TABLE 41. Company and other nonfederal funds for and companies performing R&D in the United States, by industry and company size, by nonfederally funded R&D program size: 2007

(Amount in millions of dollars)

				R&D program size									
		All companies		Less than $200,000		$200,000–$999,999		$1 million–$9.9 million		$10 million–$99.9 million		$100 million or more	
Industry and company size	NAICS codes	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
Company size (employees)													
All companies	-	42,784	242,682	17,752	1,130	15,177	7,048	7,967	24,406	1,591	45,727	297	164,372
5–24	-	21,234	9,183	10,809	685	8,510	3,882	1,887	4,237	27	380	0	0
25–49	-	6,778	7,269	3,034	191	2,074	909	1,592	4,650	79	1,520	0	0
50–99	-	5,932	9,308	2,388	131	2,045	937	1,323	4,497	176	3,743	0	0
100–249	-	4,264	12,090	847	D	1,711	906	1,426	4,201	278	6,706	2	D
250–499	-	1,802	7,702	480	D	474	229	641	2,169	206	5,157	1	D
500–999	-	1,266	13,617	153	12	250	121	612	2,495	229	6,927	22	4,062
1,000–4,999	-	1,032	39,816	30	3	94	54	394	1,744	412	13,812	101	24,203
5,000–9,999	-	211	21,157	8	D	14	D	48	208	102	3,754	40	17,186
10,000–24,999	-	158	44,016	1	D	5	D	27	D	60	2,670	65	41,221
25,000 or more	-	106	78,523	1	D	0	0	17	D	22	1,058	66	77,383

D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. The R&D in this table is the industrial R&D performed within company facilities funded from all sources except the federal government. The funds are predominantly the company's own, but also include funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 42. Company and other nonfederal funds for and companies funding industrial R&D performed outside of company facilities in the United States by outside organizations, by industry and company size, by type of organization: 2007
(Amount in millions of dollars)

Industry and company size	NAICS codes	Company-funded R&D performed by outside organizations		For-profit companies		Universities and colleges	
		Companies	Amount	Companies	Amount	Companies	Amount
All industries	21–23, 31–33, 42, 44–81	8,137	19,040	802	12,180	290	752
Manufacturing industries	31–33	3,648	14,453	459	9,546	192	673
Food	311	159	261	18	196	16	46
Beverage and tobacco products	312	8	22	4	18	4	2
Textiles, apparel, and leather	313–16	59	4	3	D	3	D
Wood products	321	22	D	2	D	0	0
Paper, printing, and support activities	322, 323	85	21	7	14	6	D
Petroleum and coal products	324	25	D	2	D	1	D
Chemicals	325	905	10,375	102	6,271	68	512
Basic chemicals	3251	103	62	12	D	13	D
Resin, synthetic rubber, fibers, and filament	3252	22	28	4	D	3	D
Pharmaceuticals and medicines	3254	518	10,054	68	6,073	39	469
Other chemicals	other 325	262	231	18	151	13	D
Plastics and rubber products	326	255	54	13	D	3	*
Nonmetallic mineral products	327	53	5	3	D	5	2
Primary metals	331	35	D	9	D	6	1
Fabricated metal products	332	170	D	12	D	2	D
Machinery	333	579	295	40	188	15	D
Computer and electronic products	334	514	972	127	780	30	58
Computers and peripheral equipment	3341	59	168	17	154	3	D
Communications equipment	3342	108	147	30	D	1	D
Semiconductor and other electronic components	3344	102	184	35	139	8	D
Navigational, measuring, electromedical, and control instruments	3345	219	462	40	345	17	40
Other computer and electronic products	other 334	27	10	5	D	1	D
Electrical equipment, appliances, and components	335	139	75	22	55	5	D
Transportation equipment	336	181	1,747	51	1,513	13	34
Motor vehicles, trailers, and parts	3361–63	97	1,166	31	D	7	D
Aerospace products and parts	3364	32	447	13	394	5	D
Other transportation equipment	other 336	52	134	7	D	1	D
Furniture and related products	337	34	7	3	4	0	0
Miscellaneous manufacturing	339	425	458	41	361	15	14
Medical equipment and supplies	3391	254	430	38	D	14	D
Other miscellaneous manufacturing	other 339	171	27	3	D	1	D

TABLE 42. Company and other nonfederal funds for and companies funding industrial R&D performed outside of company facilities in the United States by outside organizations, by industry and company size, by type of organization: 2007
(Amount in millions of dollars)

Industry and company size	NAICS codes	Company-funded R&D performed by outside organizations		For-profit companies		Universities and colleges	
		Companies	Amount	Companies	Amount	Companies	Amount
Nonmanufacturing industries	21–23, 42, 44–81	4,490	4,588	343	2,634	98	79
Mining, extraction, and support activities	21	16	260	5	217	4	D
Utilities	22	24	128	5	D	2	D
Construction	23	253	D	1	D	0	0
Wholesale trade	42	1,023	201	26	103	2	D
Retail trade	44, 45	263	84	6	D	2	D
Transportation and warehousing	48, 49	7	23	2	D	1	D
Information	51	637	833	74	663	11	D
Publishing	511	328	235	56	150	7	D
Newspaper, periodical, book, and directory	5111	20	34	5	27	0	0
Software	5112	309	201	51	123	7	D
Telecommunications	517	67	258	3	D	2	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	22	D	1	D	2	D
Satellite telecommunications	5174	0	0	0	0	0	0
Other telecommunications	other 517	45	D	2	D	0	0
Internet service providers, Web search portals, and data-processing services	518	207	290	9	D	2	D
Internet service providers and Web search portals	5181	72	D	2	D	0	0
Data-processing, hosting, and related services	5182	134	D	7	D	2	D
Other information	other 51	35	50	6	49	0	0
Finance, insurance, and real estate	52, 53	32	376	18	D	1	D
Professional, scientific, and technical services	54	2,202	2,620	194	1,257	73	31
Architectural, engineering, and related services	5413	167	40	7	6	0	0
Computer systems design and related services	5415	1,050	394	41	D	1	D
Scientific R&D services	5417	454	1,654	135	1,030	70	D
Other professional, scientific, and technical services	other 54	531	532	11	D	2	D
Health care services	621–23	7	D	4	D	1	D
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	25	20	8	D	1	D

TABLE 42. Company and other nonfederal funds for and companies funding industrial R&D performed outside of company facilities in the United States by outside organizations, by industry and company size, by type of organization: 2007

(Amount in millions of dollars)

Industry and company size	NAICS codes	Company-funded R&D performed by outside organizations		For-profit companies		Universities and colleges	
		Companies	Amount	Companies	Amount	Companies	Amount
Company size (employees)							
All companies	-	8,137	19,040	802	12,180	290	752
5–24	-	3,507	1,550	13	32	8	3
25–49	-	1,281	2,458	61	251	30	14
50–99	-	1,287	1,088	100	382	35	14
100–249	-	1,072	910	117	552	24	9
250–499	-	330	515	105	318	27	14
500–999	-	219	834	106	657	25	15
1,000–4,999	-	252	2,581	158	2,234	62	45
5,000–9,999	-	73	1,143	48	827	23	40
10,000–24,999	-	67	4,265	51	3,502	30	403
25,000 or more	-	50	3,696	43	3,424	26	195

TABLE 42. Company and other nonfederal funds for and companies funding industrial R&D performed outside of company facilities in the United States by outside organizations, by industry and company size, by type of organization: 2007
(Amount in millions of dollars)

Industry and company size	NAICS codes	Nonprofit organizations (other than universities and colleges)		Federal agencies or laboratories		State government agencies or laboratories	
		Companies	Amount	Companies	Amount	Companies	Amount
All industries	21–23, 31–33, 42, 44–81	78	225	27	43	15	7
Manufacturing industries	31–33	49	172	21	33	11	3
Food	311	2	D	1	D	2	D
Beverage and tobacco products	312	0	0	0	0	0	0
Textiles, apparel, and leather	313–16	0	0	0	0	0	0
Wood products	321	0	0	0	0	0	0
Paper, printing, and support activities	322, 323	2	D	1	D	0	0
Petroleum and coal products	324	0	0	0	0	0	0
Chemicals	325	22	159	6	10	5	*
Basic chemicals	3251	3	D	0	0	0	0
Resin, synthetic rubber, fibers, and filament	3252	0	0	0	0	0	0
Pharmaceuticals and medicines	3254	15	D	5	D	3	D
Other chemicals	other 325	4	D	1	D	2	D
Plastics and rubber products	326	1	D	0	0	0	0
Nonmetallic mineral products	327	0	0	1	D	0	0
Primary metals	331	1	D	0	0	0	0
Fabricated metal products	332	0	0	0	0	0	0
Machinery	333	2	D	1	D	0	0
Computer and electronic products	334	9	D	5	7	2	D
Computers and peripheral equipment	3341	2	D	0	0	0	0
Communications equipment	3342	1	D	0	0	0	0
Semiconductor and other electronic components	3344	1	D	1	D	0	0
Navigational, measuring, electromedical, and control instruments	3345	5	D	4	D	2	D
Other computer and electronic products	other 334	0	0	0	0	0	0
Electrical equipment, appliances, and components	335	1	D	1	D	1	D
Transportation equipment	336	6	D	4	D	1	D
Motor vehicles, trailers, and parts	3361–63	1	D	1	D	1	D
Aerospace products and parts	3364	4	D	2	D	0	0
Other transportation equipment	other 336	1	D	1	D	0	0
Furniture and related products	337	0	0	0	0	0	0
Miscellaneous manufacturing	339	3	D	1	D	0	0
Medical equipment and supplies	3391	3	D	1	D	0	0
Other miscellaneous manufacturing	other 339	0	0	0	0	0	0

TABLE 42. Company and other nonfederal funds for and companies funding industrial R&D performed outside of company facilities in the United States by outside organizations, by industry and company size, by type of organization: 2007
(Amount in millions of dollars)

Industry and company size	NAICS codes	Nonprofit organizations (other than universities and colleges)		Federal agencies or laboratories		State government agencies or laboratories	
		Companies	Amount	Companies	Amount	Companies	Amount
Nonmanufacturing industries	21–23, 42, 44–81	29	53	6	10	4	4
Mining, extraction, and support activities	21	2	D	1	D	1	D
Utilities	22	4	43	0	0	0	0
Construction	23	0	0	0	0	0	0
Wholesale trade	42	1	D	0	0	0	0
Retail trade	44, 45	0	0	0	0	0	0
Transportation and warehousing	48, 49	1	D	0	0	0	0
Information	51	1	D	1	D	1	D
Publishing	511	0	0	0	0	1	D
Newspaper, periodical, book, and directory	5111	0	0	0	0	0	0
Software	5112	0	0	0	0	1	D
Telecommunications	517	0	0	1	D	0	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	0	0	0	0	0	0
Satellite telecommunications	5174	0	0	0	0	0	0
Other telecommunications	other 517	0	0	1	D	0	0
Internet service providers, Web search portals, and data-processing services	518	1	D	0	0	0	0
Internet service providers and Web search portals	5181	0	0	0	0	0	0
Data-processing, hosting, and related services	5182	1	D	0	0	0	0
Other information	other 51	0	0	0	0	0	0
Finance, insurance, and real estate	52, 53	1	D	0	0	1	D
Professional, scientific, and technical services	54	16	D	4	D	0	0
Architectural, engineering, and related services	5413	0	0	0	0	0	0
Computer systems design and related services	5415	0	0	1	D	0	0
Scientific R&D services	5417	16	D	2	D	0	0
Other professional, scientific, and technical services	other 54	0	0	1	D	0	0
Health care services	621–23	1	D	0	0	0	0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	2	D	0	0	1	D

TABLE 42. Company and other nonfederal funds for and companies funding industrial R&D performed outside of company facilities in the United States by outside organizations, by industry and company size, by type of organization: 2007

(Amount in millions of dollars)

Industry and company size	NAICS codes	Nonprofit organizations (other than universities and colleges)		Federal agencies or laboratories		State government agencies or laboratories	
		Companies	Amount	Companies	Amount	Companies	Amount
Company size (employees)							
All companies	-	78	225	27	43	15	7
5–24	-	3	D	0	0	2	D
25–49	-	5	D	1	D	0	0
50–99	-	8	D	1	D	0	0
100–249	-	8	D	2	D	1	D
250–499	-	8	D	0	0	1	D
500–999	-	6	D	2	D	1	D
1,000–4,999	-	9	5	4	D	3	D
5,000–9,999	-	7	D	3	D	0	0
10,000–24,999	-	12	111	6	10	4	1
25,000 or more	-	12	37	8	D	3	D

TABLE 42. Company and other nonfederal funds for and companies funding industrial R&D performed outside of company facilities in the United States by outside organizations, by industry and company size, by type of organization: 2007
(Amount in millions of dollars)

Industry and company size	NAICS codes	Undistributed R&D	
		Companies	Amount
All industries	21–23, 31–33, 42, 44–81	7,261	5,833
Manufacturing industries	31–33	3,144	4,027
Food	311	139	16
Beverage and tobacco products	312	4	2
Textiles, apparel, and leather	313–16	54	3
Wood products	321	20	3
Paper, printing, and support activities	322, 323	75	4
Petroleum and coal products	324	23	2
Chemicals	325	787	3,423
Basic chemicals	3251	86	18
Resin, synthetic rubber, fibers, and filament	3252	16	1
Pharmaceuticals and medicines	3254	446	3,350
Other chemicals	other 325	239	54
Plastics and rubber products	326	240	44
Nonmetallic mineral products	327	47	3
Primary metals	331	23	2
Fabricated metal products	332	158	13
Machinery	333	537	104
Computer and electronic products	334	379	122
Computers and peripheral equipment	3341	42	12
Communications equipment	3342	78	13
Semiconductor and other electronic components	3344	64	26
Navigational, measuring, electromedical, and control instruments	3345	174	69
Other computer and electronic products	other 334	22	2
Electrical equipment, appliances, and components	335	116	17
Transportation equipment	336	127	184
Motor vehicles, trailers, and parts	3361–63	64	51
Aerospace products and parts	3364	18	10
Other transportation equipment	other 336	45	123
Furniture and related products	337	31	3
Miscellaneous manufacturing	339	384	81
Medical equipment and supplies	3391	216	55
Other miscellaneous manufacturing	other 339	168	26

TABLE 42. Company and other nonfederal funds for and companies funding industrial R&D performed outside of company facilities in the United States by outside organizations, by industry and company size, by type of organization: 2007
(Amount in millions of dollars)

Industry and company size	NAICS codes	Undistributed R&D	
		Companies	Amount
Nonmanufacturing industries	21–23, 42, 44–81	4,118	1,807
Mining, extraction, and support activities	21	11	1
Utilities	22	17	76
Construction	23	252	38
Wholesale trade	42	996	98
Retail trade	44, 45	257	39
Transportation and warehousing	48, 49	4	8
Information	51	560	160
Publishing	511	270	82
Newspaper, periodical, book, and directory	5111	15	7
Software	5112	256	75
Telecommunications	517	63	36
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	20	3
Satellite telecommunications	5174	0	0
Other telecommunications	other 517	43	33
Internet service providers, Web search portals, and data-processing services	518	198	40
Internet service providers and Web search portals	5181	70	9
Data-processing, hosting, and related services	5182	127	31
Other information	other 51	29	1
Finance, insurance, and real estate	52, 53	14	56
Professional, scientific, and technical services	54	1,986	1,323
Architectural, engineering, and related services	5413	160	34
Computer systems design and related services	5415	1,009	269
Scientific R&D services	5417	298	589
Other professional, scientific, and technical services	other 54	519	430
Health care services	621–23	3	1
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	17	9

TABLE 42. Company and other nonfederal funds for and companies funding industrial R&D performed outside of company facilities in the United States by outside organizations, by industry and company size, by type of organization: 2007
(Amount in millions of dollars)

Industry and company size	NAICS codes	Undistributed R&D	
		Companies	Amount
Company size (employees)			
All companies	-	7,261	5,833
5–24	-	3,490	1,514
25–49	-	1,209	2,189
50–99	-	1,179	691
100–249	-	949	346
250–499	-	219	182
500–999	-	103	147
1,000–4,999	-	79	295
5,000–9,999	-	20	216
10,000–24,999	-	11	238
25,000 or more	-	3	15

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total for number of companies because categories are not mutually exclusive. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. The R&D in this table is the industrial R&D performed outside company facilities funded from all sources except the federal government. The funds are predominantly the company's own, but also include funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). Data for total company-funded R&D performed by other organizations are collected from all R&D-performing companies; however, data for company-funded R&D performed by other organizations by type of performer are collected only on Form RD-1, the questionnaire sent to larger R&D-performing companies. Consequently, the universe of companies may not be represented by the statistics in this table. For definitions and more information about year-to-year of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 43. Company and other nonfederal funds for industrial R&D performed in the United States in collaboration with other organizations, by industry and company size, by type of organization: 2007

(Amount in millions of dollars)

Industry and company size	NAICS codes	All company-funded R&D		All company-funded collaborative R&D		For-profit companies		Universities and colleges	
		Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
All industries	21–23, 31–33, 42, 44–81	42,784	242,682	323	5,672	269	5,465	68	75
Manufacturing industries	31–33	18,724	169,307	168	3,365	141	3,240	35	D
Food	311	828	2,722	8	109 i	7	D	3	D
Beverage and tobacco products	312	39	217	1	D	1	D	1	D
Textiles, apparel, and leather	313–16	379	796	1	D	1	D	0	0
Wood products	321	157	202	1	D	1	D	0	0
Paper, printing, and support activities	322, 323	797	2,596	2	D	2	D	1	D
Petroleum and coal products	324	193	1,718	1	D	1	D	0	0
Chemicals	325	2,439	55,319	57	1,261	49	1,182	9	5
Basic chemicals	3251	320	3,158	8	76	5	D	4	D
Resin, synthetic rubber, fibers, and filament	3252	221	951	3	17	3	17	0	0
Pharmaceuticals and medicines	3254	891	47,624	41	1,131	36	1,057	4	D
Other chemicals	other 325	1,007	3,587	5	37	5	D	1	D
Plastics and rubber products	326	1,255	2,072	4	24	4	24	0	0
Nonmetallic mineral products	327	405	1,112	3	D	2	D	2	D
Primary metals	331	306	886	3	D	0	0	1	D
Fabricated metal products	332	1,670	1,594	1	D	1	D	0	0
Machinery	333	2,707	9,796	19	140	15	139	7	D
Computer and electronic products	334	3,131	49,760	28	935 i	24	920 i	6	3
Computers and peripheral equipment	3341	229	6,869	4	D	4	D	0	0
Communications equipment	3342	453	11,435	4	D	4	D	0	0
Semiconductor and other electronic components	3344	607	18,315	5	95 i	4	D	1	D
Navigational, measuring, electromedical, and control instruments	3345	1,728	12,262	15	138	12	D	5	D
Other computer and electronic products	other 334	114	879	0	0	0	0	0	0
Electrical equipment, appliances, and components	335	786	2,617	5	4	3	D	2	D
Transportation equipment	336	1,257	30,974	23	754	20	D	2	D
Motor vehicles, trailers, and parts	3361–63	819	16,034	15	D	13	D	2	D
Aerospace products and parts	3364	235	13,397	5	223	4	D	0	0
Other transportation equipment	other 336	203	1,543	3	D	3	D	0	0
Furniture and related products	337	427	581	0	0	0	0	0	0
Miscellaneous manufacturing	339	1,949	6,344	11	110	10	D	1	D
Medical equipment and supplies	3391	966	5,116	9	D	8	D	1	D
Other miscellaneous manufacturing	other 339	983	1,228	2	D	2	D	0	0

TABLE 43. Company and other nonfederal funds for industrial R&D performed in the United States in collaboration with other organizations, by industry and company size, by type of organization: 2007

(Amount in millions of dollars)

Industry and company size	NAICS codes	All company-funded R&D		All company-funded collaborative R&D		For-profit companies		Universities and colleges	
		Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
Nonmanufacturing industries	21–23, 42, 44–81	24,060	73,375	155	2,307	128	2,225	33	D
Mining, extraction, and support activities	21	216	1,436	4	D	3	D	4	D
Utilities	22	43	200	4	39	2	D	2	D
Construction	23	538	386	0	0	0	0	0	0
Wholesale trade	42	3,646	2,277	5	29	5	D	1	D
Retail trade	44, 45	1,587	2,517	4	D	4	D	1	D
Transportation and warehousing	48, 49	281	166	3	D	3	D	1	D
Information	51	2,423	28,767	19	700	18	D	1	D
Publishing	511	1,408	20,878	10	545	9	545	1	D
Newspaper, periodical, book, and directory	5111	104	1,245	0	0	0	0	0	0
Software	5112	1,305	19,634	10	545	9	545	1	D
Telecommunications	517	237	3,107	3	D	3	D	0	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	98	2,320	2	D	2	D	0	0
Satellite telecommunications	5174	4	D	0	0	0	0	0	0
Other telecommunications	other 517	135	D	1	D	1	D	0	0
Internet service providers, Web search portals, and data-processing services	518	562	4,190	3	D	3	D	0	0
Internet service providers and Web search portals	5181	172	2,351	0	0	0	0	0	0
Data-processing, hosting, and related services	5182	390	1,838	3	D	3	D	0	0
Other information	other 51	216	593	3	D	3	D	0	0
Finance, insurance, and real estate	52, 53	331	2,021	4	2	3	D	2	D
Professional, scientific, and technical services	54	10,666	32,924	108	1,009	86	981	19	14
Architectural, engineering, and related services	5413	1,712	3,997	5	D	4	D	0	0
Computer systems design and related services	5415	4,181	13,603	9	43	7	D	2	D
Scientific R&D services	5417	1,732	12,017	92	940	74	920	16	D
Other professional, scientific, and technical services	other 54	3,041	3,307	2	D	1	D	1	D
Health care services	621–23	2,846	1,274	1	D	1	D	1	D
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	1,482	1,406	3	11	3	D	1	D

TABLE 43. Company and other nonfederal funds for industrial R&D performed in the United States in collaboration with other organizations, by industry and company size, by type of organization: 2007

(Amount in millions of dollars)

Industry and company size	NAICS codes	All company-funded R&D		All company-funded collaborative R&D		For-profit companies		Universities and colleges	
		Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
Company size (employees)									
All companies	0	42,784	242,682	323	5,672	269	5,465	68	75
5–24	0	21,234	9,183	9	13	6	11	4	D
25–49	0	6,778	7,269	28	117	21	114	7	2
50–99	0	5,932	9,308	50	199	37	191	7	3
100–249	0	4,264	12,090	48	472	45	464	5	2
250–499	0	1,802	7,702	17	133	16	129	3	D
500–999	0	1,266	13,617	40	784	32	725	6	D
1,000–4,999	0	1,032	39,816	52	1,375	46	1,342	9	6
5,000–9,999	0	211	21,157	19	1,023	16	1,008	6	D
10,000–24,999	0	158	44,016	35	642	29	620	14	15
25,000 or more	0	106	78,523	25	913	21	861	7	26

TABLE 43. Company and other nonfederal funds for industrial R&D performed in the United States in collaboration with other organizations, by industry and company size, by type of organization: 2007

(Amount in millions of dollars)

Industry and company size	NAICS codes	Nonprofit organizations (other than universities and colleges)		Federal agencies or laboratories		State government agencies or laboratories	
		Companies	Amount	Companies	Amount	Companies	Amount
All industries	21–23, 31–33, 42, 44–81	22	71	31	58	5	3
Manufacturing industries	31–33	10	D	20	D	3	D
Food	311	0	0	0	0	0	0
Beverage and tobacco products	312	0	0	0	0	0	0
Textiles, apparel, and leather	313–16	0	0	0	0	0	0
Wood products	321	0	0	0	0	0	0
Paper, printing, and support activities	322, 323	1	D	0	0	0	0
Petroleum and coal products	324	0	0	0	0	0	0
Chemicals	325	3	D	6	D	0	0
Basic chemicals	3251	1	D	0	0	0	0
Resin, synthetic rubber, fibers, and filament	3252	0	0	0	0	0	0
Pharmaceuticals and medicines	3254	2	D	5	D	0	0
Other chemicals	other 325	0	0	1	D	0	0
Plastics and rubber products	326	0	0	0	0	0	0
Nonmetallic mineral products	327	0	0	1	D	0	0
Primary metals	331	2	D	1	D	0	0
Fabricated metal products	332	0	0	0	0	0	0
Machinery	333	1	D	0	0	2	D
Computer and electronic products	334	2	D	7	D	1	D
Computers and peripheral equipment	3341	0	0	1	D	0	0
Communications equipment	3342	0	0	0	0	0	0
Semiconductor and other electronic components	3344	0	0	1	D	0	0
Navigational, measuring, electromedical, and control instruments	3345	2	D	5	D	1	D
Other computer and electronic products	other 334	0	0	0	0	0	0
Electrical equipment, appliances, and components	335	0	0	0	0	0	0
Transportation equipment	336	0	0	4	D	0	0
Motor vehicles, trailers, and parts	3361–63	0	0	0	0	0	0
Aerospace products and parts	3364	0	0	3	D	0	0
Other transportation equipment	other 336	0	0	1	D	0	0
Furniture and related products	337	0	0	0	0	0	0
Miscellaneous manufacturing	339	1	D	1	D	0	0
Medical equipment and supplies	3391	1	D	1	D	0	0
Other miscellaneous manufacturing	other 339	0	0	0	0	0	0

TABLE 43. Company and other nonfederal funds for industrial R&D performed in the United States in collaboration with other organizations, by industry and company size, by type of organization: 2007

(Amount in millions of dollars)

Industry and company size	NAICS codes	Nonprofit organizations (other than universities and colleges)		Federal agencies or laboratories		State government agencies or laboratories	
		Companies	Amount	Companies	Amount	Companies	Amount
Nonmanufacturing industries	21–23, 42, 44–81	12	D	11	D	2	D
Mining, extraction, and support activities	21	2	D	1	D	1	D
Utilities	22	2	D	0	0	0	0
Construction	23	0	0	0	0	0	0
Wholesale trade	42	0	0	0	0	0	0
Retail trade	44, 45	0	0	0	0	0	0
Transportation and warehousing	48, 49	0	0	0	0	0	0
Information	51	3	D	0	0	0	0
Publishing	511	2	D	0	0	0	0
Newspaper, periodical, book, and directory	5111	0	0	0	0	0	0
Software	5112	2	D	0	0	0	0
Telecommunications	517	0	0	0	0	0	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	0	0	0	0	0	0
Satellite telecommunications	5174	0	0	0	0	0	0
Other telecommunications	other 517	0	0	0	0	0	0
Internet service providers, Web search portals, and data-processing services	518	0	0	0	0	0	0
Internet service providers and Web search portals	5181	0	0	0	0	0	0
Data-processing, hosting, and related services	5182	0	0	0	0	0	0
Other information	other 51	1	D	0	0	0	0
Finance, insurance, and real estate	52, 53	0	0	0	0	0	0
Professional, scientific, and technical services	54	4	2	10	13	0	0
Architectural, engineering, and related services	5413	1	D	0	0	0	0
Computer systems design and related services	5415	0	0	0	0	0	0
Scientific R&D services	5417	3	D	10	13	0	0
Other professional, scientific, and technical services	other 54	0	0	0	0	0	0
Health care services	621–23	0	0	0	0	0	0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	1	D	0	0	1	D

TABLE 43. Company and other nonfederal funds for industrial R&D performed in the United States in collaboration with other organizations, by industry and company size, by type of organization: 2007

(Amount in millions of dollars)

Industry and company size	NAICS codes	Nonprofit organizations (other than universities and colleges)		Federal agencies or laboratories		State government agencies or laboratories	
		Companies	Amount	Companies	Amount	Companies	Amount
Company size (employees)							
All companies	-	22	71	31	58	5	3
5–24	-	2	D	0	0	1	D
25–49	-	0	0	3	1	0	0
50–99	-	2	D	7	D	0	0
100–249	-	3	1	4	5 i	0	0
250–499	-	1	D	1	D	0	0
500–999	-	2	D	2	D	0	0
1,000–4,999	-	1	D	5	26	2	D
5,000–9,999	-	1	D	1	D	1	D
10,000–24,999	-	6	4	4	3	0	0
25,000 or more	-	4	D	4	D	1	D

D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail for number of companies does not add to total because categories are not mutually exclusive. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. The R&D in this table is the industrial R&D performed within company facilities funded from all sources except the federal government. The funds are predominantly the company's own, but also include funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). Data for company-funded R&D performed in collaborations with other organizations by type of partner are collected only on Form RD-1, the questionnaire sent to larger R&D-performing companies. Consequently, the universe of companies may not be represented by the statistics in this table. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 44. Company and other nonfederal funds for and companies funding industrial R&D performed outside of the United States, by industry and company size: 2007

Industry and company size	NAICS codes	Companies	Amount ($millions)
All industries	21–23, 31–33, 42, 44–81	3,420	47,973
Manufacturing industries	31–33	1,721	35,898
Food	311	37	325
Beverage and tobacco products	312	3	D
Textiles, apparel, and leather	313–16	36	92
Wood products	321	4	6
Paper, printing, and support activities	322, 323	16	54
Petroleum and coal products	324	4	D
Chemicals	325	524	16,140
Basic chemicals	3251	37	548
Resin, synthetic rubber, fibers, and filament	3252	11	111
Pharmaceuticals and medicines	3254	420	15,009
Other chemicals	other 325	56	472
Plastics and rubber products	326	158	345
Nonmetallic mineral products	327	24	79
Primary metals	331	14	75
Fabricated metal products	332	45	123
Machinery	333	196	1,237
Computer and electronic products	334	346	9,863
Computers and peripheral equipment	3341	39	2,595
Communications equipment	3342	101	D
Semiconductor and other electronic components	3344	117	3,777
Navigational, measuring, electromedical, and control instruments	3345	73	1,856
Other computer and electronic products	other 334	15	D
Electrical equipment, appliances, and components	335	46	378
Transportation equipment	336	110	6,368
Motor vehicles, trailers, and parts	3361–63	72	4,977
Aerospace products and parts	3364	10	1,267
Other transportation equipment	other 336	29	124
Furniture and related products	337	13	12
Miscellaneous manufacturing	339	144	756
Medical equipment and supplies	3391	89	583
Other miscellaneous manufacturing	other 339	55	173
Nonmanufacturing industries	21–23, 42, 44–81	1,699	12,074
Mining, extraction, and support activities	21	8	108
Utilities	22	1	D
Construction	23	4	9 i
Wholesale trade	42	338	333
Retail trade	44, 45	13	374
Transportation and warehousing	48, 49	2	D
Information	51	484	5,646
Publishing	511	319	4,316
Newspaper, periodical, book, and directory	5111	7	48
Software	5112	312	4,268
Telecommunications	517	14	192
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	10	159
Satellite telecommunications	5174	0	0
Other telecommunications	other 517	4	33
Internet service providers, Web search portals, and data-processing services	518	122	1,134
Internet service providers and Web search portals	5181	62	279
Data-processing, hosting, and related services	5182	60	855

TABLE 44. Company and other nonfederal funds for and companies funding industrial R&D performed outside of the United States, by industry and company size: 2007

Industry and company size	NAICS codes	Companies	Amount ($millions)
Other information	other 51	29	4
Finance, insurance, and real estate	52, 53	14	84
Professional, scientific, and technical services	54	815	5,224
Architectural, engineering, and related services	5413	40	250
Computer systems design and related services	5415	453	2,220
Scientific R&D services	5417	303	2,689
Other professional, scientific, and technical services	other 54	19	64
Health care services	621–23	4	D
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	16	289 i
Company size (employees)			
All companies		3,420	47,973
5–24	-	1,156	664
25–49	-	469	1,724
50–99	-	488	587
100–249	-	366	814
250–499	-	215	880
500–999	-	175	1,327
1,000–4,999	-	331	6,902
5,000–9,999	-	87	4,699
10,000–24,999	-	80	11,420
25,000 or more	-	52	18,954

D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. The R&D in this table is the industrial R&D performed outside the 50 U.S. states and DC funded from all sources except the federal government. The funds predominantly are the company's own, but also include funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 45. Company and other nonfederal funds for and companies funding industrial R&D performed outside of the 50 U.S. states and DC by majority-owned foreign affiliates, by location of R&D performance: 2007
(Millions of dollars)

Location of R&D performance	Companies	Amount
All locations	1,934	42,900
Puerto Rico	28	850
Canada	284	2,744
China	253	1,294
France	226	1,488
Germany	287	4,704
India	220	2,023
Ireland	85	1,459
Israel	69	1,446
Italy	135	476
Japan	164	1,516
Singapore	93	512
Sweden	104	710
United Kingdom	358	3,982
Other locations outside of the 50 U.S. states and DC	441	16,510
Undistributed[a]	1,162	3,186

[a] Includes R&D reported on Form RD-1 that was not allocated to specific locations outside of the 50 U.S. states and DC. Also includes total R&D performed in locations outside of the 50 U.S. states and DC reported on Form RD-1A, because Form RD-1A does not collect data by location.

NOTES: Detail does not add to total for number of companies because categories are not mutually exclusive. Detail does not add to total for money amounts due to rounding or suppression. Data are reported in U.S. dollars. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. The R&D in this table is the industrial R&D performed outside the 50 U.S. states and DC funded from all sources except the federal government. The funds predominantly are the company's own, but also include funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 46. Federal funds for and companies performing industrial R&D in the United States, by industry and company size, by federally funded R&D program size: 2007

(Amount in millions of dollars)

Industry and company size	NAICS codes	All companies		Federally funded R&D program size: Less than $200,000		$200,000–$999,999		$1 million–$9.9 million		$10 million–$99.9 million		$100 million or more	
		Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
All industries	21–23, 31–33, 42, 44–81	3,020	26,585	1,029	83	714	342	1,128	3,000	124	2,874	25	20,287
Manufacturing industries	31–33	605	18,170	188	18	162	83	193	718	42	963	19	16,388
Food	311	4	D	D	D	0	0	D	D	0	0	0	0
Beverage and tobacco products	312	0	0	0	0	0	0	0	0	0	0	0	0
Textiles, apparel, and leather	313–16	6	10	D	D	D	D	D	D	0	0	0	0
Wood products	321	1	D	D	D	0	0	0	0	0	0	0	0
Paper, printing, and support activities	322, 323	2	D	D	D	0	0	0	0	D	D	0	0
Petroleum and coal products	324	1	D	0	0	0	0	D	D	0	0	0	0
Chemicals	325	114	D	D	D	35	16	47	217	D	D	0	0
Basic chemicals	3251	17	76	6	*	3	1	D	D	D	D	0	0
Resin, synthetic rubber, fibers, and filament	3252	8	12	4	*	D	D	D	D	0	0	0	0
Pharmaceuticals and medicines	3254	78	D	D	D	D	D	35	172	D	D	0	0
Other chemicals	other 325	12	14	5	*	D	D	D	D	0	0	0	0
Plastics and rubber products	326	7	D	D	D	D	D	D	D	0	0	0	0
Nonmetallic mineral products	327	11	13	D	D	D	D	4	11 i	0	0	0	0
Primary metals	331	7	10	3	*	D	D	D	D	0	0	0	0
Fabricated metal products	332	13	115 i	5	*	D	D	D	D	0	0	D	D
Machinery	333	39	69	D	D	D	D	9	25	D	D	0	0
Computer and electronic products	334	249	8,838	D	D	63	33	78	307	D	D	D	D
Computers and peripheral equipment	3341	7	D	D	D	D	D	D	D	D	D	0	0
Communications equipment	3342	20	219	D	D	D	D	D	D	D	D	0	0
Semiconductor and other electronic components	3344	79	368	D	D	35	19	D	D	D	D	D	D
Navigational, measuring, electromedical, and control instruments	3345	141	8,176	54	D	23	12	D	D	D	D	D	D
Other computer and electronic products	other 334	2	D	0	0	D	D	D	D	0	0	0	0
Electrical equipment, appliances, and components	335	33	90	7	1	16	10	6	20	4	58	0	0
Transportation equipment	336	50	D	D	D	D	D	D	D	D	D	D	D
Motor vehicles, trailers, and parts	3361–63	16	D	D	D	D	D	D	D	D	D	0	0
Aerospace products and parts	3364	27	5,040	D	D	D	D	D	D	D	D	8	4,888
Other transportation equipment	other 336	7	D	D	D	D	D	D	D	D	D	D	D
Furniture and related products	337	15	1	15	1	0	0	0	0	0	0	0	0
Miscellaneous manufacturing	339	54	66	D	D	15	7	D	D	D	D	0	0
Medical equipment and supplies	3391	46	60	D	D	D	D	D	D	D	D	0	0
Other miscellaneous manufacturing	other 339	8	6	D	D	D	D	D	D	0	0	0	0

TABLE 46. Federal funds for and companies performing industrial R&D in the United States, by industry and company size, by federally funded R&D program size: 2007

(Amount in millions of dollars)

Industry and company size	NAICS codes	All companies		Federally funded R&D program size: Less than $200,000		$200,000–$999,999		$1 million–$9.9 million		$10 million–$99.9 million		$100 million or more	
		Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
Nonmanufacturing industries	21–23, 42, 44–81	2,415	8,415	841	65	552	258	935	2,283	82	1,910	6	3,899
Mining, extraction, and support activities	21	4	9	0	0	D	D	D	D	0	0	0	0
Utilities	22	4	35	0	0	0	0	D	D	D	D	0	0
Construction	23	2	D	0	0	0	0	D	D	0	0	0	0
Wholesale trade	42	5	16	D	D	D	D	D	D	D	D	0	0
Retail trade	44, 45	250	12	250	12	0	0	0	0	0	0	0	0
Transportation and warehousing	48, 49	1	D	0	0	D	D	D	D	0	0	0	0
Information	51	30	D	12	2	D	D	D	D	D	D	D	D
Publishing	511	25	22	12	2	D	D	D	D	D	D	0	0
Newspaper, periodical, book, and directory	5111	1	D	0	0	D	D	D	D	0	0	0	0
Software	5112	24	D	12	2	D	D	5	6	D	D	0	0
Telecommunications	517	1	D	0	0	0	0	D	D	0	0	0	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	1	D	0	0	0	0	D	D	0	0	0	0
Satellite telecommunications	5174	0	0	0	0	0	0	0	0	0	0	0	0
Other telecommunications	other 517	0	0	0	0	0	0	0	0	0	0	0	0
Internet service providers, Web search portals, and data-processing services	518	4	D	0	0	D	D	D	D	D	D	D	D
Internet service providers and Web search portals	5181	0	0	0	0	0	0	0	0	0	0	0	0
Data-processing, hosting, and related services	5182	4	D	0	0	D	D	D	D	D	D	D	D
Other information	other 51	0	0	0	0	0	0	0	0	0	0	0	0
Finance, insurance, and real estate	52, 53	0	0	0	0	0	0	0	0	0	0	0	0
Professional, scientific, and technical services	54	1,849	7,608	D	D	D	D	D	D	78	1,843	D	D
Architectural, engineering, and related services	5413	432	1,885	75	6	D	D	D	D	21	499	D	D
Computer systems design and related services	5415	359	804	D	D	11	6	214	411	D	D	D	D
Scientific R&D services	5417	794	4,831	D	D	264	125	D	D	43	1,047	D	D
Other professional, scientific, and technical services	other 54	264	87	250	10	D	D	D	D	D	D	0	0
Health care services	621–23	14	7	D	D	D	D	D	D	0	0	0	0
Other nonmanufacturing[a]	55–56, 61 624, 71–72, 81	256	450	0	0	D	D	D	D	0	0	0	0

TABLE 46. Federal funds for and companies performing industrial R&D in the United States, by industry and company size, by federally funded R&D program size: 2007

(Amount in millions of dollars)

				Federally funded R&D program size									
		All companies		Less than $200,000		$200,000–$999,999		$1 million–$9.9 million		$10 million–$99.9 million		$100 million or more	
Industry and company size	NAICS codes	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
Company size (employees)													
All companies	-	3,020	26,585	1,029	83	714	342	1,128	3,000	124	2,874	25	20,287
5–24	-	1,738	1,671	526	51	524	242	688	1,378	0	0	0	0
25–49	-	369	615	133	11	58	D	175	532	3	D	0	0
50–99	-	471	760	292	14	56	28	105	481	19	237	0	0
100–249	-	185	1,264	44	4	34	D	63	236	43	867	1	D
250–499	-	59	556	9	1	12	7	22	78	16	472	0	0
500–999	-	61	662	9	1	13	D	26	102	12	438	1	D
1,000–4,999	-	58	1,287	10	1	8	6	24	D	12	D	4	D
5,000–9,999	-	20	1,516	2	D	3	1	7	D	4	D	4	1,445
10,000–24,999	-	24	1,930	1	D	5	D	9	34	6	116	3	1,777
25,000 or more	-	35	16,325	3	D	2	D	9	48	9	223	12	16,054

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. The R&D in this table is the industrial R&D performed within company facilities funded by the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). Excludes federally funded research and development centers. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 47. Federal funds for industrial R&D performed in the United States, by industry, by company size: 2007

(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
All industries	21–23, 31–33, 42, 44–81	26,585	1,671	615	760	1,264	556	662	1,287	1,516	1,930	16,325
Manufacturing industries	31–33	18,170	288	D	90	162	107	D	1,019	D	D	D
Food	311	D	0	0	0	D	D	0	0	0	D	D
Beverage and tobacco products	312	0	0	0	0	0	0	0	0	0	0	0
Textiles, apparel, and leather	313–16	10	0	0	D	D	D	0	0	0	D	0
Wood products	321	D	0	0	0	0	0	0	0	D	0	0
Paper, printing, and support activities	322, 323	D	0	0	0	0	0	0	0	0	0	D
Petroleum and coal products	324	D	0	0	0	0	0	0	0	0	0	D
Chemicals	325	D	147	13	9	22 i	3	37	71	D	D	D
Basic chemicals	3251	76	*	D	D	0	D	0	D	D	D	D
Resin, synthetic rubber, fibers, and filament	3252	12	D	0	D	D	0	0	D	0	0	D
Pharmaceuticals and medicines	3254	D	145	D	4	D	D	D	D	0	D	0
Other chemicals	other 325	14	D	D	D	D	D	D	0	D	D	0
Plastics and rubber products	326	D	0	D	0	D	0	0	D	0	0	0
Nonmetallic mineral products	327	13	0	D	D	D	0	D	D	0	D	0
Primary metals	331	10	0	D	0	*	0	D	D	D	0	D
Fabricated metal products	332	115 i	D	2	0	D	D	D	D	0	D	0
Machinery	333	69	D	D	4 i	D	D	D	17	D	D	D
Computer and electronic products	334	8,838	86	117	49	89	25 i	D	280	D	D	D
Computers and peripheral equipment	3341	D	D	1	D	0	0	D	D	0	0	0
Communications equipment	3342	219	*	21	D	D	D	93	D	0	D	0
Semiconductor and other electronic components	3344	368	13	5	D	D	0	D	D	D	0	0
Navigational, measuring, electromedical, and control instruments	3345	8,176	70	90	20	67	D	D	146	D	D	D
Other computer and electronic products	other 334	D	D	0	0	0	0	0	0	0	0	0
Electrical equipment, appliances, and components	335	90	D	5	0	34	22	14	D	D	0	0
Transportation equipment	336	D	13	4	10	6	40	D	D	D	D	D
Motor vehicles, trailers, and parts	3361–63	D	0	4	0	0	D	D	D	D	D	D
Aerospace products and parts	3364	5,040	13	*	10	D	D	D	D	D	D	3,427
Other transportation equipment	other 336	D	0	0	0	D	0	D	D	0	D	D
Furniture and related products	337	1	0	1	0	0	0	0	0	0	0	0

TABLE 47. Federal funds for industrial R&D performed in the United States, by industry, by company size: 2007

(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Miscellaneous manufacturing	339	66	39	*	8	3	D	D	0	D	D	0
Medical equipment and supplies	3391	60	D	*	6	D	D	D	0	D	D	0
Other miscellaneous manufacturing	other 339	6	D	0	2	D	0	0	0	0	0	0
Nonmanufacturing industries	21–23, 42, 44–81	8,415	1,383	D	670	1,102	450	D	268	D	D	D
Mining, extraction, and support activities	21	9	0	0	D	0	0	0	0	D	D	D
Utilities	22	35	0	0	0	0	D	0	0	D	0	D
Construction	23	D	0	0	0	0	0	0	D	D	0	0
Wholesale trade	42	16	0	D	D	0	0	0	0	0	0	0
Retail trade	44, 45	12	12	0	0	0	0	0	0	0	0	0
Transportation and warehousing	48, 49	D	0	0	0	0	0	0	0	0	0	D
Information	51	D	D	2	D	13	D	0	3	0	0	D
Publishing	511	22	D	2	D	D	0	0	3	0	0	0
Newspaper, periodical, book, and directory	5111	D	D	0	0	0	0	0	0	0	0	0
Software	5112	D	D	2	D	D	0	0	3	0	0	0
Telecommunications	517	D	0	0	0	0	0	0	0	0	0	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	D	0	0	0	0	0	0	0	0	0	D
Satellite telecommunications	5174	0	0	0	0	0	0	0	0	0	0	0
Other telecommunications	other 517	0	0	0	0	0	0	0	0	0	0	0
Internet service providers, Web search portals, and data-processing services	518	D	0	0	0	D	D	0	0	0	0	D
Internet service providers and Web search portals	5181	0	0	0	0	0	0	0	0	0	0	0
Data-processing, hosting, and related services	5182	D	0	0	0	D	D	0	0	0	0	D
Other information	other 51	0	0	0	0	0	0	0	0	0	0	0
Finance, insurance, and real estate	52, 53	0	0	0	0	0	0	0	0	0	0	0
Professional, scientific, and technical services	54	7,608	932	D	653	1,086	D	D	251	D	D	D
Architectural, engineering, and related services	5413	1,885	D	45	D	241	D	18	D	D	D	0
Computer systems design and related services	5415	804	D	63	80	84	D	D	D	0	0	D
Scientific R&D services	5417	4,831	D	341	D	723	231	224	D	0	0	D

TABLE 47. Federal funds for industrial R&D performed in the United States, by industry, by company size: 2007

(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Other professional, scientific, and technical services	other 54	87	7	D	18	37	D	0	D	0	0	D
Health care services	621–23	7	D	0	D	D	D	D	D	0	0	0
Other nonmanufacturing[a]	55–56, 61, 624, 71–72, 81	450	434	0	0	D	D	D	D	D	0	0

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. The R&D in this table is the industrial R&D performed within company facilities funded by the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). Excludes federally funded research and development centers. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 48. Domestic net sales of companies performing industrial R&D in the United States, by industry, by company size: 2007

(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
All industries	21–23, 31–33, 42, 44–81	7,027,049	68,796	48,623	106,287	176,457	184,423	313,263	973,112	738,398	1,337,729	3,079,961
Manufacturing industries	31–33	4,594,252	23,282	24,623	65,611	126,864	132,751	244,541	740,748	484,719	1,031,432	1,719,681
Food	311	405,129	754	1,002	3,630	12,067	11,914	15,879	66,545	36,455	112,438	144,444
Beverage and tobacco products	312	50,882	11	84	69	276	D	0	D	13,028	D	0
Textiles, apparel, and leather	313–16	47,573	248	111	1,097	6,738	D	1,858	D	D	13,531	D
Wood products	321	25,585	0	351	320	1,078	922	1,309	D	7,202	D	0
Paper, printing, and support activities	322, 323	205,991	475	1,893	1,991	2,849	9,216	4,934	16,725	15,293	24,033	128,582
Petroleum and coal products	324	510,798	169	1,187	249	1,361	825	D	D	0	D	D
Chemicals	325	699,520	5,260 i	4,458	5,710	24,924	13,859	32,922	180,058	64,484	242,508	125,337
Basic chemicals	3251	144,565	251	583	1,032	8,256	2,049	D	61,783	D	41,848	D
Resin, synthetic rubber, fibers, and filament	3252	50,517	492	157	599	1,902	1,667	D	19,989	0	0	D
Pharmaceuticals and medicines	3254	374,517	3,422 i	1,791	740	5,272	4,970	D	58,966	D	180,041	D
Other chemicals	other 325	129,920	1,095	1,926	3,339	9,493	5,173	D	39,319	39,930	20,619	D
Plastics and rubber products	326	138,972	305	1,164	5,658	10,291	7,274	42,731	27,106	D	D	D
Nonmetallic mineral products	327	61,161	195	378	865	1,438	8,336	2,277	21,939	4,373 i	21,360	0
Primary metals	331	144,737	85	92	1,310	4,186	4,707	D	D	19,418	58,404	D
Fabricated metal products	332	102,467	2,814	1,633	3,498	13,835	8,711	7,794	29,602	24,241	10,338	0
Machinery	333	264,841	2,147	3,243	8,203	13,512	12,141	19,247	58,802	42,661	49,978	54,907
Computer and electronic products	334	589,918	3,889	4,148	23,504	13,194	15,222	32,575	106,648	80,143 i	106,730	203,865
Computers and peripheral equipment	3341	135,239	295	412	D	D	985	5,868	22,248	45,073 i	D	D
Communications equipment	3342	78,043	361	863	1,083	2,941	D	5,965	22,809	0	D	D
Semiconductor and other electronic components	3344	152,990	1,358	1,050	D	D	D	10,972	31,479	20,584 i	31,481	D
Navigational, measuring, electromedical, and control instruments	3345	201,270	1,745	1,591	3,932	4,585	D	6,449	23,905	14,487	D	D
Other computer and electronic products	other 334	22,377	130	231	241	D	2,731	3,321	6,208	0	D	0
Electrical equipment, appliances, and components	335	87,972	1,909 i	904	1,503	4,206	5,697	9,147	27,628	7,856	29,123	0
Transportation equipment	336	1,005,804	3,172	1,314	2,740	8,123	19,395	34,183	79,425	130,161	118,398	608,894
Motor vehicles, trailers, and parts	3361–63	655,250	487	927	2,336	6,034	16,347	29,231	55,385	D	D	D
Aerospace products and parts	3364	263,321	2,213	193	148	698	1,524	798	10,716	D	D	229,391
Other transportation equipment	other 336	87,233	471	194	256	1,390	1,523	4,155	13,324	D	D	D
Furniture and related products	337	47,140	105	399	1,847	1,941	1,613	2,598	D	8,889	12,382	D

TABLE 48. Domestic net sales of companies performing industrial R&D in the United States, by industry, by company size: 2007

(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Miscellaneous manufacturing	339	205,763	1,744	2,261	3,417	6,843	7,157	32,516	40,202	10,186	D	D
Medical equipment and supplies	3391	172,473	692	1,403	D	3,731	4,049	28,843	25,587	D	D	D
Other miscellaneous manufacturing	other 339	33,290	1,052	858	D	3,113	3,108	3,673	14,615	D	0	0
Nonmanufacturing industries	21–23, 42, 44–81	2,432,797	45,515	24,000	40,675	49,593	51,672	68,722	232,364	253,679	306,296	1,360,280
Mining, extraction, and support activities	21	151,265	663	D	D	D	442	3,097	D	17,649	D	D
Utilities	22	206,435	D	D	D	D	D	6,957	22,158	79,371	D	D
Construction	23	42,379	570	D	D	4,888	626	1,543	6,407	15,744	D	0
Wholesale trade	42	122,878	13,277	D	8,738	15,424	19,204	10,413	36,012	0	D	0
Retail trade	44, 45	295,850	D	1,928	D	1,007	675	3,501	19,090	19,711	38,851	D
Transportation and warehousing	48, 49	92,190	105	0	67	134	D	871	3,749	D	8,093	D
Information	51	562,929	3,490	2,364	4,300	8,394	7,445	10,067	39,537	30,422	57,567	399,343
Publishing	511	128,622	2,026	1,259	2,589	3,769	3,311	5,249	D	15,114	D	D
Newspaper, periodical, book, and directory	5111	28,615	125	67	174	253	294	394	D	4,721	D	D
Software	5112	100,006	1,900	1,191	2,414	3,516	3,017	4,855	D	10,394	D	D
Telecommunications	517	343,618	431	203	397	2,052 i	811 i	1,156	D	D	D	314,811
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	260,455	147	150	143	D	D	D	D	D	D	D
Satellite telecommunications	5174	60	D	0	D	0	0	0	0	0	0	0
Other telecommunications	other 517	83,103	D	53	D	D	D	D	D	0	D	D
Internet service providers, Web search portals, and data-processing services	518	43,685	855	759	1,079	2,079	1,599	1,363	D	D	D	D
Internet service providers and Web search portals	5181	17,530	D	331	288	566	535	D	D	D	D	0
Data-processing, hosting, and related services	5182	26,155	D	428	792	1,513	1,064	D	D	D	0	D
Other information	other 51	47,005	178	143	236	495	1,723	2,299	D	0	D	D
Finance, insurance, and real estate	52, 53	524,874	63	98	386	535	5,111	3,152	43,594	53,057	49,907	368,970
Professional, scientific, and technical services	54	345,529	17,454	11,861	21,526	15,960	10,703	24,938	32,450	18,395	24,438	167,805
Architectural, engineering, and related services	5413	49,091	D	4,341	3,790	3,498	1,716	1,936	7,399	D	D	D
Computer systems design and related services	5415	204,946	8,219	3,095	3,811	7,054	5,225	4,681	16,653	4,176	14,220	137,813
Scientific R&D services	5417	40,075	D	1,871	3,314	4,388	2,242	2,246	5,249	3,593	0	D

TABLE 48. Domestic net sales of companies performing industrial R&D in the United States, by industry, by company size: 2007

(Millions of dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Other professional, scientific, and technical services	other 54	51,417	D	2,555	10,612	1,020	1,520	16,075	3,149	D	D	D
Health care services	621–23	28,319	4,371	D	193	D	D	1,271	D	D	D	D
Other nonmanufacturing[a]	55–56, 61, 624, 71–72, 81	60,149	2,351	D	1,392	1,466	5,056	2,913	11,916	5,450	D	D

D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 49. Concentration of all, federal, and company and other industrial R&D funds and net sales of companies performing industrial R&D in the United States, ranked by R&D program size: 1997–2007

(Percent distribution)

Companies ranked by R&D program size	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
	All R&D funds										
All companies	100	100	100	100	100	100	100	100	100	100	100
First 4 (1–4)	14	12	11	10	10	10	11	10	9	8	8
Next 4 (5–8)	8	8	8	7	7	7	7 r	8	8	7	6
Next 12 (9–20)	13	13	13	13	13	13	13 r	13	13	13	13
Next 20 (21–40)	11	11	11	11	11	12	11 r	10	10	12	12
Next 60 (41–100)	14	13	13	14	14	15	14 r	13	14	14	14
Next 100 (101–200)	9	9	9	9	10	10	9 r	10	10	10	10
Next 100 (201–300)	NA	NA	NA	NA	NA	NA	NA	5	5	5	5
Next 100 (301–400)	NA	NA	NA	NA	NA	NA	NA	3	3	3	3
Next 100 (401–500)	NA	NA	NA	NA	NA	NA	NA	3	3	2	2
All others[a]	31	34	35	36	35	33	35	25	25	26	27
	Federal R&D funds										
All companies	100	100	100	100	100	100	100	100	100	100	100
First 4 (1–4)	40	46	47	43	41	42	47 r	50	49	44	45
Next 4 (5–8)	23	17	14	16 i	17	15	12 r	11	11	13	14
Next 12 (9–20)	18	14	15	15	17	19	13 r	13	14	16	15
Next 20 (21–40)	7	7	8	7	6	9	6 r	7	6	7	6
Next 60 (41–100)	5	7	7	6	8	9	7 r	7	6	6	5
Next 100 (101–200)	3	5	4	5	5	5	7 r	5	5	7	5
Next 100 (201–300)	NA	NA	NA	NA	NA	NA	NA	2	3	3	2
Next 100 (301–400)	NA	NA	NA	NA	NA	NA	NA	3	3	2	4
Next 100 (401–500)	NA	NA	NA	NA	NA	NA	NA	2	1	1	1
All others[a]	4	4	5	8	6	1	8	0	2	1	3
	Company and other R&D funds										
All companies	100	100	100	100	100	100	100	100	100	100	100
First 4 (1–4)	13	12	11	10	11	10	11	11	10	9	8
Next 4 (5–8)	7	7	8	7	8	7	7	8	8	7	7
Next 12 (9–20)	11	12	12	13	12	13	12	12	12	12	12
Next 20 (21–40)	11	10	10	11	10	11	11	10	10	11	11
Next 60 (41–100)	13	13	13	13	14	15	14 r	13	13	14	14
Next 100 (101–200)	10	10	9	9	10	11	10	10	10	10	10
Next 100 (201–300)	NA	NA	NA	NA	NA	NA	NA	5	5	5	5
Next 100 (301–400)	NA	NA	NA	NA	NA	NA	NA	4	3	3	3
Next 100 (401–500)	NA	NA	NA	NA	NA	NA	NA	3	3	2	2
All others[a]	35	36	37	37	35	33	35	24	26	27	28

TABLE 49. Concentration of all, federal, and company and other industrial R&D funds and net sales of companies performing industrial R&D in the United States, ranked by R&D program size: 1997–2007

(Percent distribution)

Companies ranked by R&D program size	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
	Domestic net sales										
All companies	100	100	100	100	100	100	100	100	100	100	100
First 4 (1–4)	6	5	6 i	3 r	3 r	3 r	3 r	3	2	2	2
Next 4 (5–8)	2	3	2 r	D	4 r	4 r	2 r	2	3	3	3
Next 12 (9–20)	5	5	7	8 r	8 r	8 r	8 r	9	8	7	5
Next 20 (21–40)	5	5	4 r	D	5 r	4 r	3 r	3	3	5	4
Next 60 (41–100)	7	8	9 r	11 r	9 r	10 r	9 r	10	9	12	13
Next 100 (101–200)	8	8	8 r	9 r	11 r	10 r	10 r	11	12	10	10
Next 100 (201–300)	NA	NA	NA	NA	NA	NA	NA	6	6	11	10
Next 100 (301–400)	NA	NA	NA	NA	NA	NA	NA	5	6	5	5
Next 100 (401–500)	NA	NA	NA	NA	NA	NA	NA	2	3	3	3
All others[a]	67	66	64	69	60	61	65	49	48	42	45

D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; NA = not available; r = data significantly revised, replaces previously published data.

[a] Includes companies in (201–500) size categories prior to 2004.

NOTES: Companies are ranked by size of their total R&D program in the first and fourth banks of estimates. In the second bank of estimates they are ranked by the size of their federal R&D programs and in the third bank by the size of their nonfederally funded R&D programs. Companies were ranked individually for each year; therefore, particular companies comprising the size groups may have changed from year to year. Beginning with 2001, statistics for total and federally funded industrial R&D exclude federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). Prior to 2004, this table focused on the top 400 R&D performers. Data for the 201–300 and 301–400 categories were aggregated and data for the 401–500 category were included in the all others category. Beginning in 2004, the focus of the table was changed to the top 500 R&D performers. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 50. Funds for industrial R&D as a percent of net sales of companies performing industrial R&D in the United States, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	% of net sales
All industries	21–23, 31–33, 42, 44–81	3.8
Manufacturing industries	31–33	4.1
Food	311	D
Beverage and tobacco products	312	0.4
Textiles, apparel, and leather	313–16	1.7
Wood products	321	D
Paper, printing, and support activities	322, 323	D
Petroleum and coal products	324	D
Chemicals	325	D
Basic chemicals	3251	2.2
Resin, synthetic rubber, fibers, and filament	3252	1.9
Pharmaceuticals and medicines	3254	D
Other chemicals	other 325	2.8
Plastics and rubber products	326	D
Nonmetallic mineral products	327	1.8
Primary metals	331	0.6
Fabricated metal products	332	1.7
Machinery	333	3.7
Computer and electronic products	334	9.9
Computers and peripheral equipment	3341	D
Communications equipment	3342	14.9
Semiconductor and other electronic components	3344	12.2
Navigational, measuring, electromedical, and control instruments	3345	10.2
Other computer and electronic products	other 334	D
Electrical equipment, appliances, and components	335	3.1
Transportation equipment	336	D
Motor vehicles, trailers, and parts	3361–63	D
Aerospace products and parts	3364	7.0
Other transportation equipment	other 336	D
Furniture and related products	337	1.2
Miscellaneous manufacturing	339	3.1
Medical equipment and supplies	3391	3.0
Other miscellaneous manufacturing	other 339	3.7
Nonmanufacturing industries	21–23, 42, 44–81	3.4
Mining, extraction, and support activities	21	1.0
Utilities	22	0.1
Construction	23	D
Wholesale trade	42	1.9
Retail trade	44, 45	0.9
Transportation and warehousing	48, 49	D
Information	51	D
Publishing	511	16.2
Newspaper, periodical, book, and directory	5111	D
Software	5112	D
Telecommunications	517	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	D
Satellite telecommunications	5174	D
Other telecommunications	other 517	D
Internet service providers, Web search portals, and data-processing services	518	D
Internet service providers and Web search portals	5181	13.4
Data-processing, hosting, and related services	5182	D
Other information	other 51	1.3

TABLE 50. Funds for industrial R&D as a percent of net sales of companies performing industrial R&D in the United States, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	% of net sales
Finance, insurance, and real estate	52, 53	0.4
Professional, scientific, and technical services	54	11.7
Architectural, engineering, and related services	5413	12.0
Computer systems design and related services	5415	7.0
Scientific R&D services	5417	42.0
Other professional, scientific, and technical services	other 54	6.6
Health care services	621–23	4.5
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	3.1
Company size (employees)		
All companies	-	3.8
5–24	-	15.8
25–49	-	16.2
50–99	-	9.5
100–249	-	7.6
250–499	-	4.5
500–999	-	4.6
1,000–4,999	-	4.2
5,000–9,999	-	3.1
10,000–24,999	-	3.4
25,000 or more	-	3.1

D = suppressed to avoid disclosure of confidential information; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes data for federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 51. Company and other nonfederal funds for industrial R&D as a percent of net sales of companies performing industrial R&D in the United States, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	% of net sales
All industries	21–23, 31–33, 42, 44–81	3.5
Manufacturing industries	31–33	3.7
Food	311	0.7
Beverage and tobacco products	312	0.4
Textiles, apparel, and leather	313–16	1.7
Wood products	321	0.8
Paper, printing, and support activities	322, 323	1.3
Petroleum and coal products	324	0.3
Chemicals	325	7.9
Basic chemicals	3251	2.2
Resin, synthetic rubber, fibers, and filament	3252	1.9
Pharmaceuticals and medicines	3254	12.7
Other chemicals	other 325	2.8
Plastics and rubber products	326	1.5
Nonmetallic mineral products	327	1.8
Primary metals	331	0.6
Fabricated metal products	332	1.6
Machinery	333	3.7
Computer and electronic products	334	8.4
Computers and peripheral equipment	3341	5.1
Communications equipment	3342	14.7
Semiconductor and other electronic components	3344	12.0
Navigational, measuring, electromedical, and control instruments	3345	6.1
Other computer and electronic products	other 334	3.9
Electrical equipment, appliances, and components	335	3.0
Transportation equipment	336	3.1
Motor vehicles, trailers, and parts	3361–63	2.4
Aerospace products and parts	3364	5.1
Other transportation equipment	other 336	1.8
Furniture and related products	337	1.2
Miscellaneous manufacturing	339	3.1
Medical equipment and supplies	3391	3.0
Other miscellaneous manufacturing	other 339	3.7
Nonmanufacturing industries	21–23, 42, 44–81	3.0
Mining, extraction, and support activities	21	0.9
Utilities	22	0.1
Construction	23	0.9
Wholesale trade	42	1.9
Retail trade	44, 45	0.9
Transportation and warehousing	48, 49	0.2
Information	51	5.1
Publishing	511	16.2
Newspaper, periodical, book, and directory	5111	4.4
Software	5112	19.6
Telecommunications	517	0.9
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	0.9
Satellite telecommunications	5174	D
Other telecommunications	other 517	D
Internet service providers, Web search portals, and data-processing services	518	9.6
Internet service providers and Web search portals	5181	13.4
Data-processing, hosting, and related services	5182	7.0
Other information	other 51	1.3

TABLE 51. Company and other nonfederal funds for industrial R&D as a percent of net sales of companies performing industrial R&D in the United States, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	% of net sales
Finance, insurance, and real estate	52, 53	0.4
Professional, scientific, and technical services	54	9.5
Architectural, engineering, and related services	5413	8.1
Computer systems design and related services	5415	6.6
Scientific R&D services	5417	30.0
Other professional, scientific, and technical services	other 54	6.4
Health care services	621–23	4.5
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	2.3
Company size (employees)		
All companies	-	3.5
5–24	-	13.3
25–49	-	15.0
50–99	-	8.8
100–249	-	6.9
250–499	-	4.2
500–999	-	4.3
1,000–4,999	-	4.1
5,000–9,999	-	2.9
10,000–24,999	-	3.3
25,000 or more	-	2.5

D = suppressed to avoid disclosure of confidential information; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. The R&D in this table is the industrial R&D performed within company facilities funded from all sources except the federal government. The funds are predominantly the company's own, but also include funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 52. Funds for industrial R&D and as a percent of net sales of the top 20 industrial R&D-performing companies in the United States, by industry and company size, ranked by R&D program size: 2007

Industry and company size	NAICS codes	All funds ($millions)			% of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
All industries	21–23, 31–33, 42, 44–81	21,664	17,253	35,331	17.0	7.8	9.2
Manufacturing industries	31–33	20,029	15,584	31,284	16.5	7.4	8.3
Food	311	799	549	627	1.9	0.6	0.7
Beverage and tobacco products	312	147	45	24	0.4	0.5	0.3
Textiles, apparel, and leather	313–16	344	80	120	1.7	1.9	2.1
Wood products	321	131	29	21	1.8	0.9	0.3
Paper, printing, and support activities	322, 323	1,891	218	185	1.7	1.0	0.6
Petroleum and coal products	324	1,597	32	20	0.4	0.1	0.3
Chemicals	325	13,483	8,304	12,727	15.8	17.3	10.4
Basic chemicals	3251	1,654	401	580	3.9	3.1	2.4
Resin, synthetic rubber, fibers, and filament	3252	742	92	71	3.0	1.2	0.5
Pharmaceuticals and medicines	3254	13,483	8,304	12,018	15.8	17.3	13.4
Other chemicals	other 325	1,416	459	791	7.6	2.9	1.9
Plastics and rubber products	326	696	151	266	3.3	3.2	2.0
Nonmetallic mineral products	327	631	136	154	4.3	3.4	1.3
Primary metals	331	442	96	153	1.6	0.3	0.3
Fabricated metal products	332	316	151	242	3.2	2.8	1.2
Machinery	333	3,378	1,126	1,623	6.8	6.0	3.1
Computer and electronic products	334	16,448	7,324	10,186	17.2	10.3	10.9
Computers and peripheral equipment	3341	4,250	1,092	885	5.0	18.1	13.9
Communications equipment	3342	7,601	879	944	17.0	12.5	17.0
Semiconductor and other electronic components	3344	8,715	2,637	2,989	13.8	15.3	17.7
Navigational, measuring, electromedical, and control instruments	3345	9,691	2,787	3,559	16.9	7.2	5.9
Other computer and electronic products	other 334	553	153	109	4.7	3.8	3.6
Electrical equipment, appliances, and components	335	576	234	441	2.7	9.7	5.1
Transportation equipment	336	17,481	10,324	6,114	7.5	3.6	4.7
Motor vehicles, trailers, and parts	3361–63	10,072	1,764	1,943	3.6	2.4	2.4
Aerospace products and parts	3364	15,047	2,199	918	6.9	13.8	6.4
Other transportation equipment	other 336	4,560	126	120	7.6	3.3	0.7
Furniture and related products	337	309	81	87	1.7	1.4	0.7
Miscellaneous manufacturing	339	1,573	692	1,026	12.6	0.7	6.7
Medical equipment and supplies	3391	1,573	654	740	12.6	0.7	7.2
Other miscellaneous manufacturing	other 339	491	155	138	6.4	4.5	2.6

TABLE 52. Funds for industrial R&D and as a percent of net sales of the top 20 industrial R&D-performing companies in the United States, by industry and company size, ranked by R&D program size: 2007

Industry and company size	NAICS codes	All funds ($millions)			% of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
Nonmanufacturing industries	21–23, 42, 44–81	15,214	5,699	7,912	17.7	30.7	3.0
Mining, extraction, and support activities	21	1,093	106	94	1.0	0.8	0.5
Utilities	22	134	46	41	0.3	0.3	0.1
Construction	23	195	28	33	1.6	1.3	0.5
Wholesale trade	42	188	156	329	16.6	14.7	4.9
Retail trade	44, 45	1,322	102	108	3.8	0.5	0.1
Transportation and warehousing	48, 49	112	25	26	0.2	1.1	0.1
Information	51	11,624	3,013	4,816	20.2	2.2	4.2
Publishing	511	10,421	2,161	3,155	20.3	16.9	22.3
Newspaper, periodical, book, and directory	5111	1,056	85	72	7.7	1.6	1.0
Software	5112	10,421	2,011	2,585	20.3	28.7	19.0
Telecommunications	517	2,017	546	281	0.8	0.6	2.7
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	1,962	198	53	0.9	0.4	3.9
Satellite telecommunications	5174	D	0	0	16.2	0.0	0.0
Other telecommunications	other 517	534	97	55	0.7	3.2	3.1
Internet service providers, Web search portals, and data-processing services	518	3,217	269	294	10.8	6.8	13.0
Internet service providers and Web search portals	5181	D	48	56	15.6	8.9	3.0
Data-processing, hosting, and related services	5182	1,222	168	239	6.7	9.5	10.8
Other information	other 51	306	85	63	0.8	4.2	3.7
Finance, insurance, and real estate	52, 53	942	362	396	0.6	0.2	0.5
Professional, scientific, and technical services	54	9,289	2,540	2,854	19.7	29.7	2.5
Architectural, engineering, and related services	5413	2,373	343	531	42.1	17.5	10.0
Computer systems design and related services	5415	6,127	1,010	1,094	13.7	1.0	16.3
Scientific R&D services	5417	4,352	721	1,288	37.3	113.0	49.2
Other professional, scientific, and technical services	other 54	315	90	139	3.5	5.1	3.3
Health care services	621–23	555	25	28	8.4	0.4	0.5
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	724	119	155	5.6	2.3	4.7

TABLE 52. Funds for industrial R&D and as a percent of net sales of the top 20 industrial R&D-performing companies in the United States, by industry and company size, ranked by R&D program size: 2007

Industry and company size	NAICS codes	All funds ($millions)			% of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
Company size (employees)							
All companies	-	21,664	17,253	35,331	17.0	7.8	9.2
5–24	-	64	39	90	25.7	340.3	59.1
25–49	-	163	119	242	243.5	302.6	129.5
50–99	-	221	184	443	148.3	190.7	141.7
100–249	-	436	301	776	123.4	96.0	214.8
250–499	-	377	304	748	65.2	67.1	50.5
500–999	-	1,305	878	1,737	228.4	65.7	39.1
1,000–4,999	-	2,975	2,057	4,800	31.4	40.9	22.0
5,000–9,999	-	4,782	3,098	5,732	18.9	16.6	8.2
10,000–24,999	-	9,643	7,683	14,042	15.4	21.5	13.1
25,000 or more	-	21,664	17,253	32,894	17.0	7.8	8.2

D = suppressed to avoid disclosure of confidential information; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Rankings were based on total funds from all sources (company, federal, and other) spent for R&D and are determined separately for each industry and company size category. Consequently, industry and company size detail does not add to totals. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 53. Company and other nonfederal funds for industrial R&D and as a percent of net sales of the top 20 companies performing company-funded industrial R&D in the United States, by industry and company size, ranked by nonfederally funded R&D program size: 2007

Industry and company size	NAICS codes	Company and other nonfederal R&D funds ($millions)			Company and other nonfederal R&D funds % of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
All industries	21–23, 31–33, 42, 44–81	20,554	16,320	29,605	15.5	7.5	8.1
Manufacturing industries	31–33	18,491	14,824	26,003	9.3	6.7	10.7
Food	311	799	549	625	1.9	0.6	0.7
Beverage and tobacco products	312	147	45	24	0.4	0.5	0.3
Textiles, apparel, and leather	313–16	344	80	119	1.7	1.9	2.0
Wood products	321	131	29	21	1.8	0.9	0.3
Paper, printing, and support activities	322, 323	1,879	217	185	1.7	1.0	0.6
Petroleum and coal products	324	1,596	32	20	0.4	0.1	0.3
Chemicals	325	13,483	8,283	12,716	15.8	17.3	10.4
Basic chemicals	3251	1,649	383	575	3.9	2.9	1.7
Resin, synthetic rubber, fibers, and filament	3252	730	92	71	3.0	1.2	0.5
Pharmaceuticals and medicines	3254	13,483	8,283	12,018	15.8	17.3	13.4
Other chemicals	other 325	1,412	457	788	7.6	3.5	1.8
Plastics and rubber products	326	696	151	258	3.3	3.2	2.0
Nonmetallic mineral products	327	630	135	153	4.3	3.4	1.1
Primary metals	331	435	96	152	1.5	0.3	0.3
Fabricated metal products	332	232	145	225	2.8	2.5	1.1
Machinery	333	3,367	1,113	1,620	6.8	6.0	3.1
Computer and electronic products	334	13,366	5,768	8,172	11.9	12.3	9.1
Computers and peripheral equipment	3341	4,250	1,092	835	5.0	18.1	10.4
Communications equipment	3342	7,598	853	868	17.0	11.8	17.1
Semiconductor and other electronic components	3344	8,715	2,637	2,832	13.8	15.3	17.9
Navigational, measuring, electromedical, and control instruments	3345	3,923	1,814	2,657	6.3	5.6	4.8
Other computer and electronic products	other 334	553	153	109	4.7	3.8	3.6
Electrical equipment, appliances, and components	335	576	222	425	2.7	4.7	6.7
Transportation equipment	336	16,665	5,435	4,080	5.5	2.8	2.4
Motor vehicles, trailers, and parts	3361–63	10,017	1,763	1,932	3.6	2.4	2.4
Aerospace products and parts	3364	12,083	649	448	5.5	3.5	3.9
Other transportation equipment	other 336	1,130	126	120	1.9	3.3	0.7
Furniture and related products	337	309	81	87	1.7	1.4	0.7
Miscellaneous manufacturing	339	1,573	692	1,026	12.6	0.7	6.7
Medical equipment and supplies	3391	1,573	653	739	12.6	0.7	7.2
Other miscellaneous manufacturing	other 339	491	155	138	6.4	4.5	2.6

TABLE 53. Company and other nonfederal funds for industrial R&D and as a percent of net sales of the top 20 companies performing company-funded industrial R&D in the United States, by industry and company size, ranked by nonfederally funded R&D program size: 2007

Industry and company size	NAICS codes	Company and other nonfederal R&D funds ($millions)			% of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
Nonmanufacturing industries	21–23, 42, 44–81	14,476	4,581	7,007	17.0	3.2	5.2
Mining, extraction, and support activities	21	1,090	106	92	1.0	0.8	0.7
Utilities	22	105	45	36	0.2	0.2	0.1
Construction	23	188	28	31	1.6	2.2	0.4
Wholesale trade	42	188	156	329	16.6	14.7	4.9
Retail trade	44, 45	1,322	102	108	3.8	0.5	0.1
Transportation and warehousing	48, 49	112	25	26	0.2	1.1	0.1
Information	51	11,624	2,785	4,816	20.2	2.1	4.2
Publishing	511	10,421	2,161	3,155	20.3	16.9	22.3
Newspaper, periodical, book, and directory	5111	1,056	85	72	7.7	1.6	1.0
Software	5112	10,421	2,011	2,584	20.3	28.7	19.0
Telecommunications	517	2,007	546	281	0.8	0.6	2.7
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	1,952	198	53	0.9	0.4	3.9
Satellite telecommunications	5174	D	0	0	16.2	0.0	0.0
Other telecommunications	other 517	534	97	55	0.7	3.2	3.1
Internet service providers, Web search portals, and data-processing services	518	2,998	269	279	10.1	6.8	12.4
Internet service providers and Web search portals	5181	D	48	56	15.6	8.9	3.0
Data-processing, hosting, and related services	5182	1,003	161	230	5.5	8.2	11.4
Other information	other 51	306	85	63	0.8	4.2	3.7
Finance, insurance, and real estate	52, 53	942	362	396	0.6	0.2	0.5
Professional, scientific, and technical services	54	7,170	1,903	2,387	16.4	44.3	2.1
Architectural, engineering, and related services	5413	1,473	215	342	26.0	9.7	7.5
Computer systems design and related services	5415	6,036	1,010	1,003	13.5	1.0	14.7
Scientific R&D services	5417	2,061	673	1,146	70.9	31.8	11.9
Other professional, scientific, and technical services	other 54	314	75	112	3.5	4.3	2.4
Health care services	621–23	554	25	26	8.4	0.4	0.5
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	724	119	150	5.6	2.3	5.1

TABLE 53. Company and other nonfederal funds for industrial R&D and as a percent of net sales of the top 20 companies performing company-funded industrial R&D in the United States, by industry and company size, ranked by nonfederally funded R&D program size: 2007

Industry and company size	NAICS codes	Company and other nonfederal R&D funds ($millions)			Company and other nonfederal R&D funds % of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
Company size (employees)							
All companies	-	20,554	16,320	29,605	15.5	7.5	8.1
5–24	-	64	37	85	25.7	11,967.5	18.2
25–49	-	162	117	240	243.0	299.5	142.5
50–99	-	218	183	442	146.3	190.2	141.5
100–249	-	374	290	712	238.8	116.5	93.0
250–499	-	373	304	730	64.6	67.1	43.6
500–999	-	1,303	851	1,706	169.1	74.9	39.2
1,000–4,999	-	2,975	2,057	4,755	31.4	40.9	21.6
5,000–9,999	-	4,699	2,914	5,416	16.9	17.9	7.7
10,000–24,999	-	9,627	7,675	13,644	15.3	21.5	12.3
25,000 or more	-	20,554	16,320	22,828	15.5	7.5	5.2

D = suppressed to avoid disclosure of confidential information; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Rankings were based on company and other funds from nonfederal sources spent for R&D and are determined separately for each industry and company size. Consequently, industry and company size detail does not add to total. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. The R&D in this table is the industrial R&D performed within company facilities funded from all sources except the federal government. The funds are predominantly the company's own, but also include funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments. Excluded from this table are company-funded R&D not performed within the company (e.g., R&D performed by other organizations) and company-funded R&D not performed within the 50 U.S. states or DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 54. Federal funds for industrial R&D and as a percent of net sales of the top 20 companies performing federally funded industrial R&D in the United States, by industry and company size, ranked by federally funded R&D program size: 2007

Industry and company size	NAICS codes	Federal R&D funds ($millions)			% of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
All industries	21–23, 31–33, 42, 44–81	11,982	3,647	4,083	14.4	18.8	2.0
Manufacturing industries	31–33	10,888	2,611	2,969	12.9	1.9	3.8
Food	311	D	0	0	0.0	0.0	0.0
Beverage and tobacco products	312	0	0	0	0.0	0.0	0.0
Textiles, apparel, and leather	313–16	10	D	0	0.2	1.5	0.0
Wood products	321	D	0	0	0.0	0.0	0.0
Paper, printing, and support activities	322, 323	D	0	0	0.0	0.0	0.0
Petroleum and coal products	324	D	0	0	0.0	0.0	0.0
Chemicals	325	100	42	53	1.3	0.1	0.1
Basic chemicals	3251	63	12	2	0.3	0.2	0.1
Resin, synthetic rubber, fibers, and filament	3252	12	*	0	0.1	0.0	0.0
Pharmaceuticals and medicines	3254	74	23	18	0.3	0.2	3.8
Other chemicals	other 325	12	2	*	0.1	0.5	0.1
Plastics and rubber products	326	D	D	0	1.0	0.2	0.0
Nonmetallic mineral products	327	11 i	1	D	5.8	0.2	0.0
Primary metals	331	10	*	0	0.0	0.0	0.0
Fabricated metal products	332	113	1	*	1.8	0.4	0.1
Machinery	333	45	13	9	0.2	0.3	0.1
Computer and electronic products	334	7,146	825	449	13.4	4.5	1.4
Computers and peripheral equipment	3341	73	1	0	14.4	3.0	0.0
Communications equipment	3342	183	25	7	17.2	0.1	0.9
Semiconductor and other electronic components	3344	287	26	34	11.6	7.0	1.4
Navigational, measuring, electromedical, and control instruments	3345	7,146	659	162	13.4	3.8	0.4
Other computer and electronic products	other 334	D	0	0	49.0	0.0	0.0
Electrical equipment, appliances, and components	335	58	18	7	5.3	3.3	0.2
Transportation equipment	336	6,352	1,576	586	6.2	1.6	0.2
Motor vehicles, trailers, and parts	3361–63	67	21	4	0.0	0.0	0.0
Aerospace products and parts	3364	3,710	1,178	141	2.3	8.0	0.2
Other transportation equipment	other 336	D	D	0	6.3	0.2	0.0
Furniture and related products	337	*	0	0	2.1	0.0	0.0
Miscellaneous manufacturing	339	22	5	5	12.3	1.0	1.4
Medical equipment and supplies	3391	21	3	2	3.2	1.5	0.2
Other miscellaneous manufacturing	other 339	5	1	0	23.2	1.1	0.0

TABLE 54. Federal funds for industrial R&D and as a percent of net sales of the top 20 companies performing federally funded industrial R&D in the United States, by industry and company size, ranked by federally funded R&D program size: 2007

Industry and company size	NAICS codes	Federal R&D funds ($millions)			% of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
Nonmanufacturing industries	21–23, 42, 44–81	3,662	403	635	17.3	72.7	1.7
Mining, extraction, and support activities	21	9	0	0	0.0	0.0	0.0
Utilities	22	35	0	0	0.2	0.0	0.0
Construction	23	D	0	0	0.2	0.0	0.0
Wholesale trade	42	D	D	0	31.3	0.1	0.0
Retail trade	44, 45	*	0	0	5.8	0.0	0.0
Transportation and warehousing	48, 49	D	0	0	0.0	0.0	0.0
Information	51	255	6	6	0.2	2.0	0.5
Publishing	511	15	3	2	5.5	0.3	2.2
Newspaper, periodical, book, and directory	5111	D	0	0	32.8	0.0	0.0
Software	5112	15	3	2	5.5	0.3	2.0
Telecommunications	517	D	0	0	0.0	0.0	0.0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	D	0	0	0.0	0.0	0.0
Satellite telecommunications	5174	0	0	0	0.0	0.0	0.0
Other telecommunications	other 517	0	0	0	0.0	0.0	0.0
Internet service providers, Web search portals, and data-processing services	518	D	0	0	2.1	0.0	0.0
Internet service providers and Web search portals	5181	0	0	0	0.0	0.0	0.0
Data-processing, hosting, and related services	5182	D	0	0	2.1	0.0	0.0
Other information	other 51	0	0	0	0.0	0.0	0.0
Finance, insurance, and real estate	52, 53	0	0	0	0.0	0.0	0.0
Professional, scientific, and technical services	54	3,567	350	599	34.5	41.0	1.6
Architectural, engineering, and related services	5413	1,160	139	157	60.0	3.6	8.0
Computer systems design and related services	5415	252	63	103	0.7	22.0	1.1
Scientific R&D services	5417	2,700	232	332	29.4	87.1	63.0
Other professional, scientific, and technical services	other 54	58	12	4	8.3	24.0	0.0
Health care services	621–23	4	2	*	0.5	1.0	0.2
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	18	2	0	2.3	0.5	0.0

TABLE 54. Federal funds for industrial R&D and as a percent of net sales of the top 20 companies performing federally funded industrial R&D in the United States, by industry and company size, ranked by federally funded R&D program size: 2007

Industry and company size	NAICS codes	Federal R&D funds ($millions)			% of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
Company size (employees)							
All companies	-	11,982	3,647	4,083	14.4	18.8	2.0
5–24	-	28	20	41	98.9	98.9	100.9
25–49	-	50	32	76	85.7	101.3	87.9
50–99	-	66	51	129	86.1	88.6	80.6
100–249	-	307	122	235	76.4	65.5	66.0
250–499	-	224	135	142	71.7	69.0	11.6
500–999	-	346	140	119	56.1	47.7	5.4
1,000–4,999	-	758	271	194	14.9	11.4	2.0
5,000–9,999	-	1,445	48	23	16.6	0.5	0.1
10,000–24,999	-	1,810	71	48	10.1	0.2	0.0
25,000 or more	-	11,982	3,055	1,229	14.4	1.9	0.3

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Rankings were based on federal funds spent for R&D and are determined separately for each industry and company size category. Consequently, industry and company size detail does not add total. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes data for federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded by the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 55. Funds for industrial basic research, applied research, and development performed in the United States: 1953–2007
(Millions of current and constant 2000 dollars)

Year	All R&D		Basic research		Applied research		Development	
	Current $	Constant $	Current $	Constant $	Current $	Constant $	Current $	Constant $
1953	3,630	19,896	151	828	726	3,979	2,753	15,089
1954	4,070	22,098	166	901	814	4,420	3,090	16,777
1955	4,640	24,753	189	1,008	928	4,951	3,523	18,794
1956	6,605	34,056	253	1,304	1,268	6,538	5,084	26,214
1957	7,731	38,581	271	1,352	1,670	8,334	5,790	28,895
1958	8,389	40,925	295	1,439	1,911	9,323	6,183	30,163
1959	9,618	46,349	320	1,542	1,991	9,595	7,307	35,212
1960	10,509	49,946	376	1,787	2,029	9,643	8,104	38,516
1961	10,908	51,266	395	1,856	1,977	9,292	8,536	40,118
1962	11,464	53,154	488	2,263	2,449	11,355	8,527	39,536
1963	12,630	57,946	522	2,395	2,457	11,273	9,651	44,279
1964	13,512	61,056	549	2,481	2,600	11,749	10,363	46,827
1965	14,185	62,948	592	2,627	2,658	11,795	10,935	48,525
1966	15,548	67,085	624	2,692	2,843	12,267	12,081	52,126
1967	16,385	68,575	629	2,632	2,915	12,200	12,841	53,742
1968	17,429	69,959	642	2,577	3,124	12,540	13,663	54,843
1969	18,308	70,015	618	2,363	3,287	12,570	14,403	55,081
1970	18,067	65,621	602	2,187	3,427	12,447	14,038	50,987
1971	18,320	63,368	590	2,041	3,415	11,812	14,315	49,515
1972	19,552	64,815	593	1,966	3,514	11,649	15,445	51,201
1973	21,249	66,719	631	1,981	3,825	12,010	16,793	52,728
1974	22,887	65,908	699	2,013	4,288	12,348	17,900	51,547
1975	24,187	63,648	730	1,921	4,570	12,026	18,887	49,701
1976	26,997	67,162	819	2,037	5,112	12,717	21,066	52,407
1977	29,825	69,764	911	2,131	5,636	13,183	23,278	54,450
1978	33,304	72,785	1,035	2,262	6,300	13,768	25,969	56,754
1979	38,226	77,150	1,158	2,337	7,225	14,582	29,843	60,231
1980	44,505	82,352	1,325	2,452	8,450	15,636	34,730	64,265
1981	51,810	87,637	1,614	2,730	10,699	18,097	39,497	66,809
1982	58,650	93,503	1,904	3,035	12,323	19,646	44,423	70,822
1983	65,268	100,093	2,223	3,409	13,927	21,358	49,118	75,326
1984	74,800	110,561	2,608	3,855	15,765	23,302	56,427	83,404
1985	84,239	120,834	2,862	4,105	18,255	26,185	63,122	90,544
1986	87,823	123,261	4,047	5,680	19,759	27,732	64,017	89,849
1987	92,155	125,902	4,324	5,907	19,813	27,069	68,018	92,926
1988	97,015	128,168	4,500	5,945	20,748	27,410	71,767	94,812
1989	102,055	129,912	5,216	6,640	22,691	28,885	74,148	94,387
1990	109,727	134,486	5,128	6,285	24,785	30,377	79,814	97,823
1991	116,952	138,498	7,837	9,281	27,446	32,502	81,669	96,715
1992	119,110	137,883	7,002	8,106	26,168	30,292	85,940	99,485
1993	117,400	132,835	6,919	7,829	24,686	27,932	85,796	97,076
1994	119,595	132,503	7,017	7,774	23,490	26,025	89,088	98,703
1995	132,103	143,425	6,099	6,622	27,454	29,807	98,552	106,998
1996	144,667	154,143	8,207	8,745	29,241	31,156	107,218	114,241
1997	157,539	165,112	10,419	10,920	32,642	34,211	114,478	119,981
1998	169,180	175,367	6,421	6,656	32,438	33,624	130,320	135,086
1999	184,129	188,140	7,202	7,359	36,912	37,716	140,015	143,065
2000	201,962	201,961	7,588	7,588	39,446	39,446	154,929	154,929
2001	202,017	197,284	8,053	7,864	44,012	42,981	149,952	146,439
2002	193,868	186,077	7,547	7,244	28,533	27,386	157,788	151,447

TABLE 55. Funds for industrial basic research, applied research, and development performed in the United States: 1953–2007

(Millions of current and constant 2000 dollars)

Year	All R&D		Basic research		Applied research		Development	
	Current $	Constant $	Current $	Constant $	Current $	Constant $	Current $	Constant $
2003	200,724 r	188,644 r	8,330 r	7,829 r	37,334 r	35,087 r	155,060 r	145,728 r
2004	208,301	190,357	7,835	7,160	45,432	41,518	155,034	141,679
2005	226,159	200,609	8,667	7,688	45,284	40,168	172,207	152,752
2006	247,669	213,348	8,384	7,222	51,173	44,082	188,111	162,043
2007	269,267	224,970	11,269	9,415	57,569	48,098	200,430	167,458

r = data significantly revised; replaces previously published data.

NOTES: In 2001 estimates for 1998, 1999, and 2000 were recalculated. Consequently, statistics for 1998 and later years are not directly comparable to statistics for 1997 and earlier years.

Beginning with 2001, excludes federally funded research and development centers. Gross domestic product implicit price deflators were used to convert current dollars to constant 2000 dollars. During statistical processing, when R&D was not allocated among the three character-of-work categories (basic research, applied research, and development) by survey respondents, algorithms were used to do the allocation. See table A-7 for the amount of undistributed R&D and the number of companies that reported R&D in each category. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). Improved edit checks and imputation routines were implemented during statistical processing of 2001 survey results to produce the basic research, applied research, and development estimates. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 56. Company and other nonfederal funds for industrial basic research, applied research, and development performed in the United States: 1953–2007
(Millions of current and constant 2000 dollars)

Year	Company and other R&D		Basic research		Applied research		Development	
	Current $	Constant $	Current $	Constant $	Current $	Constant $	Current $	Constant $
1953	2,200	12,058	132	723	438	2,401	1,630	8,934
1954	2,320	12,597	143	776	492	2,671	1,685	9,149
1955	2,460	13,123	162	864	560	2,987	1,738	9,272
1956	3,277	16,897	216	1,114	794	4,094	2,267	11,689
1957	3,396	16,948	230	1,148	992	4,951	2,174	10,849
1958	3,630	17,709	252	1,229	1,137	5,547	2,241	10,933
1959	3,983	19,194	248	1,195	1,178	5,677	2,557	12,322
1960	4,428	21,045	297	1,412	1,196	5,684	2,935	13,949
1961	4,668	21,939	314	1,476	1,165	5,475	3,189	14,988
1962	5,029	23,318	345	1,600	1,438	6,667	3,246	15,050
1963	5,360	24,592	375	1,720	1,450	6,653	3,535	16,219
1964	5,792	26,172	384	1,735	1,560	7,049	3,848	17,388
1965	6,445	28,601	406	1,802	1,620	7,189	4,419	19,610
1966	7,216	31,135	451	1,946	1,804	7,784	4,961	21,405
1967	8,020	33,565	427	1,787	1,849	7,738	5,744	24,040
1968	8,869	35,600	462	1,854	2,081	8,353	6,326	25,392
1969	9,857	37,696	458	1,752	2,272	8,689	7,127	27,256
1970	10,288	37,367	444	1,613	2,378	8,637	7,466	27,117
1971	10,654	36,852	456	1,577	2,441	8,443	7,757	26,831
1972	11,535	38,239	463	1,535	2,562	8,493	8,510	28,211
1973	13,104	41,145	499	1,567	2,832	8,892	9,773	30,686
1974	14,667	42,237	536	1,544	3,263	9,397	10,868	31,297
1975	15,582	41,004	573	1,508	3,440	9,052	11,569	30,444
1976	17,436	43,377	634	1,577	3,912	9,732	12,890	32,067
1977	19,340	45,238	701	1,640	4,311	10,084	14,328	33,515
1978	22,115	48,332	785	1,716	4,870	10,643	16,460	35,973
1979	25,708	51,885	893	1,802	5,670	11,444	19,145	38,640
1980	30,476	56,393	1,035	1,915	6,550	12,120	22,891	42,358
1981	35,428	59,927	1,313	2,221	8,359	14,139	25,756	43,566
1982	40,105	63,938	1,523	2,428	9,363	14,927	29,219	46,583
1983	44,588	68,379	1,760	2,699	10,286	15,774	32,542	49,906
1984	51,404	75,979	2,132	3,151	11,541	17,059	37,731	55,770
1985	57,043	81,824	2,373	3,404	12,908	18,516	41,762	59,904
1986	59,932	84,115	3,496	4,907	15,082	21,168	41,354	58,041
1987	61,403	83,889	3,583	4,895	15,153	20,702	42,667	58,292
1988	66,672	88,081	3,507	4,633	16,531	21,839	46,634	61,609
1989	73,501	93,564	3,832	4,878	17,993	22,904	51,676	65,781
1990	81,602	100,015	3,760	4,608	18,432	22,591	59,410	72,815
1991	90,580	107,267	6,125	7,253	21,425	25,372	63,030	74,642
1992	94,388	109,265	5,816	6,733	21,184	24,523	67,385	78,006
1993	94,591	107,028	5,961	6,745	19,956	22,580	68,678	77,708
1994	97,131	107,614	6,078	6,734	19,372	21,463	71,683	79,420
1995	108,652	117,964	5,379	5,840	23,755	25,791	79,516	86,331
1996	121,015	128,941	6,848	7,297	25,370	27,032	88,798	94,614
1997	133,611	140,034	8,766	9,187	29,782	31,214	95,064	99,634
1998	145,016	150,320	4,851	5,028	29,576	30,658	110,590	114,635
1999	161,594	165,114	5,537	5,658	33,821	34,558	122,236	124,899
2000	182,844	182,844	6,115	6,115	36,494	36,494	140,236	140,236

TABLE 56. Company and other nonfederal funds for industrial basic research, applied research, and development performed in the United States: 1953–2007
(Millions of current and constant 2000 dollars)

	Company and other R&D		Basic research		Applied research		Development	
Year	Current $	Constant $	Current $	Constant $	Current $	Constant $	Current $	Constant $
2001	185,118	180,781	7,299	7,128	40,409	39,462	137,410	134,190
2002	177,467	170,335	6,659	6,391	26,081	25,033	144,727	138,911
2003	182,926 r	171,917 r	6,944 r	6,526 r	32,861 r	30,883 r	143,121 r	134,508 r
2004	188,035	171,837	6,763	6,180	40,657	37,155	140,615	128,502
2005	204,250	181,175	7,559	6,705	39,995	35,477	156,696	138,993
2006	223,365	192,412	6,940	5,978	45,033	38,792	171,392	147,641
2007	242,682	202,759	8,488	7,092	48,625	40,626	185,569	155,041

r = data significantly revised; replaces previously published data.

NOTES: In 2001 estimates for 1998, 1999, and 2000 were recalculated. Consequently, statistics for 1998 and later years are not directly comparable to statistics for 1997 and earlier years.

Gross domestic product implicit price deflators were used to convert current dollars to constant 2000 dollars. During statistical processing, when R&D was not allocated among the three character-of-work categories (basic research, applied research, and development) by survey respondents, algorithms were used to do the allocation. See table A-7 for the amount of undistributed R&D and the number of companies that reported R&D in each category. The R&D in this table is the industrial R&D performed within company facilities funded from all sources except the federal government. The funds predominantly are the company's own but also include funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). Improved edit checks and imputation routines were implemented during statistical processing of 2001 survey results to produce the basic research, applied research, and development estimates, For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 57. Federal funds for industrial basic research, applied research, and development performed in the United States: 1953–2007
(Millions of current and constant 2000 dollars)

Year	Federal R&D		Basic research		Applied research		Development	
	Current $	Constant $	Current $	Constant $	Current $	Constant $	Current $	Constant $
1953	1,430	7,838	19	104	288	1,579	1,123	6,155
1954	1,750	9,502	23	125	322	1,748	1,405	7,629
1955	2,180	11,629	27	144	368	1,963	1,785	9,522
1956	3,328	17,160	37	191	474	2,444	2,817	14,525
1957	4,335	21,634	41	205	678	3,384	3,616	18,045
1958	4,759	23,216	43	210	774	3,776	3,942	19,231
1959	5,635	27,155	72	347	813	3,918	4,750	22,890
1960	6,081	28,901	79	375	833	3,959	5,169	24,566
1961	6,240	29,327	81	381	812	3,816	5,347	25,130
1962	6,434	29,832	143	663	1,011	4,688	5,281	24,486
1963	7,270	33,355	147	674	1,007	4,620	6,116	28,060
1964	7,720	34,884	165	746	1,040	4,699	6,515	29,439
1965	7,740	34,347	186	825	1,038	4,606	6,516	28,916
1966	8,332	35,950	173	746	1,039	4,483	7,120	30,720
1967	8,365	35,009	202	845	1,066	4,461	7,097	29,702
1968	8,560	34,359	180	723	1,043	4,187	7,337	29,450
1969	8,451	32,319	160	612	1,015	3,882	7,276	27,826
1970	7,779	28,254	158	574	1,049	3,810	6,572	23,870
1971	7,666	26,516	134	464	974	3,369	6,558	22,684
1972	8,017	26,577	130	431	952	3,156	6,935	22,990
1973	8,145	25,574	132	414	993	3,118	7,020	22,042
1974	8,220	23,671	163	469	1,025	2,952	7,032	20,250
1975	8,605	22,644	157	413	1,130	2,974	7,318	19,257
1976	9,561	23,785	185	460	1,200	2,985	8,176	20,340
1977	10,485	24,526	210	491	1,325	3,099	8,950	20,935
1978	11,189	24,453	250	546	1,430	3,125	9,509	20,782
1979	12,518	25,265	265	535	1,555	3,138	10,698	21,591
1980	14,029	25,959	290	537	1,900	3,516	11,839	21,907
1981	16,382	27,710	301	509	2,340	3,958	13,741	23,243
1982	18,545	29,565	381	607	2,960	4,719	15,204	24,239
1983	20,680	31,714	463	710	3,641	5,584	16,576	25,421
1984	23,396	34,581	476	704	4,224	6,243	18,696	27,634
1985	27,196	39,011	489	701	5,347	7,670	21,360	30,639
1986	27,891	39,145	551	773	4,678	6,566	22,662	31,806
1987	30,752	42,013	740	1,011	4,660	6,366	25,352	34,636
1988	30,343	40,087	993	1,312	4,217	5,571	25,133	33,204
1989	28,554	36,348	1,384	1,762	4,698	5,980	22,472	28,606
1990	28,125	34,471	1,368	1,677	6,353	7,786	20,404	25,008
1991	26,372	31,230	1,712	2,027	6,021	7,130	18,639	22,073
1992	24,722	28,618	1,186	1,373	4,983	5,768	18,555	21,479
1993	22,809	25,808	958	1,084	4,730	5,352	17,118	19,369
1994	22,463	24,887	939	1,040	4,119	4,564	17,405	19,284
1995	23,451	25,461	720	782	3,699	4,016	19,031	20,662
1996	23,653	25,202	1,358	1,447	3,871	4,125	18,423 i	19,630
1997	23,928	25,078	1,654	1,734	2,861	2,999	19,412	20,345
1998	24,164	25,048	1,570	1,627	2,862	2,967	19,730	20,452
1999	22,535	23,026	1,665	1,701	3,091	3,158	17,779	18,166
2000	19,118	19,118	1,472	1,472	2,951	2,951	14,695	14,695

TABLE 57. Federal funds for industrial basic research, applied research, and development performed in the United States: 1953–2007

(Millions of current and constant 2000 dollars)

Year	Federal R&D		Basic research		Applied research		Development	
	Current $	Constant $	Current $	Constant $	Current $	Constant $	Current $	Constant $
2001	16,899	16,503	754	736	3,603	3,519	12,542	12,248
2002	16,401	15,742	888	852	2,452	2,353	13,061 i	12,536
2003	17,798 r	16,727 r	1,386 r	1,303 r	4,473 r	4,204 r	11,939 r	11,220 r
2004	20,266	18,520	1,072	980	4,775	4,364	14,419	13,177
2005	21,909	19,434	1,108	983	5,289	4,691	15,511	13,759
2006	24,304	20,936	1,444	1,244	6,140	5,289	16,719	14,402
2007	26,585	22,212	2,780	2,323	8,945	7,473	14,861	12,416

i = more than 50% of the value is imputed; r = data significantly revised, replaces previously published data.

NOTES: Beginning with 2001, excludes federally funded research and development centers. Gross domestic product implicit price deflators were used to convert current dollars to constant 2000 dollars. During statistical processing, when R&D was not allocated among the three character-of-work categories (basic research, applied research, and development) by survey respondents, algorithms were used to do the allocation. See table A-7 for the amount of undistributed R&D and the number of companies that reported R&D in each category. The R&D in this table is the industrial R&D performed within company facilities funded by the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). Improved edit checks and imputation routines were implemented during statistical processing of 2001 survey results to produce the basic research, applied research, and development estimates. Also at that time estimates for 1998, 1999, and 2000 were recalculated. Consequently, statistics for 1998 and later years are not directly comparable to statistics for 1997 and earlier years. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 58. Funds for and companies performing industrial basic research, applied research, and development in the United States, by industry and company size, by source of funds: 2007
(Millions of dollars)

Industry and company size	NAICS codes	Companies (number)	All industrial R&D			Basic research		
			Total	Federal	Company and other	Total	Federal	Company and other
All industries	21–23, 31–33, 42, 44–81	43,419	269,267	26,585	242,682	11,269	2,780	8,488
Manufacturing industries	31–33	18,872	187,477	18,170	169,307	9,240	2,227	7,013
Food	311	828	D	D	2,722	D	D	D
Beverage and tobacco products	312	39	217	0	217	3	0	3
Textiles, apparel, and leather	313–16	379	806	10	796	16	D	D
Wood products	321	157	D	D	202	D	0	D
Paper, printing, and support activities	322, 323	797	D	D	2,596	D	0	D
Petroleum and coal products	324	193	D	D	1,718	D	D	D
Chemicals	325	2,445	D	D	55,319	D	D	3,991
Basic chemicals	3251	321	3,234	76	3,158	247	D	D
Resin, synthetic rubber, fibers, and filament	3252	221	963	12	951	91	D	D
Pharmaceuticals and medicines	3254	895	D	D	47,624	D	D	3,432
Other chemicals	other 325	1,008	3,601	14	3,587	226	4	223
Plastics and rubber products	326	1,255	D	D	2,072	D	D	D
Nonmetallic mineral products	327	406	1,125	13	1,112	87	D	D
Primary metals	331	306	896	10	886	46	*	46
Fabricated metal products	332	1,672	1,709	115 i	1,594	D	0	D
Machinery	333	2,711	9,865	69	9,796	70	1	68
Computer and electronic products	334	3,236	58,599	8,838	49,760	2,813	D	D
Computers and peripheral equipment	3341	229	D	D	6,869	D	D	D
Communications equipment	3342	457	11,654	219	11,435	254 i	D	D
Semiconductor and other electronic components	3344	637	18,683	368	18,315	431 i	17	414 i
Navigational, measuring, electromedical, and control instruments	3345	1,798	20,438	8,176	12,262	1,929	D	D
Other computer and electronic products	other 334	114	D	D	879	D	D	D
Electrical equipment, appliances, and components	335	788	2,708	90	2,617	54	D	D
Transportation equipment	336	1,265	D	D	30,974	D	D	D
Motor vehicles, trailers, and parts	3361–63	819	D	D	16,034	D	D	D
Aerospace products and parts	3364	242	18,436	5,040	13,397	590	169	422
Other transportation equipment	other 336	203	D	D	1,543	D	D	119
Furniture and related products	337	441	582	1	581	6	0	6
Miscellaneous manufacturing	339	1,954	6,410	66	6,344	225	4	221
Medical equipment and supplies	3391	969	5,176	60	5,116	193	D	D
Other miscellaneous manufacturing	other 339	985	1,234	6	1,228	32	D	D

TABLE 58. Funds for and companies performing industrial basic research, applied research, and development in the United States, by industry and company size, by source of funds: 2007
(Millions of dollars)

Industry and company size	NAICS codes	Companies (number)	All industrial R&D			Basic research		
			Total	Federal	Company and other	Total	Federal	Company and other
Nonmanufacturing industries	21–23, 42, 44–81	24,547	81,790	8,415	73,375	2,029	554	1,475
Mining, extraction, and support activities	21	216	1,445	9	1,436	36	0	36
Utilities	22	43	235	35	200	4	D	D
Construction	23	538	D	D	386	D	D	D
Wholesale trade	42	3,648	2,294	16	2,277	39	D	D
Retail trade	44, 45	1,587	2,530	12	2,517	7	0	7
Transportation and warehousing	48, 49	281	D	D	166	D	0	D
Information	51	2,423	D	D	28,767	D	D	D
Publishing	511	1,408	20,900	22	20,878	57	D	D
Newspaper, periodical, book, and directory	5111	104	D	D	1,245	D	0	D
Software	5112	1,305	D	D	19,634	D	D	53
Telecommunications	517	237	D	D	3,107	D	0	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	98	D	D	2,320	D	0	D
Satellite telecommunications	5174	4	D	0	D	0	0	0
Other telecommunications	other 517	135	D	0	D	D	0	D
Internet service providers, Web search portals, and data-processing services	518	562	D	D	4,190	D	0	D
Internet service providers and Web search portals	5181	172	2,351	0	2,351	D	0	D
Data-processing, hosting, and related services	5182	390	D	D	1,838	D	0	D
Other information	other 51	216	593	0	593	3	0	3
Finance, insurance, and real estate	52, 53	331	2,021	0	2,021	40	0	40
Professional, scientific, and technical services	54	11,146	40,533	7,608	32,924	1,546	540	1,006
Architectural, engineering, and related services	5413	1,996	5,882	1,885	3,997	223	180	44
Computer systems design and related services	5415	4,252	14,407	804	13,603	469	131	338
Scientific R&D services	5417	1,851	16,849	4,831	12,017	642	216	426
Other professional, scientific, and technical services	other 54	3,047	3,394	87	3,307	213	14	199
Health care services	621–23	2,849	1,280	7	1,274	144	D	D
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	1,484	1,857	450	1,406	13	D	D

TABLE 58. Funds for and companies performing industrial basic research, applied research, and development in the United States, by industry and company size, by source of funds: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Companies (number)	All industrial R&D			Basic research		
			Total	Federal	Company and other	Total	Federal	Company and other
Company size (employees)								
All companies	-	43,419	269,267	26,585	242,682	11,269	2,780	8,488
5–24	-	21,701	10,854	1,671	9,183	460	88	373
25–49	-	6,852	7,884	615	7,269	267	71	196
50–99	-	5,960	10,068	760	9,308	458	123	335
100–249	-	4,309	13,354	1,264	12,090	526	177	349
250–499	-	1,809	8,258	556	7,702	187	15 i	172
500–999	-	1,275	14,279	662	13,617	493	90	403
1,000–4,999	-	1,039	41,103	1,287	39,816	1,165	25	1,140
5,000–9,999	-	211	22,673	1,516	21,157	719 i	131	589 i
10,000–24,999	-	158	45,946	1,930	44,016	2,995	373	2,622
25,000 or more	-	106	94,848	16,325	78,523	3,999	1,688	2,311

TABLE 58. Funds for and companies performing industrial basic research, applied research, and development in the United States, by industry and company size, by source of funds: 2007
(Millions of dollars)

Industry and company size	NAICS codes	Applied research			Development		
		Total	Federal	Company and other	Total	Federal	Company and other
All industries	21–23, 31–33, 42, 44–81	57,569	8,945	48,625	200,430	14,861	185,569
Manufacturing industries	31–33	39,502	4,791	34,711	138,736	11,152	127,584
Food	311	554	D	D	2,016	0	2,016
Beverage and tobacco products	312	93	0	93	121	0	121
Textiles, apparel, and leather	313–16	45	D	D	745	D	D
Wood products	321	D	0	D	D	D	D
Paper, printing, and support activities	322, 323	D	0	D	2,155	D	D
Petroleum and coal products	324	D	*	D	D	1	D
Chemicals	325	12,746	246	12,500	38,918	90	38,828
Basic chemicals	3251	1,313	D	D	1,674	26	1,647
Resin, synthetic rubber, fibers, and filament	3252	412	D	D	460	10	451
Pharmaceuticals and medicines	3254	9,880	193	9,687	34,550	46	34,504
Other chemicals	other 325	1,141	3	1,138	2,234	8	2,226
Plastics and rubber products	326	D	D	D	1,640	D	D
Nonmetallic mineral products	327	392	D	D	647	D	D
Primary metals	331	320	0	320	530	10	520
Fabricated metal products	332	D	D	D	1,361	D	D
Machinery	333	1,527	28	1,499	8,268	39	8,229
Computer and electronic products	334	13,203	1,812	11,391	42,582	D	D
Computers and peripheral equipment	3341	887 i	D	D	5,912	D	D
Communications equipment	3342	2,797	D	D	8,604 i	63	8,540 i
Semiconductor and other electronic components	3344	4,869	65	4,805	13,383	287	13,097
Navigational, measuring, electromedical, and control instruments	3345	4,543	1,567	2,976	13,966	D	D
Other computer and electronic products	other 334	107	D	D	717	D	D
Electrical equipment, appliances, and components	335	508	D	D	2,146	84	2,061
Transportation equipment	336	6,202	2,596	3,605	31,949	D	D
Motor vehicles, trailers, and parts	3361–63	D	D	D	13,977	D	D
Aerospace products and parts	3364	3,989	2,502	1,487	13,857	2,369	11,488
Other transportation equipment	other 336	D	D	D	4,116	D	D
Furniture and related products	337	115	*	114	461	1	461
Miscellaneous manufacturing	339	1,346	42	1,304	4,839	21	4,819
Medical equipment and supplies	3391	1,186	D	D	3,798	18	3,779
Other miscellaneous manufacturing	other 339	160	D	D	1,042	2	1,039

TABLE 58. Funds for and companies performing industrial basic research, applied research, and development in the United States, by industry and company size, by source of funds: 2007
(Millions of dollars)

Industry and company size	NAICS codes	Applied research			Development		
		Total	Federal	Company and other	Total	Federal	Company and other
Nonmanufacturing industries	21–23, 42, 44–81	18,067	4,153	13,914	61,693	3,708	57,985
Mining, extraction, and support activities	21	455	0	455	953	9	944
Utilities	22	53	D	D	177	D	D
Construction	23	D	D	D	262	0	262
Wholesale trade	42	341	D	D	1,913	D	D
Retail trade	44, 45	398	12	386	2,124	0	2,124
Transportation and warehousing	48, 49	D	D	D	140	0	140
Information	51	D	D	3,098	25,760	D	D
Publishing	511	2,392	D	D	18,451	D	D
Newspaper, periodical, book, and directory	5111	D	D	D	D	0	D
Software	5112	D	D	2,355	D	D	17,225
Telecommunications	517	145	0	145	D	D	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	D	0	D	D	D	D
Satellite telecommunications	5174	D	0	D	D	0	D
Other telecommunications	other 517	D	0	D	745	0	745
Internet service providers, Web search portals, and data-processing services	518	D	D	D	4,022	D	D
Internet service providers and Web search portals	5181	D	0	D	2,317	0	2,317
Data-processing, hosting, and related services	5182	D	D	D	1,705	D	D
Other information	other 51	D	0	D	D	0	D
Finance, insurance, and real estate	52, 53	155	0	155	1,826	0	1,826
Professional, scientific, and technical services	54	12,837	4,097	8,740	26,150	2,970	23,179
Architectural, engineering, and related services	5413	1,085	339	745	4,575	1,367	3,208
Computer systems design and related services	5415	1,435	284	1,151	12,503	389	12,114
Scientific R&D services	5417	8,590	3,463	5,127	7,617	1,152	6,464
Other professional, scientific, and technical services	other 54	1,727	11	1,716	1,455	62	1,392
Health care services	621–23	504	D	D	632	2	630
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	87	D	D	1,757	D	D

TABLE 58. Funds for and companies performing industrial basic research, applied research, and development in the United States, by industry and company size, by source of funds: 2007
(Millions of dollars)

Industry and company size	NAICS codes	Applied research			Development		
		Total	Federal	Company and other	Total	Federal	Company and other
Company size (employees)							
All companies	-	57,569	8,945	48,625	200,430	14,861	185,569
5–24	-	3,083	598	2,485	7,311	985	6,326
25–49	-	2,210	280	1,929	5,408	263	5,144
50–99	-	3,791	357	3,434	5,819	280	5,539
100–249	-	3,094	272	2,822	9,734	814	8,920
250–499	-	1,721	184	1,537	6,350	358	5,993
500–999	-	3,703	271	3,431	10,083	301	9,783
1,000–4,999	-	8,637	658	7,979	31,301	604	30,697
5,000–9,999	-	5,160	333	4,827	16,793	1,053	15,741
10,000–24,999	-	10,043	473	9,570	32,908	1,084 i	31,823
25,000 or more	-	16,127	5,518	10,609	74,723	9,119	65,604

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. During statistical processing, when R&D was not allocated among the three character-of-work categories (basic research, applied research, and development) by survey respondents, algorithms were used to do the allocation. See table A-7 for the amount of undistributed R&D and the number of companies that reported R&D in each category. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 59. Funds for industrial R&D performed in the United States, by state: Selected years, 1997–2007

(Millions of dollars)

State	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	% change, 2006–07
United States	157,539	169,180	184,129	201,962	202,017	193,868	200,724 r	208,301	226,159	247,669	269,267	8.7
Alabama	589 i	845	823	821 i	905	846	992 r	1,227	1,417	1,835	1,771	-3.5
Alaska	24 i	37 e	82 e	48 e	68	51 e	36 e	35 e	32 e	49 e	58 e	18.4
Arizona	1,854	1,801	2,109 i	2,182 i	2,707	3,201	2,604 r	2,570	2,980	3,590	3,846	7.1
Arkansas	118	213 e	326	400	254 e	225 e	270	287	271	285	339	18.9
California	34,011	32,856	38,169	45,455	44,628	42,177	46,401 r	46,614	50,683	58,424	64,187	9.9
Colorado	2,248	3,180	3,266	3,143	3,082	2,823	3,543 r	4,008	4,299	4,657	5,223	12.2
Connecticut	3,014	3,346	4,145 i	4,132 i	4,686	6,077	5,834	7,177	7,885	8,273	9,444	14.2
Delaware	1,009 i	1,356 i	1,295 i	1,468 i	1,232	1,219	1,298	1,059	1,511	1,446	1,472	1.8
District of Columbia	D	598 i	268 e	196 e	242	194	235	182 e	166	276	379	37.3
Florida	3,442	3,265	3,482	3,773 i	3,755	3,707	3,155 r	3,486	4,164	4,139	4,569	10.4
Georgia	1,273	1,617	1,904	2,159 i	1,912	2,107	2,104 r	2,160	2,282	2,786	2,788	0.1
Hawaii	87	55 e	68 e	93 e	93	103	133	131	168	155	218	40.6
Idaho	1,181 i	1,103 i	1,239	1,363	884	992	745	681	642	625	726	16.2
Illinois	6,248	7,318	8,102	8,393 i	8,232	7,616	8,319	8,554	9,712	10,765	11,362	5.5
Indiana	2,677	2,922	2,863 i	2,888 i	3,583	3,572	3,658	4,208	4,610 i	4,858	4,939	1.7
Iowa	578	750	730	762	817	753	833	963	1,039	1,055	1,202	13.9
Kansas	1,136 i	1,384 i	1,448 i	1,327 i	1,299 i	1,427 i	1,675 i	1,804 i	1,993 i	2,064 i	1,304	-36.8
Kentucky	359	606	777	762	636	656	601	565	660	839	890	6.1
Louisiana	172	377 e	516 e	364 e	316 e	248 e	289 r	311	300	367	373 e	1.6
Maine	83	137	208	255	249	250 i	200	213	350	253	265	4.7
Maryland	1,425	1,905	2,020	2,213	3,682	3,800	3,118 r	3,826	3,706	3,421	3,665	7.1
Massachusetts	8,300	10,367	9,781	10,857	11,756	10,609	11,092 r	11,819	13,342	15,562	19,488	25.2
Michigan	13,009	12,554	16,877	17,489 i	14,283	13,565	15,217 r	15,170	16,752	16,477	15,736	-4.5
Minnesota	3,116	3,367	3,695	3,971	4,355	4,460	5,003	5,199	6,340	6,296	6,636	5.4
Mississippi	73	183 e	224 e	242 e	219 e	224	199 r	160	194	231	279	20.8
Missouri	1,290 i	1,505	1,664	1,978	1,792	1,592	1,742	2,151	2,602	2,675	2,736	2.3
Montana	92	63	92 e	78 e	70 e	66	65	70	77 i	103 i	134	30.1
Nebraska	71	195 e	217 e	335 e	306	342	363	383	407	447	489	9.4
Nevada	380	476	490	433	290	339	383	417	382	535	567	6.0
New Hampshire	652	1,138	1,157	722	1,339	1,153	1,349	1,330	1,435	1,774 i	1,814 i	2.3
New Jersey	11,069	11,107	10,145	10,580	10,164	11,566	11,405 r	10,993	13,214	14,606	17,892	22.5
New Mexico	1,310 i	1,450 i	1,352 i	1,203 i	231	331	338 r	450	405	676	568	-16.0
New York	9,939 i	10,283	12,260	11,622	10,884	9,234	8,528 r	8,793	9,474	9,518	10,916	14.7
North Carolina	3,590	3,483	3,754	4,535	4,437	3,704	4,423 r	4,565	5,158	5,486	6,829	24.5
North Dakota	33	46 e	95 e	83 e	347	154	216	379 i	104	120	126	5.0

TABLE 59. Funds for industrial R&D performed in the United States, by state: Selected years, 1997–2007
(Millions of dollars)

State	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	% change, 2006–07
Ohio	5,608	5,742	6,531	6,245	6,694	6,230	6,258 r	5,516	5,900	6,852	7,265	6.0
Oklahoma	428	369	562 e	463	543 e	412	576 r	410	422	474	527	11.2
Oregon	1,102	1,345	1,408	1,533	2,677	2,320 i	2,956 r	3,057	3,252	3,419	3,629 i	6.1
Pennsylvania	6,609 i	7,393	7,474	8,473	8,967	7,064	7,091	8,005	8,846	9,819	10,387	5.8
Rhode Island	704 i	1,332 i	1,317 i	1,167 i	1,134 i	1,121	1,203 i	1,320 i	1,387 i	1,330 i	411	-69.1
South Carolina	783 i	996	922	1,059	921	1,054	976	961	1,402	1,396	1,426	2.1
South Dakota	26	40 e	57 e	89 e	87 e	53	75	72	68	95	132	38.9
Tennessee	1,089	2,440	2,205	1,644	1,503	1,289	1,507	1,630	1,246	1,428	1,638	14.7
Texas	7,265	8,984	8,661	10,048	9,839	10,744	11,008 r	10,992	12,438	13,334	13,889	4.2
Utah	1,027	1,119	1,028	1,063	1,173	1,116	996	1,089	1,234	1,274	1,764	38.5
Vermont	246	114	346	389	339	286 i	360	423	360	360	413	14.7
Virginia	1,767	2,540	2,662	2,683	2,957	2,920	3,492 r	4,006	4,379	4,816	4,840	0.5
Washington	6,610 i	7,072 i	7,093 i	8,235 i	8,933 i	8,579	9,220 r	8,840 i	9,736	11,320	12,687	12.1
West Virginia	D	335	351	329	211	264	219	202	242	221	233	5.4
Wisconsin	1,707	1,929	2,194	2,415	2,469 i	2,649 e	2,623	2,645	2,729	3,020	3,411	12.9
Wyoming	28	20 e	65 e	37 e	28 e	21	37	23	30	27 e	37 e	37.0
Undistributed funds[a]	7,211 i	5,521 i	5,610 i	9,762 i	9,770 i	8,361	5,762	7,169	3,731 i	3,814 i	3,347 i	-12.2

D = suppressed to avoid disclosure of confidential information; e = estimated, more than 50% of cell value is imputed due to raking of state data; i = more than 50% of the value is imputed; r = data significantly revised, replaces previously published data.

[a] Includes data reported on Form RD-1 that were not allocated to a specific state. Data reported on Form RD-1A were allocated to the state in the address on the company's survey form which is usually the company's headquarters.

NOTES: Detail does not add to total due to rounding or suppression. Excludes federally funded research and development centers for years after 2001. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 60. Funds for and companies performing industrial R&D in the United States, by state and source of funds: 1999–2007

(Amount in millions of dollars)

State	1999						2000					
	All R&D		Federal		Company and other		All R&D		Federal		Company and other	
	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
United States	38,957	184,129	2,860	22,535	37,750	161,594	35,272	201,962	3,033	19,118	34,372	182,844
Alabama	635	823	35	171	619	652	355	821 i	83	154 i	340	667 e
Alaska	9	82 e	1	3 e	9	79 e	10	48 e	1	3 e	10	46 e
Arizona	780	2,109 i	12	233 i	777	1,876 i	1,066	2,182 i	251	125 i	1,063	2,057 i
Arkansas	97	326	7	8 e	96	318	99	400	3	11	99	389
California	6,907	38,169	638	4,107	6,574	34,062	6,634	45,455	882	3,966 i	6,192	41,489
Colorado	1,158	3,266	35	988	1,152	2,278	1,213	3,143	122	806 i	1,206	2,336
Connecticut	754	4,145 i	42	185	729	3,960 i	423	4,132 i	17	128	420	4,004 i
Delaware	54	1,295 i	9	11	54	1,284 i	49	1,468 i	6	11	49	1,457 i
District of Columbia	39	268 e	5	68	38	200 e	18	196 e	5	58 i	16	138 e
Florida	1,144	3,482	26	746	1,134	2,736	1,393	3,773 i	51	505	1,380	3,268
Georgia	762	1,904	25	107	761	1,797	854	2,159 i	8	116	854	2,043
Hawaii	81	68 e	2	4 e	81	64 e	84	93 e	68	6	69	87 e
Idaho	209	1,239	3	551	207	688	217	1,363	2	D	216	D
Illinois	2,223	8,102	13	103 e	2,222	7,999	1,522	8,393 i	68	93 e	1,470	8,300 i
Indiana	815	2,863 i	8	50 e	812	2,813 i	405	2,888 i	14	43	405	2,845 i
Iowa	250	730	47	12 e	204	718	347	762	4	11 i	345	751
Kansas	526	1,448 i	4	D	525	D	334	1,327 i	6	800 i	333	527
Kentucky	599	777	51	9 e	598	768	200	762	3	8 e	198	754
Louisiana	105	516 e	10	48	104	468 e	198	364 e	22	10 e	197	354 e
Maine	16	208	4	56	15	152	135	255	5	57	134	198
Maryland	977	2,020	355	395	687	1,625	776	2,213	288	349	715	1,864
Massachusetts	1,405	9,781	111	2,338 i	1,400	7,443	1,166	10,857	271	1,890 i	1,159	8,967
Michigan	1,846	16,877	42	150	1,843	16,727	1,328	17,489 i	32	118	1,324	17,372 i
Minnesota	741	3,695	22	257	741	3,438	1,259	3,971	40	167	1,257	3,804 i
Mississippi	288	224 e	54	39	285	185 e	48	242 e	12	22 i	45	220 e
Missouri	498	1,664	104	30 e	497	1,634	647	1,978	18	30 e	646	1,948
Montana	7	92 e	1	4 e	7	88 e	104	78 e	1	2 e	104	75 e
Nebraska	258	217 e	8	10 e	252	207 e	578	335 e	3	11 e	578	324 e
Nevada	29	490	8	D	27	D	25	433	3	100	24	333 e
New Hampshire	301	1,157	7	D	301	D	371	722	6	20	371	702

TABLE 60. Funds for and companies performing industrial R&D in the United States, by state and source of funds: 1999–2007

(Amount in millions of dollars)

State	1999						2000					
	All R&D		Federal		Company and other		All R&D		Federal		Company and other	
	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
New Jersey	1,466	10,145	21	201	1,459	9,944	1,537	10,580	149	269	1,531	10,311
New Mexico	420	1,352 i	274	1,158 i	407	194 e	107	1,203 i	28	D	97	D
New York	1,862	12,260	208	2,045 i	1,851	10,215	2,332	11,622	53	1,839 i	2,327	9,783
North Carolina	392	3,754	38	48 e	387	3,706	875	4,535	117	63 e	772	4,472
North Dakota	21	95 e		2 e	21	93 e	162	83 e	1	1 e	162	82
Ohio	2,253	6,531	29	1,189	2,245	5,342	1,748	6,245	25	581	1,739	5,664
Oklahoma	231	562 e	5	14	231	548 e	457	463	11	9	457	455
Oregon	1,455	1,408	8	20	1,455	1,388	1,152	1,533	6	22	1,152	1,511
Pennsylvania	2,264	7,474	211	484 i	2,098	6,990	1,775	8,473	144	456 i	1,667	8,018
Rhode Island	194	1,317 i	5	D	193	D	110	1,167 i	7	D	107	D
South Carolina	110	922	13	93 i	107	829	105	1,059	7	96 i	101	963
South Dakota	13	57 e		2	13	55 e	65	89 e	52	2	64	87 e
Tennessee	433	2,205	7	939	429	1,266	349	1,644	6	357 i	347	1,287
Texas	2,495	8,661	54	186	2,487	8,475	2,061	10,048	177	287	2,046	9,762
Utah	585	1,028	7	214	584	814	197	1,063	11	167 i	195	896
Vermont	125	346	3	36	125	310	216	389	4	19 i	215	370
Virginia	1,383	2,662	473	726	1,079	1,936	1,100	2,683	186	728 i	1,008	1,955
Washington	1,368	7,093 i	11	870 i	1,367	6,223 i	954	8,235 i	9	1,153 i	953	7,082 i
West Virginia	91	351	1	4 e	90	347	22	329	3	33	21	296
Wisconsin	1,023	2,194	38	55 e	1,018	2,139	909	2,415	9	37 e	908	2,378
Wyoming	1	65 e	0	1 e	1	64 e	5	37 e	0	1 e	5	36 e
Undistributed funds[a]	204	5,610 i	34	1,051	204	4,559	242	9,762 i	42	973	236	8,789

TABLE 60. Funds for and companies performing industrial R&D in the United States, by state and source of funds: 1999–2007

(Amount in millions of dollars)

	2001						2002					
	All R&D		Federal		Company and other		All R&D		Federal		Company and other	
State	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
United States	33,263	202,017	3,217	16,899	32,450	185,118	29,001	193,868	2,496	16,401	28,200	177,467
Alabama	476	905	21	176	466	730	242	846	133	258	229	588
Alaska	11	68	2	2 e	11	66	65	51 e	4	3 i	64	48 e
Arizona	150	2,707	22	232	146	2,475	604	3,201	52	470	601	2,731
Arkansas	91	254 e	2	5 e	91	249 e	64	225 e	2	4 e	64	221
California	6,605	44,628	565	3,648 i	6,589	40,980	5,589	42,177	228	2,975	5,560	39,202
Colorado	1,149	3,082	95	579	1,146	2,503	1,050	2,823	35	169 i	1,044	2,654
Connecticut	371	4,686	12	110	369	4,576	516	6,077	27	317	513	5,761
Delaware	55	1,232	6	10	55	1,222	146	1,219	6	10	145	1,208
District of Columbia	32	242	8	78	28	163	33	194	10	92	27	102 e
Florida	1,262	3,755	65	736	1,252	3,019	1,038	3,707	41	858	1,021	2,848
Georgia	655	1,912	6	57 e	654	1,855	460	2,107	7	71	458	2,036
Hawaii	135	93	6	14 i	134	79 e	53	103	16	37	50	66 e
Idaho	279	884	1	3 e	279	882	366	992	251	3 e	116	990
Illinois	2,899	8,232	109	749	2,801	7,483	1,483	7,616	54	996	1,478	6,620
Indiana	782	3,583	18	63	782	3,520	566	3,572	91	123 i	566	3,450
Iowa	629	817	6	21 i	626	796	228	753	2	6 e	228	748
Kansas	351	1,299 i	57	D	351	D	228	1,427 i	7	D	226	D
Kentucky	474	636	3	8 e	472	628	127	656	3	6 e	126	650
Louisiana	205	316 e	5	13 e	204	304 e	174	248 e	7	14 e	173	233 e
Maine	40	249	4	49	40	200	168	250 i	10	21	167	229 i
Maryland	588	3,682	51	1,119	574	2,562	553	3,800	103	1,165 i	521	2,635
Massachusetts	1,480	11,756	155	1,812 i	1,425	9,944	1,058	10,609	105	1,995 i	1,045	8,614
Michigan	814	14,283	116	117	712	14,166	1,159	13,565	268	133	908	13,432
Minnesota	1,514	4,355	265	207	1,513	4,149	1,006	4,460	23	137	1,005	4,323
Mississippi	101	219 e	4	7 e	100	212 e	91	224	8	14	88	210
Missouri	535	1,792	56	142	533	1,650	923	1,592	15	151	920	1,441
Montana	154	70 e	1	3 e	154	67 e	48	66	1	1 e	48	65
Nebraska	458	306	3	9 e	458	297	76	342	8	7 i	76	335
Nevada	45	290	2	8 e	44	282	151	339	4	7 e	150	333
New Hampshire	209	1,339	4	D	209	D	289	1,153	15	D	280	D

TABLE 60. Funds for and companies performing industrial R&D in the United States, by state and source of funds: 1999–2007

(Amount in millions of dollars)

	2001						2002					
	All R&D		Federal		Company and other		All R&D		Federal		Company and other	
State	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
New Jersey	1,300	10,164	36	207	1,292	9,957	1,011	11,566	141	238	899	11,328
New Mexico	189	231	69	95	179	135 e	253	331	158	92	246	239
New York	2,052	10,884	838	994	1,702	9,890	2,198	9,234	339	539	2,191	8,695
North Carolina	598	4,437	18	70 e	591	4,367	739	3,704	34	50 e	733	3,654
North Dakota	144	347	1	1 e	144	346	68	154	2	1 e	68	153
Ohio	1,581	6,694	43	783	1,560	5,912	1,568	6,230	113	823	1,553	5,407
Oklahoma	457	543 e	8	14 e	454	529 e	276	412	72	15	274	397
Oregon	218	2,677	55	19 e	218	2,658	670	2,320	118	17 e	593	2,302
Pennsylvania	1,634	8,967	372	122 e	1,529	8,844	2,020	7,064	52	114	2,015	6,950
Rhode Island	203	1,134 i	118	D	187	D	74	1,121 i	10	D	71	D
South Carolina	222	921	12	17 e	217	904	187	1,054	7	24	184	1,031
South Dakota	18	87 e	3	2 e	18	86 e	102	53	2	1 e	101	52
Tennessee	525	1,503	5	154	523	1,348	542	1,289	40	216	537	1,073
Texas	1,527	9,839	107	185	1,518	9,654	1,540	10,744	117	534	1,525	10,209
Utah	621	1,173	9	168 i	619	1,005	378	1,116	16	201 i	373	915
Vermont	225	339	3	7 i	224	332	80	286	3	7 i	79	279
Virginia	644	2,957	146	680	600	2,277	815	2,920	110	719	791	2,201
Washington	609	8,933 i	33	555	589	8,378 i	719	8,579 i	22	460	715	8,120 i
West Virginia	122	211	2	6	121	205	99	264	2	4	99	260
Wisconsin	1,200	2,469	4	22 e	1,200	2,447	914	2,649	9	19 e	914	2,630
Wyoming	9	28 e	0	1 e	9	28 e	35	21 e	9	1	30	20 e
Undistributed funds[a]	179	9,770 i	22	784 i	179	8,986 i	148	8,361	11	277	152	8,084

TABLE 60. Funds for and companies performing industrial R&D in the United States, by state and source of funds: 1999–2007

(Amount in millions of dollars)

	2003						2004					
	All R&D		Federal		Company and other		All R&D		Federal		Company and other	
State	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
United States	37,843	200,724 r	2,028	17,798 r	36,958	182,926 r	41,029	208,301	3,008	20,266	40,222	188,035
Alabama	253	992 r	31	454 r	241	538 r	291	1,227	64	583	251	644
Alaska	22	36 e	3	5 e	20	31 e	26	35 e	9	8	24	28 e
Arizona	546	2,604 r	18	573 r	542	2,031	968	2,570	24	245	961	2,325
Arkansas	158	270	2	7 e	158	263	165	287	6	27	164	259
California	7,237	46,401 r	323	3,792 r	7,116	42,609 r	8,558	46,614	1,014	3,980 i	8,415	42,634
Colorado	874	3,543 r	105	94 r	797	3,449	1,346	4,008	86	118	1,326	3,890
Connecticut	661	5,834	20	852	655	4,982	864	7,177	22	1,717	859	5,460
Delaware	52	1,298	3	12	52	1,285	373	1,059	4	14	373	1,045
District of Columbia	128	235	10	95	122	140	77	182 e	11	68	73	114 e
Florida	1,610	3,155 r	82	1,009 r	1,594	2,146 r	1,619	3,486	94	1,270	1,607	2,216
Georgia	596	2,104 r	9	53 er	591	2,051	1,134	2,160	24	58 e	1,127	2,102
Hawaii	199	133	17	53	190	80	372	131	16	52	363	78
Idaho	209	745	9	9	201	736	229	681	43	11	216	670
Illinois	1,721	8,319	59	190	1,720	8,129	2,112	8,554	111	267	2,046	8,286
Indiana	1,223	3,658	61	256	1,188	3,401	1,389	4,208	23	232	1,389	3,976
Iowa	424	833	1	7 e	424	826	750	963	15	7 e	749	956
Kansas	288	1,675 i	49	D	244	D	315	1,804 i	65	D	310	D
Kentucky	999	601	4	21 e	997	580	328	565	8	11 e	323	554
Louisiana	360	289 r	19	19 er	358	270 r	152	311	25	19 e	149	293
Maine	243	200	4	30	242	169	177	213	14	D	170	D
Maryland	449	3,118 r	78	970 r	411	2,148 r	495	3,826	118	1,286	445	2,540
Massachusetts	1,153	11,092 r	174	2,151 ir	1,137	8,941	1,468	11,819	184	2,331 i	1,432	9,488
Michigan	1,399	15,217 r	28	213	1,392	15,004 r	1,818	15,170	64	204	1,809	14,966
Minnesota	1,615	5,003	27	236	1,612	4,767	1,513	5,199	37	261	1,506	4,938
Mississippi	184	199 r	10	D	178	D	93	160	10	D	86	D
Missouri	910	1,742	34	80	898	1,662	1,102	2,151	13	84 i	1,097	2,067
Montana	294	65	1	2 e	294	63	100	70	4	3 e	99	67
Nebraska	216	363	4	7	215	356	137	383	7	6 e	137	377
Nevada	248	383	6	31	245	352	512	417	8	23	509	394
New Hampshire	252	1,349	55	D	220	D	293	1,330	40	D	265	D

TABLE 60. Funds for and companies performing industrial R&D in the United States, by state and source of funds: 1999–2007

(Amount in millions of dollars)

	2003						2004					
	All R&D		Federal		Company and other		All R&D		Federal		Company and other	
State	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
New Jersey	1,182	11,405 r	70	219 r	1,166	11,186 r	1,105	10,993	52	294	1,095	10,699
New Mexico	118	338 r	22	154 r	109	184	149	450	32	176	133	275
New York	1,786	8,528 r	79	574 r	1,784	7,954 r	2,138	8,793	193	721	2,131	8,071
North Carolina	967	4,423 r	36	107 r	961	4,315	771	4,565	37	87	758	4,478
North Dakota	61	216	2	2 e	60	214	67	379 i	3	2 e	66	377 i
Ohio	2,032	6,258 r	154	423 r	1,920	5,835	2,284	5,516	80	395	2,256	5,121
Oklahoma	562	576 r	21	32 r	545	545	487	410	262	22	232	387
Oregon	951	2,956 r	92	22 r	942	2,934	532	3,057	33	20 e	529	3,036
Pennsylvania	2,089	7,091	105	166	2,014	6,925	1,766	8,005	167	160	1,745	7,845
Rhode Island	149	1,203 i	19	D	145	D	192	1,320 i	7	D	190	D
South Carolina	381	976	32	36	377	940	368	961	10	37	363	924
South Dakota	90	75	2	2	89	73	109	72	3	3 i	108	69
Tennessee	404	1,507	18	206	392	1,302	568	1,630	14	322	564	1,308
Texas	3,266	11,008 r	74	590 r	3,250	10,418 r	2,259	10,992	68	610	2,243	10,382
Utah	360	996	31	135	355	861	580	1,089	29	174	575	915
Vermont	113	360	2	10 i	112	349	101	423	8	34	100	389
Virginia	1,154	3,492 r	130	1,278 r	1,104	2,214 r	1,034	4,006	230	1,499 i	967	2,507
Washington	643	9,220 r	56	101 r	629	9,119	1,426	8,840 i	125	146	1,336	8,694 i
West Virginia	61	219	4	21	59	198	66	202	6	D	62	D
Wisconsin	1,355	2,623	271	34 e	1,096	2,589	1,424	2,645	47	47	1,419	2,598
Wyoming	79	37	8	2 e	79	35	35	23	16	3	34	21
Undistributed funds[a]	116	5,762	7	104 e	116	5,658	200	7,169	14	44 i	199	7,125

TABLE 60. Funds for and companies performing industrial R&D in the United States, by state and source of funds: 1999–2007

(Amount in millions of dollars)

	2005						2006					
	All R&D		Federal		Company and other		All R&D		Federal		Company and other	
State	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
United States	43,880	226,159	2,855	21,909	42,954	204,250	44,266	247,669	3,425	24,304	43,015	223,365
Alabama	1,312	1,417	302	719	1,296	698	595	1,835	87	976	573	859
Alaska	17	32 e	2	2 e	16	30 e	50	49 e	18	9	47	40 e
Arizona	991	2,980	24	269	985	2,711	428	3,590	38	182	423	3,407
Arkansas	318	271	6	8 e	317	262	358	285	6	D	357	D
California	6,056	50,683	660	5,065 i	5,741	45,618	7,892	58,424	506	5,221	7,771	53,203
Colorado	1,469	4,299	45	131	1,450	4,168	789	4,657	50	169	770	4,487
Connecticut	850	7,885	37	1,443	838	6,442	829	8,273	137	1,581	723	6,693
Delaware	500	1,511	17	21	500	1,490	107	1,446	13	23	105	1,423
District of Columbia	41	166	15	73	34	93 e	51	276	21	120	39	156 e
Florida	2,421	4,164	94	1,190	2,392	2,974	2,365	4,139	336	1,113	2,087	3,026
Georgia	1,732	2,282	20	56 e	1,724	2,226	1,743	2,786	124	147	1,734	2,639
Hawaii	99	168	26	46	86	122	433	155	16	46	425	109
Idaho	176	642	9	7	171	635	190	625	19	9	187	616
Illinois	2,065	9,712	48	205	2,064	9,506	2,464	10,765	51	201	2,457	10,564
Indiana	623	4,610 i	47	283	615	4,327 i	1,205	4,858	24	365	1,198	4,493
Iowa	451	1,039	56	10 e	416	1,029	587	1,055	23	11 e	579	1,044
Kansas	408	1,993 i	12	D	403	D	386	2,064 i	14	D	382	D
Kentucky	524	660	14	11 e	513	650	378	839	13	12 e	375	827
Louisiana	336	300	9	22	332	278	92	367	9	14 e	88	353
Maine	164	350	31	20 i	154	331	129	253	11	18	127	235
Maryland	923	3,706	215	1,254	856	2,452	831	3,421	90	930	785	2,491
Massachusetts	2,528	13,342	208	2,554 i	2,478	10,788	1,825	15,562	212	3,372 i	1,804	12,190
Michigan	2,148	16,752	118	204	2,111	16,548	2,472	16,477	118	210	2,433	16,266
Minnesota	1,064	6,340	60	287	1,028	6,053	1,542	6,296	29	235	1,535	6,061
Mississippi	182	194	23	47	164	147	423	231	12	49	417	182
Missouri	706	2,602	33	79	704	2,523	1,328	2,675	267	82	1,324	2,593
Montana	59	77 i	7	6 i	58	71 i	323	103 i	39	14 i	322	89
Nebraska	502	407	44	7 e	463	400	233	447	13	25	226	421
Nevada	282	382	9	17 e	277	365	205	535	21	31	191	504
New Hampshire	450	1,435	25	D	445	D	241	1,774 i	18	D	237	D

TABLE 60. Funds for and companies performing industrial R&D in the United States, by state and source of funds: 1999–2007

(Amount in millions of dollars)

	2005						2006					
	All R&D		Federal		Company and other		All R&D		Federal		Company and other	
State	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount	Companies	Amount
New Jersey	1,445	13,214	131	311	1,424	12,902	1,364	14,606	87	348	1,325	14,258
New Mexico	799	405	48	128	775	278	170	676	105	294	153	382 i
New York	2,226	9,474	101	654	2,213	8,819	2,074	9,518	222	536	1,928	8,982
North Carolina	916	5,158	61	107	907	5,051	1,271	5,486	43	160	1,261	5,326
North Dakota	85	104	3	D	84	D	57	120	2	D	56	D
Ohio	1,433	5,900	103	455	1,415	5,445	2,469	6,852	62	549	2,446	6,303
Oklahoma	170	422	13	20	165	401	569	474	308	22	517	452
Oregon	1,024	3,252	87	30	1,014	3,223	558	3,419	21	26 e	549	3,394
Pennsylvania	2,380	8,846	191	205 e	2,310	8,640	2,315	9,819	181	254	2,300	9,565
Rhode Island	250	1,387 i	18	D	238	D	119	1,330 i	13	D	114	D
South Carolina	645	1,402	29	38 i	624	1,364	354	1,396	14	59	352	1,337
South Dakota	219	68	4	2 e	219	66	121	95	39	D	120	D
Tennessee	391	1,246	14	96	387	1,150	564	1,428	96	107	517	1,321
Texas	2,694	12,438	119	858	2,641	11,579	2,866	13,334	356	1,056	2,593	12,278
Utah	1,288	1,234	51	197	1,264	1,036	852	1,274	24	238	845	1,036
Vermont	136	360	25	22	130	338	73	360	10	26	70	334
Virginia	1,316	4,379	139	1,696 i	1,230	2,683	913	4,816	150	2,061	834	2,754
Washington	1,257	9,736	97	181	1,229	9,555	1,159	11,320	58	176	1,153	11,143
West Virginia	52	242	9	D	51	D	298	221	9	44	296	178
Wisconsin	1,360	2,729	49	69	1,358	2,660	1,164	3,020	62	119	1,123	2,901
Wyoming	33	30	4	1 e	33	29	535	27 e	2	2 e	535	25 e
Undistributed funds[a]	272	3,731 i	25	96	269	3,636 i	211	3,814 i	20	369	214	3,445 i

TABLE 60. Funds for and companies performing industrial R&D in the United States, by state and source of funds: 1999–2007

(Amount in millions of dollars)

	2007					
	All R&D		Federal		Company and other	
State	Companies	Amount	Companies	Amount	Companies	Amount
United States	43,419	269,267	3,020	26,585	42,784	242,682
Alabama	383	1,771	82	928	363	844
Alaska	21	58 e	7	12	18	46 e
Arizona	863	3,846	40	393	855	3,453
Arkansas	121	339	9	18	118	321
California	9,502	64,187	640	4,817 i	9,445	59,370
Colorado	1,096	5,223	114	179	1,078	5,044
Connecticut	925	9,444	66	1,763	921	7,681
Delaware	141	1,472	15	17	136	1,455
District of Columbia	60	379	20	205	48	173 e
Florida	2,052	4,569	130	1,257 i	2,026	3,312
Georgia	1,104	2,788	19	150	1,098	2,637
Hawaii	100	218	27	97	91	121
Idaho	138	726	12	13	138	712
Illinois	2,691	11,362	111	218	2,669	11,145
Indiana	1,188	4,939	63	314 i	1,182	4,625
Iowa	495	1,202	6	15 e	495	1,187
Kansas	348	1,304	9	22 e	346	1,282
Kentucky	237	890	7	15 e	235	875
Louisiana	372	373 e	11	38	368	335 e
Maine	91	265	15	19	88	247
Maryland	1,169	3,665	137	1,064	1,145	2,601
Massachusetts	2,062	19,488	155	6,249	2,004	13,238
Michigan	1,439	15,736	45	264	1,434	15,472
Minnesota	1,257	6,636	30	254	1,246	6,383
Mississippi	92	279	10	59	87	219
Missouri	1,122	2,736	20	101	1,118	2,635
Montana	230	134	23	36 i	229	98
Nebraska	145	489	13	28	141	461
Nevada	321	567	26	53	305	514
New Hampshire	573	1,814 i	18	D	570	D

TABLE 60. Funds for and companies performing industrial R&D in the United States, by state and source of funds: 1999–2007

(Amount in millions of dollars)

	2007					
	All R&D		Federal		Company and other	
State	Companies	Amount	Companies	Amount	Companies	Amount
New Jersey	1,586	17,892	107	523	1,543	17,369
New Mexico	121	568	47	277	101	290
New York	2,078	10,916	67	582	2,068	10,334
North Carolina	1,214	6,829	97	218	1,195	6,611
North Dakota	97	126	3	3 e	96	124
Ohio	2,428	7,265	342	744	2,156	6,521
Oklahoma	399	527	13	44	394	483
Oregon	759	3,629 i	18	41 e	756	3,588 i
Pennsylvania	2,412	10,387	643	274	2,394	10,113
Rhode Island	202	411	12	26	198	385
South Carolina	454	1,426	17	111	449	1,315
South Dakota	124	132	3	D	124	D
Tennessee	652	1,638	23	129	646	1,510
Texas	2,874	13,889	247	1,165	2,769	12,724
Utah	598	1,764	17	468	597	1,295
Vermont	208	413	20	43	203	370
Virginia	764	4,840	104	2,051	709	2,789
Washington	1,278	12,687	76	189	1,268	12,499
West Virginia	43	233	12	46	41	187
Wisconsin	1,036	3,411	34	92	1,033	3,319
Wyoming	57	37 e	3	3 e	57	34 e
Undistributed funds[a]	195	3,347 i	22	107 i	196	3,240 i

D = suppressed to avoid disclosure of confidential information; e = estimated, more than 50% of cell value is imputed due to raking of state data; i = more than 50% of the value is imputed; r = data significantly revised, replaces previously published data.

[a] Includes data reported on Form RD-1 that were not allocated to a specific state. Data reported on Form RD-1A were allocated to the state in the address on the company's survey form which is usually the company's headquarters.

NOTES: Detail does not add to total for number of companies because categories are not mutually exclusive. Beginning with 2001, excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see the technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Companies (number)	United States	Alabama	Alaska	Arizona	Arkansas	California
All industries	21–23, 31–33, 42, 44–81	43,419	269,267	1,771	58 e	3,846	339	64,187
Manufacturing industries	31–33	18,872	187,477	806	7 e	3,022	D	42,454
Food	311	828	D	3 e	1 e	2 i	24	D
Beverage and tobacco products	312	39	217	* e	* e	* e	* e	D
Textiles, apparel, and leather	313–16	379	806	6 i	D	2	5 i	54 i
Wood products	321	157	D	* e	* e	1 i	* i	19
Paper, printing, and support activities	322, 323	797	D	5	* e	1 e	5 i	59
Petroleum and coal products	324	193	D	1 e	3	* e	* e	44
Chemicals	325	2,445	D	80	D	303 e	17	8,921
Basic chemicals	3251	321	3,234	16	0	1	5 i	36
Resin, synthetic rubber, fibers, and filament	3252	221	963	* e	* e	D	* e	19
Pharmaceuticals and medicines	3254	895	D	54	D	D	9 e	8,626
Other chemicals	other 325	1,008	3,601	9	* e	46	4	240
Plastics and rubber products	326	1,255	D	7 e	D	19	17 i	101
Nonmetallic mineral products	327	406	1,125	2 e	* e	2 e	1 e	D
Primary metals	331	306	896	5	0	D	16 i	20
Fabricated metal products	332	1,672	1,709	9 e	* e	24	8	172
Machinery	333	2,711	9,865	28	* i	77	D	2,762
Computer and electronic products	334	3,236	58,599	412	1 e	2,175	27 i	20,922
Computers and peripheral equipment	3341	229	D	D D	0	19	*	3,778
Communications equipment	3342	457	11,654	D D	0	76	D	5,196 i
Semiconductor and other electronic components	3344	637	18,683	D D	0	1,161	4	8,449
Navigational, measuring, electromedical, and control instruments	3345	1,798	20,438	91	1 e	908	18 i	3,313
Other computer and electronic products	other 334	114	D	* e	0	11 i	D	185
Electrical equipment, appliances, and components	335	788	2,708	7 e	* e	14 i	28	351
Transportation equipment	336	1,265	D	227	* e	228	6 e	7,305
Motor vehicles, trailers, and parts	3361–63	819	D	36	0	62	3 e	D
Aerospace products and parts	3364	242	18,436	146	* e	78	1	4,185 i
Other transportation equipment	other 336	203	D	46	* e	88	2	D
Furniture and related products	337	441	582	3	* e	D	1	71
Miscellaneous manufacturing	339	1,954	6,410	10 e	* e	156 i	9 e	1,452
Medical equipment and supplies	3391	969	5,176	7 e	* e	138 i	7 e	1,258
Other miscellaneous manufacturing	other 339	985	1,234	3 e	* e	18	1 e	195

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Companies (number)	United States	Alabama	Alaska	Arizona	Arkansas	California
Nonmanufacturing industries	21–23, 42, 44–81	24,547	81,790	965	52 e	824	D	21,732
Mining, extraction, and support activities	21	216	1,445	D	2 e	D	1 e	295
Utilities	22	43	235	D	* e	D	*	16
Construction	23	538	D	2 e	11	4 e	1 e	20 e
Wholesale trade	42	3,648	2,294	12 e	1 e	20	5 e	711
Retail trade	44, 45	1,587	2,530	13 e	2 e	20 e	8 e	1,312
Transportation and warehousing	48, 49	281	D	* e	* e	6	D	2
Information	51	2,423	D	58	3 e	104	57	9,355
Publishing	511	1,408	20,900	33	* e	75	D	6,514
Newspaper, periodical, book, and directory	5111	104	D	1 i	* e	* e	* e	75
Software	5112	1,305	D	32	* e	75	D	6,439
Telecommunications	517	237	D	3 e	3 e	7 e	4 e	177 i
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	98	D	2 e	3 e	3 e	3 e	134 i
Satellite telecommunications	5174	4	D	0	0	0	0	D
Other telecommunications	other 517	135	D	2 e	* e	4 e	1 e	D
Internet service providers, Web search portals, and data-processing services	518	562	D	21	* e	21	D	2,316
Internet service providers and Web search portals	5181	172	2,351	* e	* e	7 i	* e	2,046
Data-processing, hosting, and related services	5182	390	D	21	* e	14	D	270
Other information	other 51	216	593	1 e	* e	2 e	* e	348 i
Finance, insurance, and real estate	52, 53	331	2,021	1	* e	* e	2	135
Professional, scientific, and technical services	54	11,146	40,533	810	29 e	598	53 e	9,587
Architectural, engineering, and related services	5413	1,996	5,882	303	11 e	59 e	9 e	2,002
Computer systems design and related services	5415	4,252	14,407	100	4 e	339	21 e	2,932
Scientific R&D services	5417	1,851	16,849	386	11	165	15	4,114
Other professional, scientific, and technical services	other 54	3,047	3,394	22	3 e	36 e	8 e	539 e
Health care services	621–23	2,849	1,280	12	1 e	19 e	6 e	91 e
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	1,484	1,857	6	1 e	28 e	3 e	209

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Companies (number)	United States	Alabama	Alaska	Arizona	Arkansas	California
Company size (employees)								
All companies	-	43,419	269,267	1,771	58 e	3,846	339	64,187
5–24	-	21,701	10,854	118 e	19 e	209 e	49 e	1,948 e
25–49	-	6,852	7,884	81 e	16	187 e	22 e	1,730
50–99	-	5,960	10,068	91	4 e	144 e	17 e	2,860
100–249	-	4,309	13,354	129	5 e	132	24 e	4,123
250–499	-	1,809	8,258	99	1	123	10 i	2,299
500–999	-	1,275	14,279	105	1 e	150	26 i	4,028
1,000–4,999	-	1,039	41,103	206	1	475	59	14,916
5,000–9,999	-	211	22,673	484	D	383 i	59	6,005
10,000–24,999	-	158	45,946	26	D	114	41 i	9,693
25,000 or more	-	106	94,848	433	8	1,929	31	16,584

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Colorado	Connecticut	Delaware	District of Columbia	Florida	Georgia	Hawaii
All industries	21–23, 31–33, 42, 44–81	5,223	9,444	1,472	379	4,569	2,788	218
Manufacturing industries	31–33	3,652	8,621	D	81	2,647	1,382	D
Food	311	21	D	1 e	* e	8 i	166	1 e
Beverage and tobacco products	312	D	20	* e	D	*	* e	D
Textiles, apparel, and leather	313–16	3	3 i	* i	D	D	39	* i
Wood products	321	* e	* e	* e	0	1 i	D	* e
Paper, printing, and support activities	322, 323	13	29 i	D	* e	7	121	* e
Petroleum and coal products	324	D	* e	2 e	0	1 e	* e	* e
Chemicals	325	229	5,567	D	2	606	293	D
Basic chemicals	3251	4 i	32	D	0	14 i	D	D
Resin, synthetic rubber, fibers, and filament	3252	* e	1 i	D	0	D	D	D
Pharmaceuticals and medicines	3254	221	5,458	D	2	558	D	5 e
Other chemicals	other 325	4	77	D	0	D	18	D
Plastics and rubber products	326	17 i	28	7	D	35	27	* e
Nonmetallic mineral products	327	7	12	3	* e	9 e	7 e	* e
Primary metals	331	D	5	* i	0	5	17	* e
Fabricated metal products	332	36	34	4 i	*	32	17	* e
Machinery	333	27	D	4 i	0	72	D	* e
Computer and electronic products	334	960	216 i	D	D	1,337 i	244	2 e
Computers and peripheral equipment	3341	283	6 i	* e	D	4	30 i	D
Communications equipment	3342	D	48 i	1 e	0	48	119	0
Semiconductor and other electronic components	3344	410	15 e	D	0	140	20 i	D
Navigational, measuring, electromedical, and control instruments	3345	223	147 i	D	D	1,135 i	75	1 e
Other computer and electronic products	other 334	D	* i	D	0	10	* e	0
Electrical equipment, appliances, and components	335	6	82	2 i	* e	34	D	* e
Transportation equipment	336	D	D	7	D	352	228	D
Motor vehicles, trailers, and parts	3361–63	6	15 i	*	D	27	25	0
Aerospace products and parts	3364	D	D	D	* e	256	72	D
Other transportation equipment	other 336	12	42	D	D	69	131	* e
Furniture and related products	337	D	1 i	* i	* e	D	6	* e
Miscellaneous manufacturing	339	64	62	26 i	* e	100	81	2 e
Medical equipment and supplies	3391	47	49	D	* e	92	64	1 e
Other miscellaneous manufacturing	other 339	18	13	D	* e	8 e	17	1 i

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Colorado	Connecticut	Delaware	District of Columbia	Florida	Georgia	Hawaii
Nonmanufacturing industries	21–23, 42, 44–81	1,571	823	D	298	1,922	1,406	D
Mining, extraction, and support activities	21	39	8	* e	* e	3	9	* e
Utilities	22	* i	D	*	* e	D	D	D
Construction	23	D	D	* e	* e	20	4 e	1 e
Wholesale trade	42	31	22	5	1 e	76	29 e	2 e
Retail trade	44, 45	16 e	20 e	4 e	1 e	63 e	31 e	5 e
Transportation and warehousing	48, 49	D	D	* e	* e	D	D	D
Information	51	828	185	3 e	40	617	391	12
Publishing	511	553	125	1 e	28	434	D	4
Newspaper, periodical, book, and directory	5111	9	* e	* e	* e	5	1 e	* e
Software	5112	545	125	1 e	28	429	D	4
Telecommunications	517	197	2 e	1 e	1	37 i	D	3 e
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	3 e	1 e	1 e	1	23 i	76	D
Satellite telecommunications	5174	0	0	0	0	0	0	0
Other telecommunications	other 517	194	1 e	* e	* e	14	D	D
Internet service providers, Web search portals, and data-processing services	518	76	56 i	1 e	10	110	D	5
Internet service providers and Web search portals	5181	7	1 e	* e	1	10	30	* e
Data-processing, hosting, and related services	5182	69	55 i	1	10	101	D	5
Other information	other 51	2 e	1 e	* e	1 e	36 i	5 e	* e
Finance, insurance, and real estate	52, 53	56	46	* e	* e	41	68	* e
Professional, scientific, and technical services	54	548	462	40 e	251	952	802	117
Architectural, engineering, and related services	5413	117	70	6 e	39	314	96 e	10 e
Computer systems design and related services	5415	162	112	14 e	20 e	231	491	12 i
Scientific R&D services	5417	226	230	10 e	108	242	136	89
Other professional, scientific, and technical services	other 54	44 e	51 e	10 e	84 e	166 e	79 e	6 e
Health care services	621–23	11 e	10 e	D	1 e	46 e	24 e	2 e
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	37 i	12 e	3 e	3 e	80 e	49	5 e

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Colorado	Connecticut	Delaware	District of Columbia	Florida	Georgia	Hawaii
Company size (employees)								
All companies	-	5,223	9,444	1,472	379	4,569	2,788	218
5–24	-	192 e	170 e	D	45	459 e	247 e	31 e
25–49	-	148 e	D	17 e	20	225 e	133 e	22 i
50–99	-	217	180	13 e	65	287 e	135 e	12 e
100–249	-	306	171	117	D	212	199	18 i
250–499	-	187 i	251	5	2	147	112	D
500–999	-	174	433	45 i	51	196	233	3 e
1,000–4,999	-	497	291	152	2 i	555	536	13
5,000–9,999	-	354	1,005	483	D	316	128 i	D
10,000–24,999	-	729	1,162	D	D	967 i	346	26
25,000 or more	-	2,420	D	D	91	1,204	718	72

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana
All industries	21–23, 31–33, 42, 44–81	726	11,362	4,939	1,202	1,304	890	373 e
Manufacturing industries	31–33	657	9,905	4,576	1,058	1,074	715	204
Food	311	19	334	16	74	25	24	2 e
Beverage and tobacco products	312	* e	D	*	* e	* e	D	* e
Textiles, apparel, and leather	313–16	* i	5 i	2 i	5 i	1 i	3 i	1 i
Wood products	321	* e	1 i	1 i	15	* e	2	* e
Paper, printing, and support activities	322, 323	D	32	7	4 i	11	2 e	2
Petroleum and coal products	324	* e	D	4 i	*	4 e	D	56
Chemicals	325	33 e	2,859	2,475	221	105	59	68
Basic chemicals	3251	* e	53	17	D	46	11	39
Resin, synthetic rubber, fibers, and filament	3252	* e	20	D	D	* e	27	9
Pharmaceuticals and medicines	3254	20 e	2,601	D	57	43	16 e	15 e
Other chemicals	other 325	13	185	26	57	17	5	5
Plastics and rubber products	326	2	112	47	11	6	13	2 e
Nonmetallic mineral products	327	D	72 i	7 i	5	1 e	1 e	1 e
Primary metals	331	* e	20	132	2 e	2	2 e	1 e
Fabricated metal products	332	1 e	113	47	16 i	7 e	13	7 e
Machinery	333	3 e	1,473	399	515	120	49 i	13
Computer and electronic products	334	572	3,716	217	75	208	328	16 e
Computers and peripheral equipment	3341	2 e	28	1 e	D	D	D	* e
Communications equipment	3342	D	D	5 e	11 i	D	2 e	5 e
Semiconductor and other electronic components	3344	D	D	11	15	15 i	5	* e
Navigational, measuring, electromedical, and control instruments	3345	3 e	375	121	D	167	D	10 e
Other computer and electronic products	other 334	* e	39	79	* e	D	D	* e
Electrical equipment, appliances, and components	335	4 i	222	98	28	5 e	10	4 e
Transportation equipment	336	4	580	838	52	564	183	27
Motor vehicles, trailers, and parts	3361–63	2 e	208	546	48	8	D	D
Aerospace products and parts	3364	D	328	D	D	553	D	D
Other transportation equipment	other 336	D	44 i	D	D	2 i	2 e	8 e
Furniture and related products	337	* e	7 i	58	24	1 i	5	* i
Miscellaneous manufacturing	339	4 e	226	228	13 e	14 e	14 e	6 e
Medical equipment and supplies	3391	3 e	123	177	6 e	12 e	6 e	4 e
Other miscellaneous manufacturing	other 339	1 e	103	52	6 i	2 e	8	2 e

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana
Nonmanufacturing industries	21–23, 42, 44–81	68 e	1,457	363	144 e	230	175 e	169 e
Mining, extraction, and support activities	21	D	12 i	1 e	1 i	2 e	8 e	15 e
Utilities	22	* e	* e	* e	* e	D	D	* e
Construction	23	1 e	17	D	8 i	3	9	2 e
Wholesale trade	42	2 e	114 i	13 e	10 e	6 e	37	11 e
Retail trade	44, 45	5 e	68 e	26 e	14 e	9 e	14 e	14 e
Transportation and warehousing	48, 49	* e	*	D	*	D	* e	* e
Information	51	17 i	453	56	41	58	10 e	12 e
Publishing	511	5 i	348	25 i	9	16	2 e	3 e
Newspaper, periodical, book, and directory	5111	* e	51 i	* e	* e	* e	* e	* e
Software	5112	5 i	297	25 i	9	16	2 e	3 e
Telecommunications	517	D	70 i	4 e	3 e	32	2 e	6 e
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	D	61 i	1 e	2 e	D	1 e	4 e
Satellite telecommunications	5174	0	0	0	0	0	0	0
Other telecommunications	other 517	1 e	9 i	3 i	1 e	D	1 e	2 e
Internet service providers, Web search portals, and data-processing services	518	D	31	26	28	8	5	2
Internet service providers and Web search portals	5181	* e	7	* e	* e	1	* e	* e
Data-processing, hosting, and related services	5182	D	23	25	28	7	5	2
Other information	other 51	D	4 e	1 e	1 e	1 e	1 e	1 e
Finance, insurance, and real estate	52, 53	D	89	D	4 i	* e	D	* e
Professional, scientific, and technical services	54	36 e	644 e	212	49 e	137	78 e	99 e
Architectural, engineering, and related services	5413	17 i	92 e	40 e	11 e	46	14 e	33 e
Computer systems design and related services	5415	D	188 e	50 e	17 e	40	32 i	16 e
Scientific R&D services	5417	4	180	93	11 e	39 i	16 e	26
Other professional, scientific, and technical services	other 54	D	185 e	29 e	11 e	13 e	16 e	24 e
Health care services	621–23	3 e	29 e	18 e	5 e	9 e	9 e	9 e
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	2 e	31 e	20 i	13	6 e	7 e	8 e

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana
Company size (employees)								
All companies	-	726	11,362	4,939	1,202	1,304	890	373 e
5–24	-	D	430 e	156 e	67 e	67 e	66 e	93 e
25–49	-	17 e	286 e	95 e	40 e	39 e	30 e	41 e
50–99	-	18 e	331 e	92 e	44 e	40 e	35 e	34 e
100–249	-	D	315	97 e	71 i	69 i	77	30 e
250–499	-	2 i	241 i	94 i	47 i	46 i	43	6 i
500–999	-	38 i	389	90	26	28 i	30	25
1,000–4,999	-	38	1,935	464	149	255	369	33
5,000–9,999	-	12	662	337 i	57	152 i	36	2
10,000–24,999	-	D	3,524	2,700	145	38	41	5
25,000 or more	-	18	3,250	816	557	571	162	104

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri
All industries	21–23, 31–33, 42, 44–81	265	3,665	19,488	15,736	6,636	279	2,736
Manufacturing industries	31–33	140	1,957	14,738	14,597	5,173	158	1,914
Food	311	1 e	90	9 i	171	282	5	52
Beverage and tobacco products	312	* e	* e	D	*	*	* e	D
Textiles, apparel, and leather	313–16	4 i	2 i	74	18	D	1 i	5 i
Wood products	321	* e	D	D	3	D	* e	* i
Paper, printing, and support activities	322, 323	18	7 i	D	12	D	1	10 i
Petroleum and coal products	324	* e	6	2 i	2 i	1 i	2 i	D
Chemicals	325	13 e	740	3,392	1,050	403	61	805
Basic chemicals	3251	* e	D	96	68	14	8	D
Resin, synthetic rubber, fibers, and filament	3252	D	D	18	307	11	1	D
Pharmaceuticals and medicines	3254	13 e	675	3,200	532	190	45	398
Other chemicals	other 325	D	7	78	142	188	6	358
Plastics and rubber products	326	1 e	6	41 i	206	50 i	3 e	56
Nonmetallic mineral products	327	* e	2 e	D	100	15	1 e	3 e
Primary metals	331	* e	3 i	4 i	40	13 i	* e	22
Fabricated metal products	332	2 e	5 e	39 i	142 i	57 i	3 e	14 e
Machinery	333	6	187	254	254	300	7	96
Computer and electronic products	334	58 i	500	8,692	205	2,377	20	459
Computers and peripheral equipment	3341	* e	27	721 i	9	588	0	* e
Communications equipment	3342	1 e	169	713 i	7 e	D	6 i	8 i
Semiconductor and other electronic components	3344	51 i	30	788	55	64	D	34
Navigational, measuring, electromedical, and control instruments	3345	5 i	273	6,200	134	1,680	D	417
Other computer and electronic products	other 334	* i	1 i	270 i	* e	D	0	1 i
Electrical equipment, appliances, and components	335	* e	8 i	183	272	D	13 i	47 i
Transportation equipment	336	26	D	D	11,873	335	22	274
Motor vehicles, trailers, and parts	3361–63	* e	6	6	11,763	70	D	88
Aerospace products and parts	3364	D	D	367	61	157	D	159
Other transportation equipment	other 336	D	85	D	49	108	13	26
Furniture and related products	337	* i	* e	31	119	14 i	12	9 i
Miscellaneous manufacturing	339	10 e	123	534	131	378	5 e	39
Medical equipment and supplies	3391	9 e	120	510	106	359	4 e	26 e
Other miscellaneous manufacturing	other 339	1 e	4 e	24 i	25	19	1 e	13 i

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri
Nonmanufacturing industries	21–23, 42, 44–81	125	1,708	4,750	1,138	1,464	121	822
Mining, extraction, and support activities	21	D	1 i	D	5	1 e	3	1 e
Utilities	22	*	* e	*	6 i	* e	* e	D
Construction	23	* e	4 e	D	3 e	9	1 e	9
Wholesale trade	42	2 e	67	156	50	36	3 e	61
Retail trade	44, 45	5 e	20 e	41 e	26 e	33 e	8 e	20 e
Transportation and warehousing	48, 49	D	* e	* e	* e	D	* e	D
Information	51	16	195	1,225	348	342	10	141
Publishing	511	12	140	1,109	210	323	6	32
Newspaper, periodical, book, and directory	5111	D	D	D	25 i	5	* e	6
Software	5112	D	D	D	185	317	6	26
Telecommunications	517	3 i	16	19 i	4 e	4 e	2 e	4 e
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	D	4	1 e	2 e	3 e	1 e	2 e
Satellite telecommunications	5174	0	0	0	0	0	0	0
Other telecommunications	other 517	D	12	19 i	2 e	1 e	1 e	2 e
Internet service providers, Web search portals, and data-processing services	518	1	36	93	132	14	1	103
Internet service providers and Web search portals	5181	*	D	25 i	D	1 e	* e	* e
Data-processing, hosting, and related services	5182	1	D	68	D	14	1	103
Other information	other 51	* e	3 e	4 e	2 e	1 e	* e	2 e
Finance, insurance, and real estate	52, 53	* e	13	106	D	D	* i	6
Professional, scientific, and technical services	54	96	1,383	3,120	648	855	85	552
Architectural, engineering, and related services	5413	24	258	111 e	174	34 e	30	67
Computer systems design and related services	5415	11	269 e	1,062	113 e	649	8	343
Scientific R&D services	5417	8 e	786	1,808	273	99	38	103
Other professional, scientific, and technical services	other 54	53	70 e	139 e	87 e	73 e	9 e	39 e
Health care services	621–23	3 e	13 e	16 e	D	D	7 e	12 e
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	2 e	12 e	29 e	20 e	12 e	3 e	14 e

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri
Company size (employees)								
All companies	-	265	3,665	19,488	15,736	6,636	279	2,736
5–24	-	34 e	288 e	516 e	313 e	232 e	37 e	157 e
25–49	-	18 e	263 e	574	218 e	136 e	15 e	81 e
50–99	-	16 e	289	757	245 e	158 e	24 e	82 e
100–249	-	34	331	1,139	310	254	22 e	152 i
250–499	-	7	145	613	258 i	192	17	42 i
500–999	-	7 e	432	1,652	572	346	20	76
1,000–4,999	-	122	826 i	3,253	1,267	713	62	318
5,000–9,999	-	2 i	279	614	965	735	25	467
10,000–24,999	-	*	342	2,174	987	968	8	409
25,000 or more	-	26	470	8,196	10,600	2,901	49	951

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York
All industries	21–23, 31–33, 42, 44–81	134	489	567	1,814 i	17,892	568	10,916
Manufacturing industries	31–33	39 i	205	384	1,394 i	13,700	323	6,781
Food	311	* e	62	1 i	2	250	2 i	148
Beverage and tobacco products	312	* e	D	* e	* e	D	* e	1
Textiles, apparel, and leather	313–16	* i	* i	* i	23	D	* i	26 i
Wood products	321	* e	D	* e	* e	1	D	* i
Paper, printing, and support activities	322, 323	* i	2 i	* e	3 i	23	* e	20
Petroleum and coal products	324	* e	* e	* i	* e	235	1 e	10
Chemicals	325	4 e	57	32 e	61	11,295	12	3,284
Basic chemicals	3251	D	5	* e	D	231	D	153
Resin, synthetic rubber, fibers, and filament	3252	0	D	* e	D	25	0	6
Pharmaceuticals and medicines	3254	3 e	45 e	31 e	54	10,576	D	2,519
Other chemicals	other 325	D	D	1 i	4 i	463	* e	605
Plastics and rubber products	326	1 i	3 e	2 e	3 e	56	1 e	29
Nonmetallic mineral products	327	* e	1 e	1 e	D	20	1 e	D
Primary metals	331	1	D	8	D	D	D	10
Fabricated metal products	332	* e	7 i	9 i	13 i	27	1 e	61 i
Machinery	333	D	18	4 i	71	97	1 e	447
Computer and electronic products	334	4	16	64	1,166 i	1,130 i	189	856 i
Computers and peripheral equipment	3341	* e	* e	D	D	D	*	45 i
Communications equipment	3342	* e	1 e	20	46	101 i	D	94
Semiconductor and other electronic components	3344	* e	6	D	49	163	14	174 i
Navigational, measuring, electromedical, and control instruments	3345	3	8	13 i	D	718 i	173	510 i
Other computer and electronic products	other 334	0	* e	* e	* i	D	D	33
Electrical equipment, appliances, and components	335	D	3 e	5	13	64	21	177
Transportation equipment	336	1 e	20	18	5	160	87	812
Motor vehicles, trailers, and parts	3361–63	1 e	11	1 e	3	21	3	316
Aerospace products and parts	3364	* e	* e	D	D	124	D	449
Other transportation equipment	other 336	* e	9	D	D	15 i	D	47
Furniture and related products	337	* e	2 i	* e	* e	6	* e	D
Miscellaneous manufacturing	339	5	9	238	22	280	6 e	502 i
Medical equipment and supplies	3391	D	8	3 e	18 e	268	3 e	418 i
Other miscellaneous manufacturing	other 339	D	1 i	235	4	13 e	3 i	84

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York
Nonmanufacturing industries	21–23, 42, 44–81	95	284	183 e	420	4,192	245	4,135
Mining, extraction, and support activities	21	2 e	* e	3 e	* e	7	4 e	D
Utilities	22	* e	* e	* e	* e	D	* e	29
Construction	23	* e	1 e	2 e	1 e	37	1 e	27
Wholesale trade	42	1 e	7 e	9	5 e	93	3 e	81 e
Retail trade	44, 45	3 e	6 e	10 e	7 e	36 e	6 e	86 e
Transportation and warehousing	48, 49	* e	D	* e	* e	D	* e	D
Information	51	28	80	33	222	1,519 i	24	1,158
Publishing	511	D	D	18	216	317	22	943
Newspaper, periodical, book, and directory	5111	* e	* e	* e	* e	61	D	707
Software	5112	D	D	18	216	257	D	235
Telecommunications	517	1 e	2 e	3 e	* e	D	1 e	19
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	1 e	1 e	1 e	* e	D	* e	13
Satellite telecommunications	5174	0	0	0	0	0	0	D
Other telecommunications	other 517	* e	1 e	2 e	* e	21	* e	D
Internet service providers, Web search portals, and data-processing services	518	10	D	2	6 i	D	1 e	170
Internet service providers and Web search portals	5181	D	* e	1 i	*	1 e	* e	D
Data-processing, hosting, and related services	5182	D	D	1	6 i	D	1 e	D
Other information	other 51	D	* e	10 i	* e	2 e	* e	27 e
Finance, insurance, and real estate	52, 53	* e	D	* e	* i	120	* e	358
Professional, scientific, and technical services	54	58 i	130 i	106 e	179	2,208 i	201	2,284
Architectural, engineering, and related services	5413	8 e	8 e	27 e	8 e	76 e	60	110 e
Computer systems design and related services	5415	6 i	21	16 e	62	666 i	20	1,472
Scientific R&D services	5417	35 i	84 i	46	100	1,357 i	112	335
Other professional, scientific, and technical services	other 54	9 e	17 e	17 e	9 e	108 e	8 e	368 e
Health care services	621–23	1 e	4 e	5 e	2 e	42 e	4 e	49 e
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	1 e	3 e	15 e	4 e	82	2 e	61 e

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York
Company size (employees)								
All companies	-	134	489	567	1,814 i	17,892	568	10,916
5–24	-	23 e	44 e	78 e	82 e	535 e	D	702 e
25–49	-	13 e	31 e	53 e	D	454 e	28 e	421 e
50–99	-	12 e	26 e	40 e	71	525	27 e	487 e
100–249	-	30 i	30	54	169	535	48	459
250–499	-	D	16	9	51 i	350	15	410
500–999	-	38	12	61	107	582	102	799
1,000–4,999	-	4	163	214	143	1,796 i	31	1,507 i
5,000–9,999	-	1	7	18	26	2,144	36	763
10,000–24,999	-	1 i	60 i	11 i	105	6,401	35	1,999
25,000 or more	-	D	100	29	D	4,569	D	3,369

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island
All industries	21–23, 31–33, 42, 44–81	6,829	126	7,265	527	3,629 i	10,387	411
Manufacturing industries	31–33	3,858	D	5,912	304	2,896 i	8,318	D
Food	311	6 i	2 i	104	7	10 i	71	* e
Beverage and tobacco products	312	D	* e	* e	* e	* e	* e	* e
Textiles, apparel, and leather	313–16	115 i	* i	10 i	* i	D	15 i	4 i
Wood products	321	2	* e	1	D	D	D	* e
Paper, printing, and support activities	322, 323	38	*	632 i	5	6	32	1 i
Petroleum and coal products	324	1 e	1 e	11	D	* e	27	0
Chemicals	325	1,816	3	1,009	46	76 e	5,714	12 i
Basic chemicals	3251	160	D	298	D	D	301	1
Resin, synthetic rubber, fibers, and filament	3252	19	0	21	* e	D	18	* i
Pharmaceuticals and medicines	3254	1,538	D	523	14 e	56 e	5,128	4 e
Other chemicals	other 325	99	D	167	D	11 i	267	6 i
Plastics and rubber products	326	72	2 i	371	4	6 e	128	6
Nonmetallic mineral products	327	8	* e	148	1 e	2 e	40	D
Primary metals	331	10	* e	28	2	68	230	1
Fabricated metal products	332	18 e	1 e	210	14	22	64	8
Machinery	333	169	D	303	39	151	227	8 i
Computer and electronic products	334	1,071 i	3 e	370	30	2,132 i	762	D
Computers and peripheral equipment	3341	D	0	22 i	6	13	93	D
Communications equipment	3342	617 i	D	9 e	6	39	74	1 e
Semiconductor and other electronic components	3344	323	2 e	43	2 e	1,874 i	104 i	42 i
Navigational, measuring, electromedical, and control instruments	3345	D	* e	296	16	188	488	17
Other computer and electronic products	other 334	1 i	D	* e	* e	19	3	0
Electrical equipment, appliances, and components	335	66	* e	183	6 i	16	137	10
Transportation equipment	336	D	13	2,367	61	115	552	12 i
Motor vehicles, trailers, and parts	3361–63	190	D	1,236	12	79	85	10 i
Aerospace products and parts	3364	D	D	1,120	35	33	446	D
Other transportation equipment	other 336	22	* e	11	15 i	3 e	21	D
Furniture and related products	337	30	* e	29	1 i	3 i	D	* e
Miscellaneous manufacturing	339	82	2 e	136	13	39	267	131
Medical equipment and supplies	3391	77	1 e	117	10	27	242	23
Other miscellaneous manufacturing	other 339	5 e	* e	19 i	3	12	25	108

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island
Nonmanufacturing industries	21–23, 42, 44–81	2,971	D	1,353	223	733	2,069	D
Mining, extraction, and support activities	21	D	1 e	2 e	57	D	15	* e
Utilities	22	D	D	D	* e	D	D	D
Construction	23	4 e	1 i	39	1 e	5 i	D	* e
Wholesale trade	42	30 e	5	46 e	11 e	55	77	8
Retail trade	44, 45	35 e	2 e	159	10 e	24 e	86	3 e
Transportation and warehousing	48, 49	D	* e	D	*	D	11	* e
Information	51	479	3 e	196	28	324	520	6
Publishing	511	412	1 e	133	3 e	260	254	3
Newspaper, periodical, book, and directory	5111	* e	* e	D	* e	1 i	25	* e
Software	5112	411	1 e	D	3 e	260	229	3
Telecommunications	517	8 e	1 e	8	4 e	2 e	152	1 e
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	3 e	1 e	2 e	2 e	1 e	D	0
Satellite telecommunications	5174	0	0	0	0	0	0	0
Other telecommunications	other 517	4 e	* e	6	2 e	1 e	D	1 e
Internet service providers, Web search portals, and data-processing services	518	57	1 i	50	20	44	94	2 i
Internet service providers and Web search portals	5181	1	D	1 i	* e	D	11	* e
Data-processing, hosting, and related services	5182	56	D	49	20	D	83	2 i
Other information	other 51	2 e	* e	5 e	1 e	17	20	* e
Finance, insurance, and real estate	52, 53	D	* e	14	14	4 i	175	D
Professional, scientific, and technical services	54	2,189	17 e	749	89 e	274	1,088	62
Architectural, engineering, and related services	5413	63 e	3 e	133	23 e	70	123 e	5 e
Computer systems design and related services	5415	963	6	186	14 e	52	413	23
Scientific R&D services	5417	1,112 i	6 i	354	31	124	413	26
Other professional, scientific, and technical services	other 54	51 e	2 e	76 e	21 e	29 e	138 e	8 e
Health care services	621–23	D	1 e	27 e	8 e	9 e	36 e	3 e
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	63	1 e	103	5 e	6 e	27 e	31

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island
Company size (employees)								
All companies	-	6,829	126	7,265	527	3,629 i	10,387	411
5–24	-	278 e	13 e	331 e	75 e	123 e	437 e	36 e
25–49	-	189 e	5 e	206 e	31 e	D	307 e	24
50–99	-	249	10 i	235 e	41 e	143	351 e	24 i
100–249	-	361	8	314	30 e	180	384	13 e
250–499	-	121	D	149 i	21 i	119	339	34
500–999	-	405	5	340	12 e	156 i	269	14
1,000–4,999	-	1,024	16	1,450	76	607	1,496	202
5,000–9,999	-	1,199 i	D	450	31	63	620	8
10,000–24,999	-	1,585	34	958	124	339	2,917	2
25,000 or more	-	1,417	23	2,832	87	D	3,267	54 i

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia
All industries	21–23, 31–33, 42, 44–81	1,426	132	1,638	13,889	1,764	413	4,840
Manufacturing industries	31–33	1,121	77	1,146	8,511	1,006	168	1,575
Food	311	1 e	3	20	100	6	2	D
Beverage and tobacco products	312	* e	* e	D	D	* e	* e	D
Textiles, apparel, and leather	313–16	23	* i	5 i	12	4	D	10
Wood products	321	D	* e	D	D	* i	* i	1 i
Paper, printing, and support activities	322, 323	39	* i	17	50	2 i	2 i	39
Petroleum and coal products	324	* e	0	2 e	869	1 e	* e	D
Chemicals	325	102	21 i	451	778	215 e	17	213
Basic chemicals	3251	24 i	D	313	142	1 i	* e	123
Resin, synthetic rubber, fibers, and filament	3252	20	* e	10 i	208	* e	* e	3
Pharmaceuticals and medicines	3254	47 e	5 e	114	316	191	15	71
Other chemicals	other 325	11	D	15	112	24	2 i	15
Plastics and rubber products	326	392	1 i	15	43	4 e	8	27 i
Nonmetallic mineral products	327	3 e	* e	3 e	12 e	5 i	* e	3 e
Primary metals	331	20	* e	49	46 i	2	* e	5
Fabricated metal products	332	30	2 i	22	121	14	1 i	84 i
Machinery	333	52	4	D	582	D	19	36
Computer and electronic products	334	124	11	106	4,479	162	16	504
Computers and peripheral equipment	3341	D	D	5	481 i	30	D	9
Communications equipment	3342	5 i	5	10	470 i	19	D	163 i
Semiconductor and other electronic components	3344	83	D	9	3,136	32	4	95
Navigational, measuring, electromedical, and control instruments	3345	D	3 e	81	D	67	12	238
Other computer and electronic products	other 334	* e	0	* e	D	14	* e	* e
Electrical equipment, appliances, and components	335	39	2 e	86	102 i	6 i	2 i	11
Transportation equipment	336	D	11 i	D	767	D	84	340
Motor vehicles, trailers, and parts	3361–63	71	8 i	68	61	D	D	26
Aerospace products and parts	3364	D	D	D	669	D	D	230
Other transportation equipment	other 336	D	D	9	37	3	D	83
Furniture and related products	337	* e	* e	10 i	3 e	3	D	4 i
Miscellaneous manufacturing	339	11 e	20	92 i	541	81	11	36
Medical equipment and supplies	3391	7 e	1 e	78 i	523	63	1 e	19 e
Other miscellaneous manufacturing	other 339	4 i	20	14	18 e	17	10	17

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia
Nonmanufacturing industries	21–23, 42, 44–81	305	56	492	5,378	758	246	3,265
Mining, extraction, and support activities	21	* e	* e	* e	781	9 i	D	D
Utilities	22	D	* i	* e	D	* e	D	* e
Construction	23	D	* e	31	19 e	D	* e	24
Wholesale trade	42	17	1 e	28 i	103	13	19	47 i
Retail trade	44, 45	14 e	12 i	22 e	77 e	33 i	6 i	39 e
Transportation and warehousing	48, 49	* e	* e	28	D	D	* e	D
Information	51	47 i	3 e	66	1,026	374	6	613
Publishing	511	37 i	1	5 e	620	327	5 i	250
Newspaper, periodical, book, and directory	5111	* e	* e	* e	6 i	* e	* e	2 i
Software	5112	36 i	1	5 e	614	326	5 i	248
Telecommunications	517	4 e	2 e	2 e	146 i	4 i	* e	269 i
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	3 e	1 e	1 e	139 i	3 i	* e	D
Satellite telecommunications	5174	0	0	0	0	0	0	D
Other telecommunications	other 517	1 e	1 i	1 e	7 e	* e	* e	D
Internet service providers, Web search portals, and data-processing services	518	6	* e	46	244	27	*	91
Internet service providers and Web search portals	5181	* e	* e	*	14	1 i	* e	3
Data-processing, hosting, and related services	5182	6	* e	46	230	26	*	88
Other information	other 51	1 e	* e	13 i	17 i	17	* e	3 e
Finance, insurance, and real estate	52, 53	D	* e	1	77	1 i	* e	85 i
Professional, scientific, and technical services	54	182	34	283	3,101	214	209	2,386
Architectural, engineering, and related services	5413	28 e	6 i	51 e	440	47	7	400
Computer systems design and related services	5415	88	7 i	83 i	1,854	59	D	419 e
Scientific R&D services	5417	45	19	112	593	90	7 e	1,460
Other professional, scientific, and technical services	other 54	21 e	2 e	37 e	215 e	18 e	D	107 e
Health care services	621–23	12 e	1 e	18 e	55 e	D	1 e	20 e
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	9 e	3 i	13 e	120	5 e	3 i	38

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia
Company size (employees)								
All companies	-	1,426	132	1,638	13,889	1,764	413	4,840
5–24	-	96 e	16 e	136 e	726 e	121 e	33	395 e
25–49	-	45 e	11 e	64 e	440 e	121 e	16	259 e
50–99	-	49 e	7 e	99 e	428 e	124	14 i	237 e
100–249	-	52 i	21 i	54 e	544	146	D	524 i
250–499	-	30 i	9 i	68	439	53	12 i	159 i
500–999	-	185	15 i	90	446	158	20	346
1,000–4,999	-	135	34	372	1,406	430	22	600
5,000–9,999	-	119	D	126	2,511 i	83	*	207
10,000–24,999	-	406	D	381	3,040	482	D	555
25,000 or more	-	309	17	250	3,907	45	222	1,559

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Washington	West Virginia	Wisconsin	Wyoming	Undistributed[b]
All industries	21–23, 31–33, 42, 44–81	12,687	233	3,411	37 e	3,347 i
Manufacturing industries	31–33	4,646	D	2,695	17	1,078 i
Food	311	20	* e	79	* e	4 i
Beverage and tobacco products	312	* e	* e	D	* e	6 i
Textiles, apparel, and leather	313–16	7 i	* i	7 i	* i	45
Wood products	321	4 i	* e	11 i	* e	0
Paper, printing, and support activities	322, 323	45	* e	330	* e	11
Petroleum and coal products	324	2 e	* e	2 i	6	3 i
Chemicals	325	657 i	D	348	6	118 i
Basic chemicals	3251	6	D	21	D	13 i
Resin, synthetic rubber, fibers, and filament	3252	* e	D	7 i	0	0
Pharmaceuticals and medicines	3254	647 i	57 i	112	2 e	105 i
Other chemicals	other 325	3	D	208	D	0
Plastics and rubber products	326	10 i	7	72	* i	7 i
Nonmetallic mineral products	327	7 i	3	D	* e	6 i
Primary metals	331	12	2	18	* e	0
Fabricated metal products	332	52	2 e	76	* e	45 i
Machinery	333	D	2 e	278	2 e	57 i
Computer and electronic products	334	665	3 e	254	1 i	551
Computers and peripheral equipment	3341	117	D	54	D	34 i
Communications equipment	3342	D	0	12 e	0	178 i
Semiconductor and other electronic components	3344	71	D	46	* e	276
Navigational, measuring, electromedical, and control instruments	3345	440	3 e	142	D	40 i
Other computer and electronic products	other 334	D	* e	* e	* e	23 i
Electrical equipment, appliances, and components	335	9 i	2 i	200	* e	37 i
Transportation equipment	336	D	22	828	1 e	131 i
Motor vehicles, trailers, and parts	3361–63	47	D	D	1 e	121 i
Aerospace products and parts	3364	D	D	D	* e	6
Other transportation equipment	other 336	31	* e	D	* e	4 i
Furniture and related products	337	13	* e	25	* e	4
Miscellaneous manufacturing	339	69	6	71	* e	53 i
Medical equipment and supplies	3391	29 e	5	51	D	51 i
Other miscellaneous manufacturing	other 339	40	* e	20	D	3 i

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Washington	West Virginia	Wisconsin	Wyoming	Undistributed[b]
Nonmanufacturing industries	21–23, 42, 44–81	8,041	D	716	20 e	2,269 i
Mining, extraction, and support activities	21	1 e	7 e	3 i	5 e	12 i
Utilities	22	D	D	5	D	4
Construction	23	4 e	* e	4 e	* e	0
Wholesale trade	42	68	2 e	17 e	1 e	67 i
Retail trade	44, 45	27 e	5 e	20 e	2 e	0
Transportation and warehousing	48, 49	D	* e	D	* e	5 i
Information	51	6,674	3 e	252	D	771
Publishing	511	D	* e	199	1 e	194 i
Newspaper, periodical, book, and directory	5111	* e	* e	* e	* e	0
Software	5112	D	0	199	1 e	194 i
Telecommunications	517	D	1 e	17	* e	533
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	D	1	11	* e	484
Satellite telecommunications	5174	0	0	0	0	0
Other telecommunications	other 517	D	* e	6	* e	48 i
Internet service providers, Web search portals, and data-processing services	518	D	1 e	34	* e	24 i
Internet service providers and Web search portals	5181	D	*	*	* e	2 i
Data-processing, hosting, and related services	5182	50	1 e	34	* e	22 i
Other information	other 51	17	* e	1 e	D	20 i
Finance, insurance, and real estate	52, 53	* e	* e	D	D	20 i
Professional, scientific, and technical services	54	1,231	45	183 e	8 e	775 i
Architectural, engineering, and related services	5413	89 e	8 e	33 e	3 e	64 i
Computer systems design and related services	5415	330	14 i	53 e	1 e	142 i
Scientific R&D services	5417	738	18	60	2 e	356 i
Other professional, scientific, and technical services	other 54	74 e	5 e	37 e	2 e	212
Health care services	621–23	17 e	3 e	12 e	1 e	3 i
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	19 e	4 e	11 e	1 e	611 i

TABLE 61. Funds for industrial R&D performed in the United States, by industry and company size, by state: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Washington	West Virginia	Wisconsin	Wyoming	Undistributed[b]
Company size (employees)						
All companies	-	12,687	233	3,411	37 e	3,347 i
5–24	-	257 e	25 e	163 e	13 e	66 i
25–49	-	180 e	14 e	104 e	5 e	146 i
50–99	-	314	18 e	116 e	6 e	226 i
100–249	-	499	19 i	169	3 e	279 i
250–499	-	315	D	109 i	1	411 i
500–999	-	562	6	220	1 e	151 i
1,000–4,999	-	638	58 i	774	4	393 i
5,000–9,999	-	203	D	428	* e	50 i
10,000–24,999	-	391 i	27	707	* i	302
25,000 or more	-	9,328	61	621	5	1,324

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; e = estimated, more than 50% of cell value is imputed due to raking of state data; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

[b] Includes data reported on Form RD-1 that were not allocated to a specific state. Data reported on the Form RD-1A were allocated to the state in the address on the company's survey form which is usually the company's headquarters.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 62. Domestic employment of companies performing industrial R&D in the United States, by industry, by company size: 2007
(Thousands)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
All industries	21–23, 31–33, 42, 44–81	16,737	250	243	415	674	633	888	2,322	1,515	2,459	7,339
Manufacturing industries	31–33	9,598	73	123	213	489	461	655	1,804	984	1,717	3,079
Food	311	985	2	6	D	29	31	41	154	81	211	D
Beverage and tobacco products	312	86	*	*	*	1	1	0	D	22 i	D	0
Textiles, apparel, and leather	313–16	197	1	1	D	31	9	11	53	D	38	D
Wood products	321	104	0	2	2	5	4	D	D	30	D	0
Paper, printing, and support activities	322, 323	418	3	6	5	13	44	13	46	45	59	183
Petroleum and coal products	324	154	*	4	1	2	1	D	D	0	D	D
Chemicals	325	1,101	11	18	22	64	36	51	253	119	292	235
Basic chemicals	3251	191	1	D	3	9	4	11	72	D	46	D
Resin, synthetic rubber, fibers, and filament	3252	63	1	1	2	3	3	D	22	0	0	D
Pharmaceuticals and medicines	3254	513	5	D	5	14	13	D	89	D	174	D
Other chemicals	other 325	333	5	D	12	38	15	13	69	72	72	D
Plastics and rubber products	326	470	2	6	D	53	30	108	105	D	D	D
Nonmetallic mineral products	327	238	1	2	5	7	44	6	70	19	84	0
Primary metals	331	287	*	*	D	25	8	11	53	29	113	D
Fabricated metal products	332	387	6	10	15	65	37	29	108	79	37	0
Machinery	333	822	10	20	41	56	47	57	162	107	153	170
Computer and electronic products	334	1,397	15	19	34	49	43	76	238	117	245	560
Computers and peripheral equipment	3341	156	1	1	2	4	D	10	33	26	D	D
Communications equipment	3342	146	2	3	5	11	D	16	40	0	D	D
Semiconductor and other electronic components	3344	393	3	5	8	14	D	27	78	45	D	D
Navigational, measuring, electromedical, and control instruments	3345	652	10	8	18	19	D	20	75	46	105	D
Other computer and electronic products	other 334	51	1	1	1	2	D	3	13	0	D	0
Electrical equipment, appliances, and components	335	279	4	5	7	16	21	24	81	30	91	0
Transportation equipment	336	2,015	4	6	9	30	68	118	241	141	161	1,236
Motor vehicles, trailers, and parts	3361–63	1,070	1	D	7	22	D	107	175	D	D	D
Aerospace products and parts	3364	659	3	1	1	2	6	4	37	25	D	D
Other transportation equipment	other 336	286	1	D	1	6	D	8	29	D	D	D
Furniture and related products	337	229	1	3	D	10	8	12	40	45	52	D
Miscellaneous manufacturing	339	430	11	15	D	32	28	92	134	34	39	D
Medical equipment and supplies	3391	305	4	9	D	18	16	77	86	D	39	D
Other miscellaneous manufacturing	other 339	125	7	6	D	14	12	15	49	D	0	0

TABLE 62. Domestic employment of companies performing industrial R&D in the United States, by industry, by company size: 2007
(Thousands)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Nonmanufacturing industries	21–23, 42, 44–81	7,139	177	120	201	185	172	233	519	530	742	4,260
Mining, extraction, and support activities	21	150	1	3	1	2	1	4	D	44	D	D
Utilities	22	250	D	D	D	D	D	3	26	88	D	D
Construction	23	138	2	D	D	D	3	6	24	31	40	0
Wholesale trade	42	234	25	18	29	D	34	18	40	0	D	0
Retail trade	44, 45	1,098	12	12	16	1	2	18	39	62	108	829
Transportation and warehousing	48, 49	721	D	0	*	*	D	3	18	D	39	644
Information	51	1,568	D	14	23	D	24	31	112	D	D	D
Publishing	511	402	9	8	14	16	15	21	83	58	70	109
Newspaper, periodical, book, and directory	5111	129	1	1	1	1	2	2	10	22	D	D
Software	5112	273	8	7	13	15	13	19	73	35	D	D
Telecommunications	517	832	2	*	2	3	D	2	8 i	D	D	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	638	1	*	1	2	D	D	D	D	D	D
Satellite telecommunications	5174	*	D	0	D	0	0	0	0	0	0	0
Other telecommunications	other 517	193	D	*	D	1	D	D	D	0	D	D
Internet service providers, Web search portals, and data-processing services	518	153	D	4	5	6	D	5	10	22	D	D
Internet service providers and Web search portals	5181	28	D	1	1	1	1	D	D	D	D	0
Data-processing, hosting, and related services	5182	125	D	3	4	5	D	D	D	D	0	D
Other information	other 51	182	D	1	3	D	D	3	12	0	D	D
Finance, insurance, and real estate	52, 53	1,067	D	*	*	D	3	9	47	D	D	D
Professional, scientific, and technical services	54	1,192	84	56	112	75	49	126	121	92	114	363
Architectural, engineering, and related services	5413	214	D	13	14	14	10	7	34	D	D	D
Computer systems design and related services	5415	523	37	20	26	36	25	19	53	24	49	235
Scientific R&D services	5417	188	D	12	18	22	9	12	19	17	0	D

TABLE 62. Domestic employment of companies performing industrial R&D in the United States, by industry, by company size: 2007
(Thousands)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Other professional, scientific, and technical services	other 54	268	D	11	55	4	5	87	15	D	D	D
Health care services	621–23	123	23	9	1	D	7	6	D	25	D	D
Other nonmanufacturing[a]	55–56, 61, 624, 71–72, 81	597	10	8	18	5	47	10	61	48	D	D

* = amount < 500; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Detail does not add to total due to rounding or suppression. The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. Data recorded in March represent the entire year. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 63. Total employment in companies performing industrial R&D in the United States, ranked by total R&D program size: 1997–2007
(Percent distribution)

Companies ranked by R&D program size	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
All companies	100	100	100	100	100	100	100	100	100	100	100
First 4 (1–4)	5	5	4 r	2	2	3	2 r	3	3	3	3
Next 4 (5–8)	2	3	2	2	2	2	3	2	2	2	2
Next 12 (9–20)	3	4	5 r	6	6	5	5 r	6	5	5	4
Next 20 (21–40)	4	4	3	4	4	5	4	3	3	3	3
Next 60 (41–100)	6	7	5	8	4	8	9	9	7	8	9
Next 100 (101–200)	6	8	7 r	7	8	10	9	9	9	10	8
Next 100 (201–300)	NA	NA	NA	NA	NA	NA	NA	6	6	8	6
Next 100 (301–400)	NA	NA	NA	NA	NA	NA	NA	5	5	4	4
Next 100 (401–500)	NA	NA	NA	NA	NA	NA	NA	3	3	3	3
All others[a]	74 r	69	74 r	71	74	67	68	54	57	54	58

NA = not available; r = data significantly revised, replaces previously published data.

[a] Includes companies in (201–500) size categories prior to 2004.

NOTES: This table shows the percentage of total employment in the top R&D-performing companies. The companies are grouped for analysis. For example, if you would like to know the percentage of total employment accounted for by the top 20 R&D performing companies in 1999, you would add the percentages shown for the categories "first 4," "next 4," and "next 12." The result is 11%. Some percentages for 1997 and 1999 have been revised since originally published. Beginning with 2001, excludes data for federally funded research and development centers. Data recorded in March represent entire year. Prior to 2004 this table focused on the top 400 R&D performers. Data for the 201–300 and 301–400 categories were aggregated and data for the 401–500 category were included in all others category. Beginning in 2004, the focus of the table was changed to the top 500 performers. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 64. R&D funds per employee spent by companies performing industrial R&D in the United States, by company size: 2000–07
(Dollars)

Company size (employees)	2000	2001	2002	2003	2004	2005	2006	2007	% change, 2006–07
All R&D	11,425	12,047	12,560	13,094 r	14,055	14,107	15,196	16,088	5.9
5–24	37,703	30,366	29,559	28,885	26,199	30,035	29,643	43,426	46.5
25–49	27,786	21,040	23,695	21,883	25,034	24,961	29,937	32,493	8.5
50–99	22,381	22,801	22,019	16,317	18,149	21,353	18,789	24,282	29.2
100–249	15,190	20,206	24,721	15,845	17,405	15,767	19,303	19,826	2.7
250–499	12,915	16,736	14,755	17,616	15,362	14,145	12,685	13,051	2.9
500–999	12,550	12,981	14,384	15,998	17,728	16,862	12,288	16,084	30.9
1,000–4,999	9,819	11,465	12,307	13,519	13,540	12,212	15,826	17,698	11.8
5,000–9,999	9,160	9,880	12,025	10,486	13,250	11,695	14,672	14,968	2.0
10,000–24,999	7,693	11,292	10,961	10,350 r	13,915	14,849	16,684	18,682	12.0
25,000 or more	10,942	10,758	11,009	12,691 r	12,548	13,251	13,595	12,924	-4.9
Company and other									
All companies	10,344	10,977	11,498	11,933 r	12,688	12,740	13,705	14,500	5.8
5–24	32,637	26,260	24,083	24,979	23,348	25,652	25,034	36,742	46.8
25–49	26,552	19,911	22,096	18,797	22,438	22,710	26,873	29,961	11.5
50–99	20,797	21,277	20,366	14,429	16,441	19,421	17,331	22,450	29.5
100–249	14,063	18,792	23,589	14,792	15,738	14,315	17,554	17,950	2.3
250–499	11,775	15,660	13,499	16,382	14,359	13,432	11,940	12,171	1.9
500–999	11,866	12,211	13,614	14,829	16,480	15,783	11,480	15,339	33.6
1,000–4,999	9,570	11,204	11,883	13,036	13,329	11,736	15,054	17,144	13.9
5,000–9,999	8,273	8,944	10,971	9,738	11,780	11,296	14,200	13,967	-1.6
10,000–24,999	10,274	10,915	10,453	9,861 r	13,219	14,000	15,884	17,897	12.7
25,000 or more	9,251	9,411	9,653	11,128 r	10,643	11,169	11,423	10,699	-6.3

r = data significantly revised; replaces previously published data.

NOTES: Beginning with 2001, excludes federally funded research and development centers. Amounts were derived by dividing total and company R&D funds spent during a calendar year by employment in March of that year. The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excludes R&D performed outside of the company (e.g., R&D performed by other organizations) and R&D performed outside of the 50 U.S. states and DC (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations). For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 65. R&D funds per full-time equivalent R&D scientist or engineer spent by companies performing industrial R&D in the United States, by industry, by company size: 2007

(Dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
All industries	21–23, 31–33, 42, 44–81	253,858	237,097	223,915	228,348	208,680	202,043	236,322	236,709	215,223	254,732	305,004
Manufacturing industries	31–33	275,951	309,017	267,806	218,798	220,541	201,243	254,638	240,609	214,405 i	272,646 i	335,902
Food	311	237,297	166,217	177,080 i	116,443	195,300	171,528	156,742	181,485	207,723	275,084	312,475 i
Beverage and tobacco products	312	183,398	D	109,040 i	D	D	225,413	0	130,167	191,587	D	0
Textiles, apparel, and leather	313–16	141,959	155,703 i	73,107	173,051	283,343 i	111,811	345,850	73,987 i	D	D	D
Wood products	321	143,382	0	66,068 i	113,611 i	66,693	155,082	386,910	181,187	130,109 i	D	0
Paper, printing, and support activities	322, 323	301,922 i	113,123 i	87,255 i	99,840	125,877 i	201,735 i	135,976 i	162,855	374,270 i	212,478 i	471,414 i
Petroleum and coal products	324	363,282 i	42,758	138,733	127,421	84,968 i	91,410	D	243,988	0	D	449,760 i
Chemicals	325	427,006	751,348	708,405 i	590,198	387,771	302,350	451,519	382,050	322,367 i	448,051	426,068 i
Basic chemicals	3251	253,764	130,845	107,582	115,049	225,786	153,368	297,354	377,269	D	172,261 i	D
Resin, synthetic rubber, fibers, and filament	3252	206,243	127,435 i	522,653	94,076	211,689	170,848	207,424	146,113 i	0	0	D
Pharmaceuticals and medicines	3254	505,181	1,087,842	994,886 i	939,062	546,870	383,755	495,522	573,992	375,876 i	484,188 i	470,270 i
Other chemicals	other 325	197,849	131,066	148,331	156,406	124,571	206,740	161,330	141,350	245,205	287,188	D
Plastics and rubber products	326	172,103	84,368	186,920	85,504	156,367	141,232	179,289	164,600	134,598	D	D
Nonmetallic mineral products	327	190,544 i	18,611	79,623	84,205 i	110,316	120,946 i	225,392 i	246,274	139,198 i	206,138 i	0
Primary metals	331	247,548	106,161 i	185,991	140,623	203,478	224,414	190,423	331,011	135,949 i	175,717	D
Fabricated metal products	332	107,725	192,236 i	64,561	105,128	142,898	123,836	102,880	64,020	256,075	256,674	0
Machinery	333	173,065	87,688 i	116,241	110,691	143,968	186,011	153,306	218,108	229,225	105,608	230,225 i
Computer and electronic products	334	231,541	257,877	218,260	182,675	220,046	195,587	198,185	239,656	244,216 i	206,970 i	252,691
Computers and peripheral equipment	3341	208,564	221,512	172,519	249,701	183,875	206,972	175,256 i	246,356	290,886	D	D
Communications equipment	3342	229,239	247,896	243,556	171,224	290,141	184,296	237,964	212,650 i	0	D	D
Semiconductor and other electronic components	3344	233,918	348,760	200,377	198,574	227,408	224,944	256,492 i	252,095	238,793 i	289,513 i	D
Navigational, measuring, electromedical, and control instruments	3345	238,407 i	243,280	239,854	160,053	168,090	178,195	124,751 i	237,424	218,306 i	164,553	302,472 i
Other computer and electronic products	other 334	262,333	144,269	153,238	187,614	130,524	212,617	241,150	262,527 i	0	D	0
Electrical equipment, appliances, and components	335	186,760	394,012	89,786 i	121,448	190,226	202,787	185,951	200,854	83,728 i	173,827	0
Transportation equipment	336	315,467	390,421	384,414	261,278	275,308	188,236	268,662	194,692	104,156 i	219,214 i	396,668
Motor vehicles, trailers, and parts	3361–63	204,632 i	184,991 i	519,381 i	315,757	297,730	169,304	268,546	172,284	81,325 i	132,467 i	256,850
Aerospace products and parts	3364	455,864	219,926 i	140,319	161,213	328,259 i	D	393,513 i	287,979	279,862 i	D	481,972
Other transportation equipment	other 336	818,764	832,123	105,558	135,890	149,863	238,294	134,153	146,132	D	D	D
Furniture and related products	337	188,515	52,775 i	85,463	73,861	114,805	190,067	109,674 i	148,757	145,767	241,369	D
Miscellaneous manufacturing	339	252,867	334,812	132,112	217,103	226,120	244,564	332,685	241,822	346,829 i	228,026	D
Medical equipment and supplies	3391	292,971	560,592	152,982	252,475	234,958	279,908	392,591	331,337	D	228,026	D
Other miscellaneous manufacturing	other 339	160,628	147,508	96,472	172,092	204,289	160,898	141,195	141,324	D	0	0

TABLE 65. R&D funds per full-time equivalent R&D scientist or engineer spent by companies performing industrial R&D in the United States, by industry, by company size: 2007

(Dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Nonmanufacturing industries	21–23, 42, 44–81	214,495	213,920	202,672	233,320	200,579	203,091	205,523	226,549	216,467	187,470	226,453
Mining, extraction, and support activities	21	317,948	482,001 i	D	D	109,172 i	D	214,825	227,251 i	240,010	D	D
Utilities	22	192,823	D	D	D	D	D	D	202,468	187,604	501,495	D
Construction	23	81,157	56,733 i	D	D	D	D	102,759	210,737	D	D	0
Wholesale trade	42	154,784	155,410	66,809	123,698	171,338	250,794	104,381	287,158	0	D	0
Retail trade	44, 45	249,550	D	278,621	D	487,695	D	D	239,961	D	D	201,984
Transportation and warehousing	48, 49	121,456 i	D	0	D	54,911	D	D	31,487	D	D	135,586 i
Information	51	221,024	186,643	160,273	160,763	196,760	205,182	193,515	224,305	256,645	247,811	216,645
Publishing	511	213,816	180,353	181,287	168,414	185,888	193,795	203,992	230,818	199,547	D	D
Newspaper, periodical, book, and directory	5111	294,841	101,598 i	136,005 i	D	D	34,266	D	111,872 i	D	D	D
Software	5112	210,157	185,327	180,655	166,264	184,136	201,283	206,376	232,864	191,681	D	D
Telecommunications	517	257,635 i	527,321	59,367	80,421 i	403,928	265,737 i	D	D	D	D	292,253 i
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	287,217 i	317,890	35,373	111,340	D	D	D	D	D	D	D
Satellite telecommunications	5174	D	D	0	D	0	0	0	0	0	0	0
Other telecommunications	other 517	196,407 i	719,399	D	54,574 i	D	D	D	D	0	D	D
Internet service providers, Web search portals, and data-processing services	518	231,059	128,016	180,726	126,871	170,396	238,493	149,224 i	177,405	D	D	D
Internet service providers and Web search portals	5181	387,529	54,265 i	123,375	D	229,841	D	D	D	D	D	0
Data-processing, hosting, and related services	5182	158,520	171,675	202,844	99,744	157,566	248,336	184,510 i	D	D	0	D
Other information	other 51	250,362	142,764	101,308	D	151,211	193,861	169,805	250,774 i	0	D	D
Finance, insurance, and real estate	52, 53	102,417	162,000 i	172,286	10,566	22,817 i	232,987	130,751	188,815 i	193,462	37,985	95,422
Professional, scientific, and technical services	54	226,117	216,584	225,283	301,268	213,003	195,569	222,692	243,578	204,620	98,936 i	258,657
Architectural, engineering, and related services	5413	136,412	291,502	159,845 i	116,216	98,492 i	185,480 i	155,008	209,069	138,889	D	D
Computer systems design and related services	5415	192,063	161,517	156,488	138,899	211,675	145,485	162,686	210,744	D	D	D
Scientific R&D services	5417	369,872	304,366	328,978	410,538	413,502	284,086	261,275	442,948	D	0	D

TABLE 65. R&D funds per full-time equivalent R&D scientist or engineer spent by companies performing industrial R&D in the United States, by industry, by company size: 2007

(Dollars)

Industry	NAICS codes	All companies	Company size (employees) 5–24	25–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 +
Other professional, scientific, and technical services	other 54	218,041	160,837	332,327	568,297 i	23,360	203,269	363,101	187,044	D	D	D
Health care services	621–23	215,100	180,543 i	55,057 i	199,735 i	229,017 i	143,140	D	D	D	D	D
Other nonmanufacturing[a]	55–56, 61 624, 71–72, 81	230,471	385,308	111,507 i	20,869 i	306,536	135,056	145,155	123,223	231,053	D	D

D = suppressed to avoid disclosure of confidential data; i = more than 50% of the value is imputed.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: The method used to assign industry classifications has changed; industry-specific estimates for 2004 are not directly comparable with those for previous years. Excludes federally funded research and development centers. Data recorded in January represent employment for the previous year; the number of full-time-equivalent R&D scientists or engineers used to estimate the cost per R&D scientist or engineer is the arithmetic mean of the numbers of R&D scientists and engineers reported for January 2006 and January 2007. This number is then divided into the total R&D expenditures for 2006, and the ratio is attributed to 2006. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 66. R&D funds per full-time equivalent R&D scientist or engineer spent by the top 500 companies performing industrial R&D in the United States, ranked by R&D program size: 1997–2007
(Dollars)

Companies ranked by R&D program size	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	% change, 2006–07
First 4	229,602 i	242,408	289,072 i	283,219 i	229,610 i	270,753	327,999 r	278,489	322,051	303,336	317,088	4.5
Next 4	180,389	193,597	192,657	199,586	215,439	193,858	270,642 r	437,109	365,862	414,345	428,598	3.4
Next 12	238,022 i	239,162	266,117 i	261,858 i	254,460 i	255,263	212,871 r	234,473	274,325	304,334	318,427	4.6
Next 20	213,496	196,276	213,047 i	219,627 i	236,402	225,623	297,109 r	215,341	258,720	324,200	329,941	1.7
Next 60	206,350	208,144	206,956	230,259	223,650	212,780	210,795 r	221,772	245,881	260,590	306,191	17.5
Next 100	155,255	162,965	162,654	176,239	182,360	158,657	153,877 r	179,392	193,403	212,372	250,931	18.2
Next 100	NA	NA	NA	NA	NA	NA	NA	167,928	190,367	222,230	192,002	-13.6
Next 100	NA	NA	NA	NA	NA	NA	NA	174,406	203,205	225,945	248,790	10.1
Next 100	NA	NA	NA	NA	NA	NA	NA	207,597	166,043	176,995	205,455	16.1
Average for top 500 R&D performers	NA	NA	NA	NA	NA	NA	NA	225,846	247,736	272,506	291,675	7.0

i = more than 50% of the value is imputed; NA = not available; r = data significantly revised, replaces previously published data.

NOTES: This table shows R&D funds spent per each full-time equivalent R&D scientist and engineer by the top R&D-performing companies. The companies are grouped for analysis. For example, if you would like to know the average amount spent on R&D by the top 4 R&D-performing companies in 1999, you would look at the category "first 4." Some estimates for 1999 have been revised since originally published. The number of full-time-equivalent R&D scientists and engineers used to estimate the cost per R&D scientist or engineer is the arithmetic mean of the numbers of R&D scientists and engineers reported for January 2006 and January 2007. This number is then divided into the total R&D expenditures for 2006, and the ratio is attributed to 2006. Beginning with 2001, excludes data for federally funded research and development centers. Prior to 2004, this table focused on the top 400 R&D performers. Beginning in 2004, the focus of the table was changed to the top 500 R&D performers. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 67. Full-time equivalent R&D scientists and engineers in companies performing industrial R&D in the United States, by industry and company size, by source of R&D funds: January 2008

(Thousands)

Industry and company size	NAICS codes	All R&D	Federal	Company and other
All industries	21–23, 31–33, 42, 44–81	1,130.5	77.6 i	1,052.9
Manufacturing industries	31–33	717.1	38.0 i	679.2
Food	311	12.3	* i	12.3
Beverage and tobacco products	312	1.2	0.0	1.2
Textiles, apparel, and leather	313–16	6.3	* i	6.3
Wood products	321	D	D	1.5
Paper, printing, and support activities	322, 323	D	D	8.5
Petroleum and coal products	324	D	D	4.7 i
Chemicals	325	139.6	1.1 i	138.5
Basic chemicals	3251	13.8	*	13.4
Resin, synthetic rubber, fibers, and filament	3252	4.9	*	4.8
Pharmaceuticals and medicines	3254	103.0	0.6 i	102.5
Other chemicals	other 325	17.9	*	17.8
Plastics and rubber products	326	12.6	* i	12.6
Nonmetallic mineral products	327	5.8	* i	5.8
Primary metals	331	3.8	*	3.8
Fabricated metal products	332	16.0	* i	15.9
Machinery	333	58.8	0.5 i	58.3
Computer and electronic products	334	276.5	23.2 i	253.3
Computers and peripheral equipment	3341	D	D	35.3
Communications equipment	3342	55.1	1.3 i	53.8 i
Semiconductor and other electronic components	3344	91.8	1.5	90.2
Navigational, measuring, electromedical, and control instruments	3345	90.4	20.2 i	70.2
Other computer and electronic products	other 334	D	D	3.7
Electrical equipment, appliances, and components	335	15.6	* i	15.2
Transportation equipment	336	121.4	12.3	109.1
Motor vehicles, trailers, and parts	3361–63	D	D	71.4
Aerospace products and parts	3364	42.9	10.2	32.7
Other transportation equipment	other 336	D	D	5.1
Furniture and related products	337	3.5	* i	3.5
Miscellaneous manufacturing	339	29.1	* i	28.9
Medical equipment and supplies	3391	20.1	* i	19.9
Other miscellaneous manufacturing	other 339	9.0	* i	9.0
Nonmanufacturing industries	21–23, 42, 44–81	413.4	39.6 i	373.7
Mining, extraction, and support activities	21	D	D	5.0
Utilities	22	0.7	*	0.6
Construction	23	D	D	5.7
Wholesale trade	42	15.1	*	15.1
Retail trade	44, 45	14.7	* i	14.4
Transportation and warehousing	48, 49	D	D	1.5
Information	51	139.1	1.0	138.1
Publishing	511	100.5	*	100.3
Newspaper, periodical, book, and directory	5111	D	D	4.4
Software	5112	D	D	96.0
Telecommunications	517	D	D	15.2 i
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	D	D	9.9 i
Satellite telecommunications	5174	*	0.0	*
Other telecommunications	other 517	5.3	0.0	5.3 i
Internet service providers, Web search portals, and data-processing services	518	D	D	19.8
Internet service providers and Web search portals	5181	7.0	0.0	7.0
Data-processing, hosting, and related services	5182	D	D	12.8

TABLE 67. Full-time equivalent R&D scientists and engineers in companies performing industrial R&D in the United States, by industry and company size, by source of R&D funds: January 2008

(Thousands)

Industry and company size	NAICS codes	All R&D	Federal	Company and other
Other information	other 51	2.8	0.0	2.8
Finance, insurance, and real estate	52, 53	19.3	0.0	19.3
Professional, scientific, and technical services	54	196.1	35.8 i	160.3
Architectural, engineering, and related services	5413	44.7	11.5 i	33.2
Computer systems design and related services	5415	80.3	4.8	75.5
Scientific R&D services	5417	54.8	18.9 i	35.8
Other professional, scientific, and technical services	other 54	16.4	0.6 i	15.8
Health care services	621–23	7.7	* i	7.7
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	8.1	2.0 i	6.1
Company size (employees)				
All companies	-	1,130.5	77.6 i	1,052.9
5–24	-	69.3	7.4 i	61.9
25–49	-	40.5	2.5 i	37.9
50–99	-	48.6	3.5	45.1
100–249	-	66.2	4.5	61.7
250–499	-	46.5	2.9	43.5
500–999	-	64.2	4.3	60.0
1,000–4,999	-	181.7	3.6	178.1
5,000–9,999	-	105.7	6.7	99.0
10,000–24,999	-	187.5	5.7	181.8
25,000 or more	-	320.3	36.5	283.8

* = amount < 50; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. Data for number of full-time equivalent scientists and engineers by funding source are collected only on Form RD-1, the questionnaire sent to larger R&D-performing companies. Consequently, data for smaller R&D-performing companies are not distributed by source of R&D funds. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE 68. Full-time equivalent R&D scientists and engineers per 1,000 employees in companies performing industrial R&D in the United States, by industry and company size: 2007

Industry and company size	NAICS codes	Per 1,000 employees
All industries	21–23, 31–33, 42, 44–81	63
Manufacturing industries	31–33	71
Food	311	12
Beverage and tobacco products	312	14 i
Textiles, apparel, and leather	313–16	29
Wood products	321	D
Paper, printing, and support activities	322, 323	D
Petroleum and coal products	324	D
Chemicals	325	118
Basic chemicals	3251	67
Resin, synthetic rubber, fibers, and filament	3252	75
Pharmaceuticals and medicines	3254	185
Other chemicals	other 325	55
Plastics and rubber products	326	26
Nonmetallic mineral products	327	25 i
Primary metals	331	13
Fabricated metal products	332	41
Machinery	333	69
Computer and electronic products	334	181
Computers and peripheral equipment	3341	D
Communications equipment	3342	348
Semiconductor and other electronic components	3344	203
Navigational, measuring, electromedical, and control instruments	3345	132 i
Other computer and electronic products	other 334	D
Electrical equipment, appliances, and components	335	52
Transportation equipment	336	62
Motor vehicles, trailers, and parts	3361–63	D
Aerospace products and parts	3364	61
Other transportation equipment	other 336	D
Furniture and related products	337	13
Miscellaneous manufacturing	339	59
Medical equipment and supplies	3391	58
Other miscellaneous manufacturing	other 339	61
Nonmanufacturing industries	21–23, 42, 44–81	53
Mining, extraction, and support activities	21	D
Utilities	22	5
Construction	23	D
Wholesale trade	42	63
Retail trade	44, 45	9
Transportation and warehousing	48, 49	D
Information	51	84
Publishing	511	243
Newspaper, periodical, book, and directory	5111	D
Software	5112	D
Telecommunications	517	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	D
Satellite telecommunications	5174	167
Other telecommunications	other 517	20 i
Internet service providers, Web search portals, and data-processing services	518	D
Internet service providers and Web search portals	5181	219
Data-processing, hosting, and related services	5182	D

TABLE 68. Full-time equivalent R&D scientists and engineers per 1,000 employees in companies performing industrial R&D in the United States, by industry and company size: 2007

Industry and company size	NAICS codes	Per 1,000 employees
Other information	other 51	13
Finance, insurance, and real estate	52, 53	18
Professional, scientific, and technical services	54	150
Architectural, engineering, and related services	5413	202
Computer systems design and related services	5415	143
Scientific R&D services	5417	243
Other professional, scientific, and technical services	other 54	58
Health care services	621–23	48
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	13
Company size (employees)		
All companies	-	63
5–24	-	183
25–49	-	145
50–99	-	106
100–249	-	95
250–499	-	65
500–999	-	68
1,000–4,999	-	75
5,000–9,999	-	70
10,000–24,999	-	73
25,000 or more	-	42

D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: The method used to assign industry classifications has changed; industry-specific estimates for 2004 are not directly comparable with those for previous years. Excludes data for federally funded research and development centers. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

Appendix A. Technical Notes

Survey Methodology

Much of the information for this appendix was provided by the Manufacturing and Construction Division of the U.S. Bureau of the Census, which collected and compiled the survey data. Copies of the technical papers cited can be obtained from NSF's Research and Development Statistics Program in the National Center for Science and Engineering Statistics (NCSES). The first part of this appendix focuses on recent changes to the survey methodology and, unless otherwise noted, applies to both the 2006 and 2007 survey years; major historical changes are discussed later in Comparability of Statistics. More detailed historical information is available from individual annual reports (http://www.nsf.gov /statistics/industry/).

Reporting Unit

The reporting unit for the Survey of Industrial Research and Development is initially the company, defined as a business organization of one or more establishments under common ownership or control.[1] Some companies, at their own request, comprise multiple reporting units. These reporting units are maintained for inclusion in tabulations, but then they are compiled into a single company record to produce company counts and relative standard errors.

Frame Creation and Sample Selection

The target population for the survey is all industrial companies with 5 or more employees that perform R&D in the United States. The Business Register (BR), a Bureau of the Census database, containing industry, geographic, employment, and payroll information, was the foundation from which the frames used to select the 2006 and 2007 survey samples were created (see tables table A-1 and table A-8 for population and sample sizes).[2] For companies with more than one establishment, data were summed to the company level and the resulting company record was used to select the sample and process and tabulate the survey data.

After data were summed to the company level, each company then was assigned a single North American Industry Classification System (NAICS) code based on payroll.[3] The method used followed the hierarchical structure of the NAICS. The company was first assigned to the economic sector, defined by a 2-digit NAICS code, or combination thereof, representing manufacturing, mining, trade, etc., that accounted for the highest percentage of its aggregated payroll. Then the company was assigned to a subsector, defined by a 3-digit NAICS code, that accounted for the highest percentage of its payroll within the economic sector. Then the company was assigned a 4-digit NAICS code within the subsector, again based on the highest percentage of its aggregated payroll within the subsector. Finally, the company was assigned a 6-digit NAICS code within the 4-digit NAICS, based on the highest percentage of its aggregated payroll within the 4-digit NAICS. Assignment below the 6-digit level was not done because the 6-digit level was the lowest level needed to guarantee publication-level industry classification. Some originally assigned industry codes were revised later during statistical processing (see “Industry Reclassification,” below).

Frame Partitioning and Defining Sampling Strata

For the 2006 survey, the frame was partitioned into four groups: (1) companies known to conduct R&D in any of the previous 5 survey years or in the most recent Company Organization Survey (except those in group 4, below), (2) companies that reported zero R&D in each of the previous 5 survey years, (3) companies for which information about the extent of R&D activity is uncertain, and (4) single-unit companies that had R&D in excess of $5 million in the 2005 SIRD but were not represented on the 2006 Business Register. There were 14,892 companies in the first group, 84,218 companies in the second group, 1,750,174 companies in the third group, and 84 companies in the fourth group, for a total of 1,849,368 companies. (See exhibit 1.)

EXHIBIT 1. Summary of 2006 Survey of Industrial Research and Development sample design

Frame partition	Subpartition	Description	Companies	Sampling method	Industry strata	Weights	Sample size	Survey form
One	Total	Known positive R&D status (last 5 years)	14,892				11,169	
	Ad hoc certainties	R&D ≥ $3 million	3,526	Take all	48	1	3,526	RD-1
	Other	R&D < $3 million (most recent positive R&D)	11,366	PPS (based on R&D)	48	1–20	7,643	RD-1A
Two	Total	$0 R&D (last 5 years)	84,218				1,403	RD-1A
	Ad hoc certainties	Companies with R&D labs or indication of international R&D or in special lists	566	Take all		1	566	RD-1A
	Other	Remaining companies with known zero R&D	83,652	SRS		100	837	RD-1A
Three	Total	Unknown R&D status	1,750,174				19,428	
	Ad hoc certainties	Top 50 companies by payroll for each state or industry	4,259	Take all	48	1	4,259	RD-1A
	Other	Remaining companies	1,745,915	PPS (based on pay)	48	1–100 manufacturing 1–250 other industries	15,169	RD-1A
Four	Ad hoc certainties	Single-unit companies with 2005 R&D > $5 million not on the Business Register	84	Take all		1	84	RD-1
Total			1,849,368				32,084	

PPS = probability proportional to size

SRS = simple random sampling

For the first, third, and fourth partitioned groups, the sampling strata were defined corresponding to the 4-digit industries and groups of industries for which statistics were developed and published. There were 27 manufacturing and 21 nonmanufacturing strata in each of these partitioned groups. (Note: one manufacturing and one nonmanufacturing were "unclassifieds.") The second partitioned group was divided into two strata: one certainty and the other noncertainty.

For the 2007 survey, the frame was partitioned into three groups: (1) companies known to conduct R&D in any of the previous 5 survey years or in the most recent Company Organization Survey, (2) companies that reported zero R&D in each of the previous 5 survey years, and (3) companies for which information about the extent of R&D activity was uncertain. There were 14,335 companies in the first group, 79,867 companies in the second group, and 1,806,522 companies in the third group, for a total of 1,900,724 companies. (See exhibit 2.)

For the first and third partitioned groups, the sampling strata were defined corresponding to the 4-digit industries and groups of industries for which statistics were developed and published. There were 27 manufacturing and 21 nonmanufacturing strata in each of these partitioned groups. (Note: one manufacturing and one nonmanufacturing were "unclassifieds.") The second partitioned group was divided into two strata: one certainty and the other noncertainty.

Identifying Ad Hoc Certainty Companies

Ad hoc certainty companies were companies selected with certainty independent of relative standard error (RSE) constraints. There were different criteria defining an ad hoc certainty company depending on the partitioned group the company was in. For both survey years, companies in the first partitioned group that also had previously reported or had imputed R&D of $3 million or more were ad hoc certainties. Companies in the second partition that had any establishments in NAICS 5417 were ad hoc certainties. Companies in the third partition, that were also in the top 50 of their industry stratum by payroll or in the top 50 of their state by payroll were ad hoc certainties. For 2006, companies in the fourth partition were also ad hoc certainties.

Probability Proportionate to Size

For both survey years, the distribution of companies by R&D in the first partitioned group or by payroll in the third partitioned group was positively skewed as in earlier frames. Because of this skewness, a fixed-sample-size, probability-proportional-to-size (PPS) method remained the appropriate selection technique for these partitioned groups. That is, with the PPS method, large companies had greater probabilities of selection than did small companies. The fixed-sample-size methodology has been replicated for every survey year since the 1998 survey.

The largest companies in the first partitioned group received a selection probability of one. Companies in the second partitioned group that were on special industry group or special study lists also received a probability of one, although the majority were subjected to simple random sampling (SRS) (below). Companies in the third partitioned group received a measure of size equal to their company payroll. RSE constraints by industry and by state were imposed separately in the first and third partitioned groups. Each company in these two partitions was classified into one industry and assigned a probability of selection based on its total measure of size, either total R&D expenditures or total company payroll, respectively.

Simple Random Sampling

For both survey years, the second partitioned group was split into two strata, certainty and noncertainty. The certainty stratum is described above. The noncertainty stratum was sampled using SRS. Companies in the noncertainty stratum received a probability of selection of roughly 0.01.

EXHIBIT 2. Summary of 2007 Survey of Industrial Research and Development sample design

Frame partition	Subpartition	Description	Companies	Sampling method	Industry strata	Weights	Sample size	Survey form
One	Total	Known positive R&D status (last 5 years)	14,335				10,751	
	Ad hoc certainties	R&D ≥ $3 million	3,471	Take all	48	1	3,471	RD-1
	Other	R&D < $3 million (most recent positive R&D)	10,864	PPS (based on R&D)	48	1–20	7,280	RD-1A
Two	Total	$0 R&D (last 5 years)	79,867				1,339	RD-1A
	Ad hoc certainties	Companies with R&D labs or indication of international R&D or in special lists	545	Take all		1	545	RD-1A
	Other	Remaining companies with known zero R&D	79,322	SRS		100	794	RD-1A
Three	Total	Unknown R&D status	1,806,522				19,910	
	Ad hoc certainties	Top 50 companies by payroll for each state or industry	4,203	Take all	48	1	4,203	RD-1A
	Other	Remaining companies	1,802,319	PPS (based on pay)	48	1–100 manufacturing 1–250 other industries	15,707	RD-1A
Total			1,900,724				32,000	

PPS = probability proportional to size

SRS = simple random sampling

Sample Stratification and Relative Standard Error Constraints

The particular sample selected for each survey year was one of a large number of samples of the same type and size that by chance might have been selected. Statistics resulting from the different samples would differ somewhat from each other. These differences are represented by estimates of sampling error or variance. The smaller the sampling error is, the less variable the statistic. The accuracy of the estimate, that is, how close it is to the true value, is also a function of nonsampling error.

Controlling Sampling Error. Historically, it has been difficult to achieve control over the sampling error of survey estimates. Efforts were confined to controlling the amount of error due to sample size variation, but this was only one component of the overall sampling error. Another component depended on the correlation between the data from the sampling frame used to assign probabilities (namely R&D values either imputed or reported in the previous survey) and the actual current year reported data.

The nature of R&D is such that these correlations could not be predicted with any reliability for some groups. Consequently, precise controls on overall sampling error were difficult to achieve (U.S. Bureau of the Census 1994d).

Sampling Strata and Standard Error Estimates. The constraints used to control the sample size in each stratum were based on a universe total that, in large part, was improvised. That is, as previously noted, for both survey years a prior R&D value for the first partitioned group and payroll for the third partitioned group were assigned to companies in their respective groups. Assignment of sampling probability was, nevertheless, based on this distribution. The presumption was that actual variation in the sample R&D would be less than that estimated, because many of the sampled companies in the third partitioned group have true R&D values of zero, not the widely varying values that were imputed using total payroll as a predictor of R&D. Previous sample selections indicate that in general, this presumption held, but exceptions have occurred when companies with large sampling weights have reported large amounts of R&D performance. For 2006 and 2007 see tables table A-2 and table A-9, respectively, for lists by industry of the standard error estimates for selected items and tables table A-3 and table A-10, respectively, for lists of the standard error estimates of total R&D by state.

Nonsampling Error. In addition to sampling error, estimates are subject to nonsampling error. Nonsampling errors are grouped into five categories: specification, coverage, response, nonresponse, and processing. Efforts are made to minimize the effects of these types of errors. For detailed discussions on the sources, control, and measurement of each of these types of error, see U.S. Bureau of the Census 1994b and 1994f.

Sample Size

For the 2006 survey sample, the parameters set to control sampling error resulted in samples of 11,169 companies from the first frame partition, 1,403 companies from the second frame partition, 19,428 companies from the third frame partition, and 84 companies from the fourth frame partition. The overall final sample consisted of 32,084 companies. This total included an adjustment to the sample size based on a minimum probability rule and changes in the operational status of some companies, described below.

For the 2007 survey sample, the parameters set to control sampling error resulted in samples of 10,751 companies from the first frame partition, 1,339 companies from the second frame partition, and 19,910 companies from the third frame partition. The overall final sample consisted of 32,000 companies. This total included an adjustment to the sample size based on a minimum probability rule and changes in the operational status of some companies.

Minimum Probability Rule. For both survey years, a minimum probability of selection rule was imposed for both the first and third partitions. As noted earlier, probabilities of selection proportional to size were assigned to each company in these partitions, where size was the prior reported R&D or payroll value assigned to each company. Selected companies received a sample weight that was the reciprocal of their probability of selection. Selected companies

that ultimately report R&D expenditures vastly different from their assigned values would have adverse effects on the statistics, which were based on the weighted value of survey responses. In order to minimize these effects on the estimates, a minimum probability rule was imposed to control the maximum weight of a company. If a company's probability of selection based on its size was less than the minimum probability, then the company's probability of selection was reset to this minimum value prior to sample selection. The consequence of raising these original probabilities to the specific minimum probability was to increase the final sample size.

Changes in Operational Status. Between frame creation and survey mailing, the operational status of some companies changed. That is, they were merged with or acquired by another company, or they were no longer in business. Before preparing the survey for mailing, the operational status was updated to identify these changes. As a result, the number of companies mailed a survey questionnaire was somewhat smaller than the number of companies initially selected for the survey.

Weighting, Maximum Weights, and Probabilities of Selection

Sample weights were applied to each company record to produce national estimates. For both survey years, within the first partition of the sample, consisting of known R&D performers (positive R&D expenditures), the maximum sample weight was roughly 20. For the third partition, consisting of companies with uncertain R&D activity, the maximum sample weight was roughly 100 for companies classified in manufacturing and 250 for those classified in nonmanufacturing.

Data Collection

Survey Questionnaires

Two questionnaires were used each year to collect data for the survey. Known large R&D performers were sent a detailed survey form, Form RD-1.[4] The Form RD-1 collected data on sales or receipts, total employment, employment of scientists and engineers, expenditures for R&D performed within the company with federal funds and with company and other funds, character of work (basic research, applied research, and development), company-sponsored R&D expenditures in foreign countries, R&D performed by others, R&D performed in collaboration with others, federally funded R&D by contracting agency, R&D costs by type of expense, R&D costs by technology area, domestic R&D expenditures by state, energy-related R&D, R&D done in collaboration with others, and foreign R&D by country. Because companies receiving the Form RD-1 have participated in previous surveys, computer-imprinted data reported by the company for the previous year are supplied for reference. Companies were encouraged to revise or update the data for a prior year if they had more current information; however, already published prior-year statistics were revised in this report series only if large disparities were reported.

Small R&D performers and firms included in the sample for the first time were sent Form RD-1A. This questionnaire collected the same information as Form RD-1 except for five items: Federal R&D support to the firm by contracting agency, R&D costs by type of expense, domestic R&D expenditures by state, energy-related R&D, and foreign R&D by country. It also included a screening item that allows respondents to indicate that they did not perform R&D during the study year. No prior-year information was made available because the majority of the companies that received the Form RD-1A were not surveyed in the previous year.

Survey Questionnaire Content Changes

For the 2006 and 2007 surveys, the five mandatory items remained total R&D expenditures (question 5d, column 3), federally funded R&D (question 5d, column 1), net sales (question 2), total employment (question 3), and the distribution of R&D by state (question 17). For 2006, the question that asked for R&D by type of expense was added to the Form RD-1A (question 13). This question was added based on the increasing need on the part of data users for more inclusive R&D data by type of expense and results of cognitive interviews that concluded the data were collectable via the shorter form. The question was retained on the 2007 Form RD-1A.

Number of Survey Questionnaires Sent

For the 2006 survey, the Form RD-1 (for companies that reported R&D expenditures of $3 million or more in the 2005 survey) was mailed to 3,404 companies and 28,388 companies were mailed Form RD-1A. For the 2007 survey, the Form RD-1 was mailed to 3,395 companies and 28,371 companies were mailed Form RD-1A. Both sets of survey questionnaires and the instructions provided to respondents are reproduced in appendix B, Survey Documents.

Follow-Up for Survey Nonresponse

The 2006 and 2007 survey questionnaires were mailed in February 2007 and February 2008, respectively. Recipients of Form RD-1A were asked to respond within 30 days, and Form RD-1 recipients were given 60 days.

A follow-up questionnaire and letter were mailed to Form RD-1A recipients every 30 days up to a total of three times, if their completed survey form had not been received. After questionnaire and letter follow-ups, one additional automated telephone follow-up was conducted for the remaining nonrespondents among Form RD-1A recipients.

A letter was mailed to Form RD-1 recipients 30 days after the initial mailing, reminding them that their completed survey questionnaires were due within the next 30 days. A second questionnaire and reminder letter were mailed after 60 days. Two additional follow-ups (both by telephone) were conducted for nonresponding Form RD-1 recipients not ranked among the 500 largest R&D performers based on total R&D expenditures reported in the previous year. For the top 500 performers, multiple special telephone follow-ups were used to encourage response. Tables Table A-4 and Table A-11 show the number of companies in each industry or industry group that received survey questionnaires, by type of form, and the percentage that responded to the survey.

Imputation for Item Nonresponse

For various reasons, many firms chose to return the survey questionnaire with one or more blank items.[5] For some firms, internal accounting systems and procedures may not have allowed quantification of specific expenditures. Others may have refused to answer any voluntary questions as a matter of company policy.

When respondents did not provide the requested information, estimates for the missing data were made using imputation algorithms. In general, the imputation algorithms computed values for missing items by applying the average percentage change for the target item in the nonresponding firm's industry to the item's prior-year value for that firm, reported or imputed. This approach, with minor variation, was used for most items.[6] Tables A-5 and A-12 contain imputation rates for the principal survey items.

Response Rates and Mandatory/Voluntary Reporting

Survey reporting requirements divided survey items into two groups: mandatory and voluntary. Responses to five data items were mandatory; responses to the remaining items were voluntary. The mandatory items were total R&D expenditures, federal R&D funds, net sales, total employment and the distribution of R&D by state (the first four were included in the Census Bureau's annual mandatory statistical program). Tables A-6 and A-13 show the percentage of R&D-performing companies that also reported data for other selected items.

During the 1990 survey cycle, NSF conducted a test of the effect of reporting on a completely voluntary basis to determine whether combining both mandatory and voluntary items on one survey questionnaire influences response rates. For this test, the 1990 sample was divided into two panels of approximately equal size. One panel, the mandatory panel, was asked to report as usual on four mandatory items with the remainder voluntary, and the other panel was asked to report all items on a completely voluntary basis. The result of the test was a decrease in the overall survey response rate to 80% from levels of 88% in 1989

and 89% in 1988. The response rates for the mandatory and voluntary panels were 89% and 69%, respectively. Detailed results of the test were published in *Research and Development in Industry: 1990* (NSF 1993).

Industry Reclassification

Beginning with the 2004 survey and continuing for 2005, some companies' electronically assigned industry codes were manually examined and changed. These revised codes were used in the 2006 and 2007 surveys. Beginning in the late 1990s, increasingly large amounts of R&D were attributed to the wholesale trade industries, resulting from the payroll-based methodology used to assign industry classifications (see "Frame Creation and Industry Classification," above) and the change from the Standard Industrial Classification (SIC) system to the North American Industry Classification System (NAICS) in 1999. Such classification artifacts were of particular concern for companies traditionally thought of as pharmaceutical or computer-manufacturing firms. As these firms increasingly marketed their own products and more of their payroll involved employees in selling and distribution activities, the potential for the companies to be classified among the wholesale trade industries increased. To maintain the relevance and usefulness of the industrial R&D statistics, NSF evaluated ways to ameliorate the negative effects of the industry classification methodology and change in classification systems. In addition to firms originally assigned NAICS codes among the wholesale trade industries (NAICS 42), firms assigned to the scientific R&D services industry (NAICS 5417) and management of companies and enterprises industries (NAICS 55) using the payroll-based methodology were manually reviewed by NSF and Census. These firms were reclassified based on primary R&D activity, which in most cases corresponded to their primary products or service activities. The result was that most of the R&D previously attributed to NAICS 42 and 55 industries was redistributed. Statistics resulting from the old and new industry classification methods were published in tables A-9 and A-10 in *Research and Development in Industry: 2004* (NSF 2009a). Also, for detailed information about the industry reclassification methodology, see NSF 2007d.

Character-of-Work Estimates

Response to questions about character of work (basic research, applied research, and development) declined in the mid-1980s, and as a result, imputation rates increased. The general imputation procedure described above became increasingly dependent upon information imputed in prior years, thereby distancing current-year estimates from any reported information. Because of the increasing dependence on imputed data, NSF chose not to publish character-of-work estimates in 1986. The imputation procedure used to develop these estimates was revised in 1987 for use with later data and differs from the general imputation approach. The new method calculated the character-of-work distribution for a nonresponding firm only if that firm reported a distribution within a 5-year period, extending from 2 years before to 2 years after the year requiring imputation. Imputation for a given year was initially performed in the year the data were collected and was based on a character-of-work distribution reported in either of the 2 previous years, if any. It was again performed using new data collected in the next 2 years. If no data were imputed or reported for the previous 2 years and data were then reported for the third year, data for the two previous years were imputed based on the third year's reported data. If data were not reported in the third year, the 2 years of previously imputed data were removed. Thus, character-of-work estimates were revised as newly reported information became available and were not final for 2 years following their initial publication.

Beginning with 1995, previously estimated values were not removed for firms that did not report in the third year, nor were estimates made for the 2 previous years for firms reporting after 2 years of nonresponse. This process was changed because in the prior period revisions were minimal. Estimates continued to be made for 2 consecutive years of nonresponse and discontinued if the firm did not report character of work in the third year. If no reported data were available for a firm, character of work estimates were not imputed. As a consequence, only a portion of the total estimated R&D expenditures were distributed for character of

work at the firm level. Those expenditures not meeting the requirements of the new imputation methodology were placed in a “not distributed” category.

NSF's objective in conducting the survey has always been to provide estimates for the entire population of firms performing R&D in the United States. However, the revised imputation procedure would no longer produce such estimates because of the not-distributed component. Consequently, an estimation method using current-year data was developed to allocate the not-distributed amounts among the character of work components. In the baseline estimation method, the not-distributed expenditures were allocated by industry group to basic research, applied research, and development categories using the percentage splits in the distributed category for that industry. The allocation was done at the lowest level of published industry detail only; higher levels were derived by aggregation, just as national totals were derived by aggregation of individual industry estimates, and result in higher performance shares for basic and applied research and lower estimates for development's share than would have been calculated using the previous method.

Using data collected during the 1999 and 2000 cycles of the survey, reporting anomalies for the character-of-work survey items, especially for basic research, were investigated. It was discovered that a number of large companies known to develop and manufacture products reported all of their R&D as basic research. This phenomenon is not logical and prompted a renewed effort to strengthen character-of-work estimates produced from the survey. Identification of the anomalous reporting patterns was completed and edit checks were improved for processing of the 2001 and 2002 data. For 2000, no character-of-work statistics were published. Publication of character-of-work distributions of R&D was resumed for 2001, and the tables containing historical basic research, applied research, and development estimates in this volume have been revised and footnoted accordingly. Edit checks for this phenomenon continue to be performed annually and extensive follow-up with respondents undertaken.

State Estimates

Form RD-1 requests a distribution of the total cost of R&D among the states where R&D was performed. Prior to the 1999 survey, an independent source, the *Directory of American Research and Technology*, published by the Data Base Publishing Group of the R. R. Bowker Company, was used in conjunction with previous survey results to estimate R&D expenditures by state for companies that did not provide this information. The information on scientists and engineers published in the directory was used as a proxy indicator of the proportion of R&D expenditures within each state. R&D expenditures by state were estimated by applying the distribution of scientists and engineers by state from the directory to total R&D expenditures for these companies. These estimates were included with reported survey data to arrive at published estimates of R&D expenditures for each state. However, the practice of using outside information to formulate or adjust estimates of R&D expenditures for each state had to be discontinued because a suitable source for supporting information was no longer available. State estimates resulting from the 1999 and 2000 surveys were based solely on respondent reports and information internal to the survey. Beginning with the 2001 survey, because of the lack of a reliable, comprehensive outside source of information, in an effort to improve the quality of reported data, NSF sought and was granted authorization by the Office of Management and Budget, the federal agency that oversees and controls burden on respondents, to make reporting of the distribution of R&D by state mandatory.

Also beginning in 2001, the sampling and estimation methodologies used to produce state estimates were modified from previous years to yield better accuracy and precision and to reduce fluctuations in year-to-year estimates due to small sample sizes of R&D performers by state. The new sampling methodology selects known R&D performers with a higher probability than nonperformers and selects with certainty the largest 50 companies in each state based on payroll, thus providing more coverage of R&D performers. The new estimation methodology for state estimates takes the form of a hybrid estimator, combining the unweighted reported amount by state with a weighted amount apportioned (or raked)

across states with relevant industrial activity. The hybrid estimator smoothes the estimate over states with R&D activity by industry and accounts for real change within a state. The Horvitz-Thompson estimator continues to be used to estimate the number of R&D performers by state.

Comparability of Statistics

This section summarizes major survey improvements, enhancements, and changes in procedures and practices that may have affected the comparability of statistics produced from the Survey of Industrial Research and Development over time and with other statistical series (see also NSF 2002a and U.S. Bureau of the Census 1995). This section focuses on major historical changes. Detailed descriptions of the specific revisions made to the pre-1967 surveys are scarce, but the U.S. Bureau of the Census (1995) summarizes some of the major revisions. Documented revisions to the post-1967 surveys through 1992 are summarized in NSF 1994a and 1994b. For subsequent surveys, detailed information is available from individual annual reports at http://www.nsf.gov/statistics/industry/.

Industry Classification System

Beginning with the 1999 cycle of the survey, industry statistics are published using the North American Industry Classification System (NAICS). The ongoing development of NAICS has been a joint effort of statistical agencies in Canada, Mexico, and the United States. The system replaced the Standard Industrial Classification (1980) of Canada, the Mexican Classification of Activities and Products (1994), and Standard Industrial Classification (SIC 1987) of the United States.[7] NAICS was designed to provide a production-oriented system under which economic units with similar production processes are classified in the same industry. NAICS was developed with special attention to classifications for new and emerging industries, service industries, and industries that produce advanced technologies. NAICS not only eases comparability of information about the economies of the three North American countries, but it also increases comparability with the two-digit level of the United Nations' International Standard Industrial Classification system. Important for the Survey of Industrial Research and Development is the creation of several new classifications that cover major performers of R&D in the United States. Among manufacturers, the computer and electronic products classification (NAICS 334) includes makers of computers and peripherals, semiconductors, and navigational and electromedical instruments. Among nonmanufacturing industries are information (NAICS 51) and professional, scientific, and technical services (NAICS 54). Information includes publishing, both print and electronic; broadcasting; and telecommunications. Professional, scientific, and technical services include a variety of industries. Of specific importance for the survey are engineering (NAICS 5413) and scientific R&D service industries (NAICS 5417).

The change of industry classification system affected most of the detailed statistical tables produced from the survey. Prior to the 1999 report, tables classified by industry contained the current survey's statistics plus statistics for 10 previous years. Because of the new classification system, the tables classified in the 1999–2005 reports contain only statistics for the study year and previous years back to 1999. However, to provide a bridge for users who wanted to make year-to-year comparisons below the aggregate level, in several tables in *Research and Development in Industry: 1999* (NSF 2002c) and *Research and Development in Industry: 2000* (NSF 2003a) statistics from the 1997 and 1998 cycles of the survey, previously classified and published using the SIC system, were reclassified using the new NAICS codes. These reclassified statistics were slotted using their new NAICS classifications alongside the 1999 and 2000 statistics, which were estimated using NAICS from the outset.

Industry Classification Methodology

For 1999 and 2000, the frame from which the statistical samples were selected was divided into two partitions based on total company domestic employment. In the manufacturing sector, companies with employment of 50 or more were included in the large-company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large-company partition. Companies in the respective sectors with employment below these values but with at least 5 employees were included in the small-

company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Therefore, in the 1999 and 2000 reports detailed industry statistics were published only from the large-company partition; detailed industry statistics from the small-company partition were not. Statistics from the small-company partition were included in the manufacturing, nonmanufacturing, and all industries totals but were aggregated into "small-manufacturing" and "small-nonmanufacturing" classifications instead of being included in their respective industry classifications. Beginning with the 2001 survey, this practice was evaluated and discontinued because it was determined that the data for small companies are more useful if they are included in their respective industries even given the sampling concerns described above.

Beginning in the late 1990s, increasingly large amounts of R&D were attributed to the wholesale trade industries, resulting from the payroll-based methodology used to assign industry classifications and the change from the SIC system to NAICS in 1999. Such classification artifacts were of particular concern for companies traditionally thought of as pharmaceutical or computer-manufacturing firms. As these firms increasingly marketed their own products and more of their payroll involved employees in selling and distribution activities, the potential for the companies to be classified among the wholesale trade industries increased. To maintain the relevance and usefulness of the industrial R&D statistics, NSF evaluated ways to ameliorate the negative effects of the industry classification methodology and change in classification systems. Beginning with the 2004 survey and continuing through 2007, some companies' electronically assigned industry codes were manually examined and changed. In addition to firms originally assigned NAICS codes among the wholesale trade industries (NAICS 42), firms assigned to the scientific R&D services industry (NAICS 5417) and management of companies and enterprises industries (NAICS 55) using the payroll-based methodology were manually reviewed by NSF and Census. These firms were reclassified based on primary R&D activity, which in most cases corresponded to their primary products or service activities. The result was that most of the R&D previously attributed to NAICS 42 and 55 industries was redistributed. Statistics resulting from the old and new industry classification methods were published in tables A-9 and A-10 in *Research and Development in Industry: 2004* (NSF 2009a). For detailed information, also see NSF 2007d.

Company Size Classifications

Beginning with the 1999 cycle of the survey, the number of company size categories used to classify survey statistics was increased (NSF 2001a). The original 6 categories were expanded to 10 to emphasize the role of small companies in R&D performance. The more detailed business size information enables more direct comparisons with other countries' statistics. Generally, statistics produced by foreign countries measuring their industrial R&D enterprise are reported with more detailed company size classifications at the lower end of the scale than U.S. industrial R&D statistics traditionally have been. (For more information, visit the Organisation for Economic Co-operation and Development website at http://www.oecd.org/.)

Revisions to Historical and Immediate Prior-Year Statistics

Revisions to historical statistics usually have been made because of changes in the industry classification of companies caused by changes in payroll composition detected when a new sample was drawn. Various methodologies have been adopted over the years to revise, or backcast, the data when revisions to historical statistics have become necessary. Documented revisions to the historical statistics from post-1967 surveys through 1992 are summarized in NSF 1994a and in annual reports for subsequent surveys. Detailed descriptions of the specific revisions made to the statistics from pre-1967 surveys are scarce, but the U.S. Bureau of the Census (1995) summarizes some of the major revisions.

Changes to reported data can come from three sources: respondents, analysts involved in survey and statistical processing, and the industry reclassification process. Prior to 1995, routine revisions were made to prior-year statistics based on information from all three

sources. Consequently, results from the current-year survey were used not only to develop current-year statistics but also to revise immediate prior-year statistics. Beginning with the 1995 survey, this practice was discontinued. The reasons for discontinuation of this practice were annual sampling; continual strengthening of sampling methodology; and improvements in data verification, processing, and nonresponse follow-up. Moreover, it was not clear that respondents or those who processed the survey results had any better information a year after the data were first reported. Thus, it was determined that routinely revising published survey statistics increased the potential for error and often confused users of the statistics. Revisions are now made to historical and immediate prior-year statistics only if substantial errors are discovered in the data or if certain data anomalies are encountered. For example, if a company with a large sample weight reports large total R&D expenditures in a given survey year, this company would probably be sampled the following year with certainty and be assigned a sample weight of 1.00. This would result in a large decrease in total R&D expenditures in the industry in which this company is classified. Depending on the amount of the decrease, the company's sample weight might be adjusted downward from the previous survey year to limit its effect on the estimates and standard errors. If the weight were adjusted, the prior-year estimates would be revised and these revised estimates would be included in subsequent reports with footnotes indicating these revisions.

As summarized above under "Character-of-Work Estimates," reporting anomalies for the character-of-work survey items, especially for basic research, were discovered and investigated using data collected during the 1999 and 2000 cycles of the survey. Companies known to develop and manufacture products but that reported all of their R&D as basic research were contacted and queried regarding their R&D activities. After reviewing the definitions of basic research, applied research, and development, most companies changed the distribution of their R&D. Census, the collection and tabulation agent for the survey, was able to go back as far as 1998 and correct the statistical files. Consequently, the tables containing historical basic research, applied research, and development estimates have been revised and footnoted accordingly.

Year-to-Year Changes

Comparability from year to year may be affected by new sample design, annual sample selection, and industry shifts.

Sample Design

By far the most profound influence on statistics from recent surveys occurred when the new sample design for the 1992 survey was introduced. Revisions to the 1991 statistics were dramatic (see *Research and Development in Industry: 1992* (NSF 1995b) for a detailed discussion). Although the allocation of the sample has been changed somewhat, the sample designs used for subsequent surveys have been comparable to the 1992 sample design in terms of size and coverage.

Annual Sample Selection

With annual sampling (introduced in 1992), more year-to-year change is evident than when survey panels were used, for two reasons. First, prior to annual sampling, a wedging operation, which was performed when a new sample was selected, adjusted the data series gradually to account for the changes in classification (see the discussion on wedging later under "Time-Series Analyses," below). Second, yearly correlation of R&D data is weakened when independent samples are drawn each year.

Industry Shifts

The industry classification of companies is redefined each year with the creation of the sampling frame. By redefining the frame, the sample reflects current distributions of companies by size and industry. A company may move from one industry to another because of either changes in its payroll composition, which is used to determine the industry classification code (see previous discussion under "Frame Creation and Industry Classification,"); changes in the industry classification system itself; or changes in the way the industry classification code was assigned or revised during survey processing.

A company's payroll composition can change because of the growth or decline of product or service lines, the merger of two or more companies, the acquisition of one company by another, divestitures, or the formation of conglomerates. Although an unlikely occurrence, a company's industry designation could be reclassified yearly with the introduction of annual sampling. When companies shift industry classifications, the result is a downward movement in R&D expenditures in one industry that is balanced by an upward movement in another industry from one year to the next.

From time to time, the industry coding system used by federal agencies that publish industry statistics is changed or revised to reflect the changing composition of U.S. and North American industry. The SIC system, as revised in 1987, was used for statistics developed from the 1988–91 panel surveys and the 1992–98 annual surveys. As discussed above, the industrial classification system has been completely changed, and beginning with the 1999 cycle of the survey, NAICS is now used.

Large year-to-year changes may occur because of the way industry classifications are assigned during statistical processing. As discussed above, a company's industry classification is a function of its primary activity based on payroll, which is not necessarily the primary source of its R&D activity. If the majority of a company's payroll shifts to an activity other than an R&D-related activity, for example, trade, the classification of its R&D similarly shifts to the new activity. Further, the design of the statistical sample sometimes contributes to large year-to-year changes in industry estimates. Relatively few companies perform R&D, and there is no national register of industrial R&D performers; thus, a large statistical "net" must be cast to capture new R&D performers. When these companies are sampled for the first time, they are often given weights much higher than they would be given if the size and the amount of R&D they perform were known at the time of sampling. After the size of the company and the amount of R&D performed are discovered via the first survey, the weight assigned for subsequent surveys is adjusted. The method used to classify firms during survey processing was revised slightly in 1992. The effect of the changes, which research has shown was minor, is discussed in detail in U.S. Bureau of the Census 1994a and 1994e. The current method used to classify firms was discussed previously under “Frame Creation and Industry Classification,” above. Methods used for past surveys are discussed in U.S. Bureau of the Census 1995.

Capturing Small and Nonmanufacturing R&D Performers

Until the 1967 cycle of the survey, the sample was selected at irregular intervals; after 1967, samples were selected approximately every 5 years for 1971, 1976, 1981, and 1987. In intervening years, a panel of the largest firms known to perform R&D was surveyed. For example, a sample of about 14,000 firms was selected for the 1987 survey. For the 1988–91 studies, about 1,700 of these firms were resurveyed annually; the other firms did not receive survey questionnaires, and their R&D data were estimated. This sample design was adequate during the survey's early years because R&D performance was concentrated in relatively few manufacturing industries. However, as more and more firms began entering the R&D arena, the old sample design proved increasingly inefficient because it did not capture births of new R&D-performing firms. The entry of fledgling R&D performers into the marketplace was completely missed during panel years. Additionally, beginning in the early 1970s, the need for more detailed R&D information for nonmanufacturing industries was recognized. At that time, the broad industry classifications "miscellaneous business services" and "miscellaneous services" were added to the list of industry groups for which statistics were published. By 1975, about 3% of total R&D was performed by firms in nonmanufacturing industries (NSF 1994a, 1995a, and 1996a).

During the mid-1980s there was evidence that a significant amount of R&D was being conducted by an increasing number of companies classified among the nonmanufacturing industries. Again, the number of industries used to develop the statistics for nonmanufacturing was increased. Consequently, the annual reports in this series for 1987–91 included separate R&D estimates for firms in the communication, utility, engineering, architectural, research, development, testing, computer programming, and data processing

service industries; hospitals; and medical labs. Approximately 9% of the estimated industrial R&D performance during 1987 was undertaken by nonmanufacturing firms.

After the list of industries for which statistics were published was expanded, it became clear that the sample design itself should be changed to reflect the widening population of R&D performers among firms in the nonmanufacturing industries (NSF 1995a) and small firms in all industries so as to account better for births of R&D-performing firms and to produce more reliable statistics. Beginning with the 1992 survey, NSF decided to (1) draw new samples with broader coverage annually and (2) increase the sample size to approximately 25,000 firms.[8] As a result of the sample redesign, for 1992 the reported nonmanufacturing share was (and has continued to be) 25%–30% of total R&D (NSF 1997a, 1998a, 1999a, 2000a, 2001a, 2002a, 2003b, 2004, 2005a, 2006a, 2007c, and 2008a).

Time-Series Analyses

The statistics resulting from this survey are better indicators of changes in, rather than absolute levels of, R&D spending and personnel. In spite of that, the statistics are often used as if they were prepared using the same collection, processing, and tabulation methods over time for longitudinal analyses. Such uniformity has not been the case. Since the survey was first fielded, improvements have been made to increase the reliability of the statistics and to make the survey results more useful. To that end, past practices have been changed and new procedures instituted. Preservation of the comparability of the statistics has, however, been an important consideration in making these improvements. Nonetheless, changes to survey definitions, the industry classification system, and the procedure used to assign industry codes to multiestablishment companies have had some, though not substantial, effects on the comparability of statistics. For discussions of each of these changes, see U.S. Bureau of the Census 1994g; for considerations of comparability, see U.S. Bureau of the Census 1993 and 1994e.

The aspect of the survey that had the greatest effect on comparability was the selection of samples at irregular intervals and the use of a subset or panel of the last sample drawn to develop statistics for intervening years. As discussed earlier, this practice introduced cyclical deterioration of the statistics. As compensation for this deterioration, periodic revisions were made to the statistics produced from the panels surveyed between sample years. Early in the survey's history, various methods were used to make these revisions (U.S. Bureau of the Census 1995). After 1976 and until the 1992 advent of annual sampling, a linking procedure called wedging was used. In wedging, the two sample years on each end of a series of estimates served as benchmarks in the algorithms used to adjust the estimates for the intervening years. The process was dubbed wedging because of the wedgelike area produced on a graph that compares originally reported statistics with the revised statistics that resulted after linking. For a full discussion of the mathematical algorithm used for the wedging process that linked statistics from the 1992 survey with those from the 1987 survey, see U.S. Bureau of the Census 1994g and NSF 1995b.

Comparisons to Other Statistical Series

NSF collects data on federally financed R&D from both federal funding agencies, using the Survey of Federal Funds for Research and Development, and from performers of the R&D—industry, federally funded research and development centers, universities, and other nonprofit organizations—using the Survey of Industrial Research and Development and other surveys (http://www.nsf.gov/statistics/survey.cfm). NSF publishes data on federal R&D budget authority and outlays, in addition to federal obligations, all supplied by federal agencies. These terms are defined below (NSF 2008c):

- *Budget authority* is the primary source of legal authorization to enter into obligations that will result in outlays. Budget authority is most commonly granted in the form of appropriations by the congressional committees assigned to determine the budget for each function.

- *Obligations* represent the amounts for orders placed, contracts awarded, services received, and similar transactions during a given period, regardless of when the funds were appropriated or when future payment of money is required.
- *Outlays* represent the amounts for checks issued and cash payments made during a given period, regardless of when the funds were appropriated or obligated.

National R&D expenditure totals in NSF's *National Patterns of R&D Resources* report series are primarily constructed with data reported by performers and include estimates of federal R&D funding to these sectors. But until performer-reported survey data on federal R&D expenditures are available from industry and academia, data collected from the federal agency funders of R&D are used to project R&D performance. When survey data from the performers subsequently are tabulated, as they were for this report, these statistics replace the projections in the *National Patterns* series. Until the mid-1990s, the two survey systems tracked fairly closely. For example, in 1980, performers reported using $29.5 billion in federal R&D funding, and federal agencies reported total R&D funding between $29.2 billion in outlays and $29.8 billion in obligations (NSF 1996b). However, since the mid-1990s, the two series have diverged considerably. The difference in the federal R&D totals appears to be concentrated in funding of industry, primarily aircraft and missile firms, by the Department of Defense. Overall, industrial firms have reported significant declines in federal R&D support since 1990 (table 32), whereas federal agencies have reported level or slightly increased funding of industrial R&D (NSF 2006b, 2007b, and 2008c). NSF continues to identify and examine the factors behind these divergent trends.

Survey Definitions

Employment, FTE R&D scientists and engineers. Number of people employed in the 50 U.S. states and DC by R&D-performing companies who were engaged in scientific or engineering work at a level that required knowledge, gained either formally or by experience, of engineering or of the physical, biological, mathematical, statistical, or computer sciences equivalent to at least that acquired through completion of a 4-year college program with a major in one of those fields. The statistics show full-time-equivalent (FTE) employment of persons employed by the company during the January following the survey year who were assigned full time to R&D, plus a prorated number of employees who worked on R&D only part of the time.

Employment, total. Number of people employed in the 50 U.S. states and DC by R&D-performing companies in all activities during the pay period that included the 12th of March of the study year (March 12 is the date most employers use when paying first quarter employment taxes to the Internal Revenue Service).

Federally funded R&D centers (FFRDCs). R&D-performing organizations administered by industrial, academic, or other institutions on a nonprofit basis and exclusively or substantially financed by the federal government. To avoid the possibility of disclosing company-specific information and therefore violating the confidentiality provisions of Title 13 of the United States Code, beginning in 2001 data for industry-administered FFRDCs are now collected in coordination with NSF's annual academic R&D expenditure survey, the Survey of Research and Development Expenditures at Universities and Colleges, as are data from FFRDCs administered by academic institutions and nonprofit organizations. More information about this survey is available from the NCSES website at http://www.nsf.gov/statistics /rdexpenditures/. For current lists of FFRDCs, visit http://www.nsf.gov/statistics/ffrdc/.

Funds for R&D, company and other nonfederal. The cost of R&D performed within the company and funded by the company itself or by other nonfederal sources in the 50 U.S. states and DC; does not include the cost of R&D funded by the company but contracted to outside organizations, such as research institutions, universities and colleges, nonprofit organizations, or—to avoid double counting—other companies.

Funds for R&D, federal. The cost of R&D performed within the company in the 50 U.S. states and DC funded by federal R&D contracts, subcontracts, R&D portions of federal

procurement contracts and subcontracts, grants, or other arrangements; does not include the cost of R&D supported by the federal government but contracted to outside organizations, such as research institutions, universities and colleges, nonprofit organizations, or—to avoid double counting—other companies.

Funds for R&D, total. The cost of R&D performed within the company in its own laboratories or in other company-owned or company-operated facilities in the 50 U.S. states and DC, including expenses for wages and salaries, fringe benefits for R&D personnel, materials and supplies, property and other taxes, maintenance and repairs, depreciation, and an appropriate share of overhead; does not include capital expenditures or the cost of R&D contracted to outside organizations, such as research institutions, universities and colleges, nonprofit organizations, or—to avoid double counting—other companies.

Funds per R&D scientist or engineer. All costs associated with the performance of industrial R&D (salaries, wages, and fringe benefits paid to R&D personnel; materials and supplies used for R&D; depreciation on capital equipment and facilities used for R&D; and any other R&D costs) divided by the number of R&D scientists and engineers employed in the 50 U.S. states and DC. To obtain a per person cost of R&D for a given year, the total R&D expenditures of that year were divided by an estimate of the number of full-time-equivalent (FTE) scientists and engineers engaged in the performance of R&D for that year. For accuracy, this estimate was the mean of the number of FTE R&D-performing scientists and engineers reported in January for the study year and in January of the subsequent year.

Net sales and receipts. Dollar values for goods sold or services rendered by R&D-performing companies to customers outside the company, including the federal government, less such items as returns, allowances, freight, charges, and excise taxes. Domestic intracompany transfers and sales by foreign subsidiaries were excluded, but transfers to foreign subsidiaries and export sales to foreign companies were included.

R&D and industrial R&D. R&D is the planned, systematic pursuit of new knowledge or understanding toward general application (basic research); the acquisition of knowledge or understanding to meet a specific, recognized need (applied research); or the application of knowledge or understanding toward the production or improvement of a product, service, process, or method (development). As used in this survey, industrial *basic research* is the pursuit of new scientific knowledge or understanding that does not have specific immediate commercial objectives, although it may be in fields of present or potential commercial interest; industrial *applied research* is investigation that may use findings of basic research toward discovering new scientific knowledge that has specific commercial objectives with respect to new products, services, processes, or methods; and industrial *development* is the systematic use of the knowledge or understanding gained from research or practical experience directed toward the production or significant improvement of useful products, services, processes, or methods, including the design and development of prototypes, materials, devices, and systems. The survey covers industrial R&D performed by people trained, either formally or by experience, in engineering or in the physical, biological, mathematical, statistical, or computer sciences and employed by a publicly or privately owned firm engaged in for-profit activity in the United States. Specifically excluded from the survey are quality control, routine product testing, market research, sales promotion, sales service, and other nontechnological activities; routine technical services; and research in the social sciences or psychology.

Notes

[1] In the Survey of Industrial Research and Development and in the publications presenting statistics resulting from the survey, the terms *firm, company,* and *enterprise* are used interchangeably. *Industry* refers to the 2-, 3-, or 4-digit North American Industry Classification System (NAICS) codes or group of NAICS codes used to publish statistics resulting from the survey.

[2] A specification error caused companies with 4 or more employees to be eligible for inclusion in the sample frame for 2007. This resulted in the selection of an additional 25

companies, accounting for about $1.6 million in industrial R&D, for the 2007 sample.

[3] The 1999 survey was the first in which companies were classified using NAICS. Prior to 1999, the Standard Industrial Classification (SIC) system was used. The two systems are discussed later under Comparability of Statistics.

[4] Form RD-1 is a revised version of the Form RD-1L, formerly used to collect data from large R&D performers for odd-numbered years. For even-numbered years, an abbreviated questionnaire, Form RD-1S was used. Beginning in 1998 the Form RD-1L was streamlined, renamed Form RD-1, and the odd/even-numbered year cycle abandoned.

[5] For detailed discussions on the sources, control, and measurement of error resulting from item nonresponse, see U.S. Bureau of the Census 1994b.

[6] For detailed descriptions and analyses of the imputation methods and algorithms used, see U.S. Bureau of the Census 1994c.

[7] For a detailed comparison of NAICS to the Standard Industrial Classification (1987) of the United States, visit http://www.census.gov/epcd/www/naics.html.

[8] Annual sampling also remedies the cyclical deterioration of the statistics that results from changes in a company's payroll composition because of product line and corporate structural changes.

Table	**Technical Tables**
A-1	Companies in the target population and selected for the sample, by industry and company size: 2006
A-2	Relative standard error for survey estimates, by industry and company size: 2006
A-3	Relative standard error for estimates of all R&D and percentage of estimates attributed to certainty companies, by state: 2006
A-4	Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2006
A-5	Imputation rates for survey items, by industry and company size: 2006
A-6	R&D-performing companies that reported nonzero data for major survey items: 2006
A-7	Funds for and number of companies performing industrial basic research, applied research, and development in the United States and funds, by industry and company size, by source of funds: 2006
A-8	Companies in the target population and selected for the sample, by industry and company size: 2007
A-9	Relative standard error for survey estimates, by industry and company size: 2007
A-10	Relative standard error for estimates of all R&D and percentage of estimates attributed to certainty companies, by state: 2007
A-11	Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2007
A-12	Imputation rates for survey items, by industry and company size: 2007
A-13	R&D-performing companies that reported nonzero data for major survey items: 2007

A-14 Funds for and number of companies performing industrial basic research, applied research, and development in the United States and funds, by industry and company size, by source of funds: 2007

TABLE A-1. Companies in the target population and selected for the sample, by industry and company size: 2006

Industry and company size	NAICS codes	Companies in target population	Companies selected for the sample			Companies with imputed R&D expenditures	
			All companies	Noncertainties	Certainties	Greater than or equal to $3 million	Less than $3 million
All industries	21–23, 31–33, 42, 44–81	1,849,368	32,084	17,909	14,175	500	46
Manufacturing industries	31–33	155,399	14,672	7,234	7,438	268	21
Food	311	11,456	825	388	437	3	1
Beverage and tobacco products	312	1,327	207	117	90	1	0
Textiles, apparel, and leather	313–16	9,328	633	367	266	3	1
Wood products	321	8,402	483	330	153	2	0
Paper, printing, and support activities	322, 323	16,752	685	443	242	3	1
Petroleum and coal products	324	546	172	80	92	3	0
Chemicals	325	5,657	1,449	541	908	32	4
Basic chemicals	3251	724	260	74	186	4	2
Resin, synthetic rubber, fibers, and filament	3252	452	163	51	112	1	1
Pharmaceuticals and medicines	3254	971	322	85	237	27	0
Other chemicals	other 325	3,510	704	331	373	0	1
Plastics and rubber products	326	7,611	882	363	519	9	0
Nonmetallic mineral products	327	6,442	465	261	204	3	0
Primary metals	331	2,689	380	164	216	2	0
Fabricated metal products	332	30,609	1,291	638	653	11	4
Machinery	333	14,634	1,529	745	784	27	3
Computer and electronic products	334	7,945	1,956	816	1,140	112	4
Computers and peripheral equipment	3341	727	276	104	172	8	0
Communications equipment	3342	1,057	353	106	247	31	0
Semiconductor and other electronic components	3344	2,890	565	302	263	32	3
Navigational, measuring, electromedical, and control instruments	3345	2,629	564	226	338	32	1
Other computer and electronic products	other 334	642	198	78	120	9	0
Electrical equipment, appliances, and components	335	3,156	667	276	391	15	0
Transportation equipment	336	6,235	954	511	443	21	1
Motor vehicles, trailers, and parts	3361–63	4,058	531	300	231	17	0
Aerospace products and parts	3364	813	173	71	102	1	1
Other transportation equipment	other 336	1,364	250	140	110	3	0
Furniture and related products	337	9,513	640	419	221	1	0
Miscellaneous manufacturing	339	12,826	1,342	713	629	20	2
Medical equipment and supplies	3391	4,269	624	297	327	17	1
Other miscellaneous manufacturing	other 339	8,557	718	416	302	3	1
Unclassified		271	112	62	50	0	0

TABLE A-1. Companies in the target population and selected for the sample, by industry and company size: 2006

Industry and company size	NAICS codes	Companies in target population	Companies selected for the sample			Companies with imputed R&D expenditures	
			All companies	Noncertainties	Certainties	Greater than or equal to $3 million	Less than $3 million
Nonmanufacturing industries	21–23, 42, 44–81	1,693,969	17,412	10,675	6,737	232	25
Mining, extraction, and support activities	21	7,610	357	233	124	4	0
Utilities	22	1,176	141	28	113	2	0
Construction	23	231,615	1,381	972	409	1	0
Wholesale trade	42	130,145	1,763	970	793	16	1
Retail trade	44, 45	241,986	1,322	1,040	282	7	0
Transportation and warehousing	48, 49	49,793	417	219	198	1	0
Information	51	26,449	2,325	1,275	1,050	67	5
Publishing	511	9,935	1,062	557	505	50	4
Newspaper, periodical, book, and directory	5111	6,600	299	201	98	4	0
Software	5112	3,335	763	356	407	46	4
Telecommunications	517	3,476	335	119	216	7	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	1,917	179	89	90	5	0
Satellite telecommunications	5174	151	70	11	59	0	0
Other telecommunications	other 517	1,408	86	19	67	2	0
Internet service providers, Web search portals, and data-processing services	518	4,475	586	366	220	10	1
Internet service providers and Web search portals	5181	1,424	180	112	68	2	0
Data-processing, hosting, and related services	5182	3,051	406	254	152	8	1
Other information	other 51	8,563	342	233	109	0	0
Finance, insurance, and real estate	52, 53	121,091	994	541	453	14	0
Professional, scientific, and technical services	54	193,954	4,402	2,273	2,129	112	18
Architectural, engineering, and related services	5413	34,457	775	497	278	14	0
Computer systems design and related services	5415	22,925	1,433	838	595	38	11
Scientific R&D services	5417	4,296	1,276	366	910	60	6
Other professional, scientific, and technical services	other 54	132,276	918	572	346	0	1
Health care services	621–23	202,345	1,275	863	412	1	0
Other nonmanufacturing[a]	56, 61, 624, 71, 72, 81	486,353	2,767	2,043	724	7	1
Unclassified		1,452	268	218	50	0	0

TABLE A-1. Companies in the target population and selected for the sample, by industry and company size: 2006

Industry and company size	NAICS codes	Companies in target population	Companies selected for the sample			Companies with imputed R&D expenditures	
			All companies	Noncertainties	Certainties	Greater than or equal to $3 million	Less than $3 million
Company size (employees)							
All companies	-	1,849,368	32,084	17,909	14,175	500	46
5–24	-	1,431,645	10,643	9,619	1,024	8	3
25–49	-	227,725	4,715	3,486	1,229	34	15
50–99	-	105,915	4,662	2,516	2,146	65	9
100–249	-	55,397	5,371	1,653	3,718	113	8
250–499	-	15,217	2,644	387	2,257	59	6
500–999	-	6,670	1,594	137	1,457	66	0
1,000–4,999	-	5,259	1,750	93	1,657	109	4
5,000–9,999	-	743	316	12	304	21	0
10,000–24,999	-	482	221	4	217	14	0
25,000 or more	-	315	168	2	166	11	1

- = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Certainties are companies whose probability of selection is one based on prior-year R&D expenditures equal to or greater than $3 million as well as others included in the sample for analytical purposes (analytical certainties). Noncertainties are companies whose probability of selection is less than one. Companies that were missing or had an incomplete North American Industry Classification System (NAICS) codes at the time of sampling were assigned to an "unclassified" industry category temporarily. If an unclassified company reported R&D expenditures, its primary industrial activity was investigated and a NAICS code was assigned during statistical processing. The total number of "companies selected for the sample" is larger than the number of "companies receiving a questionnaire" in table A-4 because some companies selected for the survey went out of business or were merged with other companies during the time between sample selection and survey mailout; that is, the sample was updated before actual mailout took place. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE A-2. Relative standard error for survey estimates, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	All R&D			Basic research		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded
All industries	21–23, 31–33, 42, 44–81	0.8	0.8	1.6	5.1	3.2	32.6
Manufacturing industries	31–33	0.3	0.3	0.7	3.8	4.2	10.6
Food	311	0.5	0.5	4.6	0.2	0.2	0.0
Beverage and tobacco products	312	0.1	0.1	0.0	7.5	7.5	0.0
Textiles, apparel, and leather	313–16	1.4	1.0	50.9	0.6	0.6	0.0
Wood products	321	2.1	1.9	86.2	14.2	14.2	0.0
Paper, printing, and support activities	322, 323	0.9	0.9	0.0	3.4	3.4	0.0
Petroleum and coal products	324	0.1	0.1	9.6	1.5	1.5	59.6
Chemicals	325	0.4	0.4	10.2	0.7	0.7	0.3
Basic chemicals	3251	1.2	0.8	15.8	0.2	0.2	0.0
Resin, synthetic rubber, fibers, and filament	3252	0.2	0.2	0.7	0.1	0.1	0.0
Pharmaceuticals and medicines	3254	0.5	0.5	16.8	0.1	0.1	0.3
Other chemicals	other 325	1.1	1.1	4.2	13.7	13.7	0.0
Plastics and rubber products	326	6.3	6.4	5.0	1.2	1.2	0.0
Nonmetallic mineral products	327	4.6	2.0	51.5	27.1	1.2	90.0
Primary metals	331	1.3	1.4	0.2	0.4	0.1	32.4
Fabricated metal products	332	13.7	14.3	4.6	3.7	3.7	0.0
Machinery	333	3.0	3.1	11.8	21.1	13.9	65.2
Computer and electronic products	334	0.2	0.2	0.9	1.8	2.0	5.2
Computers and peripheral equipment	3341	0.3	0.3	0.6	1.1	1.1	0.3
Communications equipment	3342	0.4	0.4	2.1	0.7	0.5	72.3
Semiconductor and other electronic components	3344	0.4	0.4	1.3	3.7	3.8	0.8
Navigational, measuring, electromedical, and control instruments	3345	0.5	0.6	0.9	2.3	1.0	6.2
Other computer and electronic products	other 334	0.4	0.3	37.4	3.1	3.0	0.0
Electrical equipment, appliances, and components	335	1.6	1.6	2.9	2.0	2.1	0.9
Transportation equipment	336	0.1	0.1	0.0	0.1	0.2	0.0
Motor vehicles, trailers, and parts	3361–63	0.2	0.2	0.2	0.5	0.5	0.0
Aerospace products and parts	3364	0.1	0.1	0.1	0.1	0.1	0.0
Other transportation equipment	other 336	0.1	0.2	0.0	0.0	0.1	0.0
Furniture and related products	337	1.3	1.3	0.0	7.8	7.8	0.0
Miscellaneous manufacturing	339	2.5	2.2	56.7	10.0	10.3	3.5
Medical equipment and supplies	3391	3.0	2.6	64.2	10.8	10.9	2.3
Other miscellaneous manufacturing	other 339	3.7	3.6	36.0	27.7	30.6	7.4

TABLE A-2. Relative standard error for survey estimates, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	All R&D			Basic research		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded
Nonmanufacturing industries	21–23, 42, 44–81	2.4	2.5	5.0	5.2	7.0	6.5
Mining, extraction, and support activities	21	2.2	2.2	0.0	0.1	0.1	0.0
Utilities	22	22.3	25.9	0.0	0.6	1.1	0.0
Construction	23	9.3	9.3	0.0	0.1	0.1	0.0
Wholesale trade	42	8.0	8.1	4.9	20.2	21.3	0.0
Retail trade	44, 45	1.4	1.4	0.0	0.0	0.0	0.0
Transportation and warehousing	48, 49	0.0	0.0	0.0	0.0	0.0	0.0
Information	51	1.1	1.1	5.5	5.1	3.9	76.9
Publishing	511	0.4	0.4	21.8	11.5	7.1	80.8
Newspaper, periodical, book, and directory	5111	4.1	4.1	0.0	4.1	4.1	0.0
Software	5112	0.4	0.4	22.0	11.6	7.2	80.8
Telecommunications	517	4.4	4.5	0.0	9.1	9.1	0.0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	3.2	3.2	0.0	2.2	2.2	0.0
Satellite telecommunications	5174	0.0	0.0	0.0	0.0	0.0	0.0
Other telecommunications	other 517	18.4	18.4	0.0	18.6	18.6	0.0
Internet service providers, Web search portals, and data-processing services	518	3.2	3.3	1.9	4.4	4.5	0.5
Internet service providers and Web search portals	5181	1.3	1.3	0.0	73.8	73.8	0.0
Data-processing, hosting, and related services	5182	5.1	5.3	1.9	4.4	4.4	0.5
Other information	other 51	33.4	33.4	91.6	4.7	4.7	0.0
Finance, insurance, and real estate	52, 53	11.2	11.2	0.0	1.6	1.6	0.0
Professional, scientific, and technical services	54	4.6	5.4	5.1	5.9	8.8	6.7
Architectural, engineering, and related services	5413	11.6	12.2	15.0	32.3	54.7	16.0
Computer systems design and related services	5415	6.4	6.7	26.2	12.7	14.2	27.9
Scientific R&D services	5417	1.6	2.1	2.3	5.1	7.1	7.4
Other professional, scientific, and technical services	other 54	58.9	65.7	3.8	40.7	51.8	0.5
Health care services	621–23	8.9	8.0	74.7	49.8	51.7	11.2
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	9.9	10.1	23.3	7.6	0.5	22.3

TABLE A-2. Relative standard error for survey estimates, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	All R&D			Basic research		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded
Company size (employees)							
All companies	-	0.8	0.8	1.6	5.1	3.2	32.6
5–24	-	8.9	9.4	24.9	24.1	26.7	42.3
25–49	-	7.1	7.4	20.4	20.7	23.6	38.4
50–99	-	14.5	15.7	10.3	7.3	7.5	16.0
100–249	-	8.0	7.9	19.2	5.5	6.7	2.6
250–499	-	1.5	1.5	0.3	6.1	6.6	0.0
500–999	-	1.2	1.3	0.1	1.6	2.2	0.0
1,000–4,999	-	0.1	0.1	0.0	0.5	0.5	0.0
5,000–9,999	-	0.0	0.0	0.0	0.0	0.0	0.0
10,000–24,999	-	0.0	0.0	0.0	0.0	0.0	0.0
25,000 or more	-	0.0	0.0	0.0	0.0	0.0	0.0

TABLE A-2. Relative standard error for survey estimates, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	Applied research			Development		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded
All industries	21–23, 31–33, 42, 44–81	3.9	3.9	26.0	4.1	2.4	30.2
Manufacturing industries	31–33	3.5	3.4	11.5	6.3	3.1	46.1
Food	311	0.5	0.5	0.0	0.6	0.6	49.6
Beverage and tobacco products	312	0.0	0.0	0.0	0.2	0.2	0.0
Textiles, apparel, and leather	313–16	5.0	5.4	0.0	1.4	0.9	66.2
Wood products	321	1.0	1.0	0.0	2.9	2.4	86.1
Paper, printing, and support activities	322, 323	6.3	6.4	0.0	2.0	2.0	0.0
Petroleum and coal products	324	0.1	0.1	43.9	1.5	1.5	227.0
Chemicals	325	1.5	1.5	5.8	0.3	0.3	19.4
Basic chemicals	3251	1.2	0.9	10.9	1.7	1.0	29.2
Resin, synthetic rubber, fibers, and filament	3252	0.1	0.1	1.0	0.5	0.5	0.0
Pharmaceuticals and medicines	3254	1.9	1.9	2.9	0.3	0.3	34.8
Other chemicals	other 325	1.6	1.6	0.0	0.5	0.5	4.7
Plastics and rubber products	326	6.9	7.0	0.0	7.7	7.8	6.6
Nonmetallic mineral products	327	2.7	1.2	65.9	5.1	3.6	61.4
Primary metals	331	0.5	0.5	0.0	1.9	1.9	0.0
Fabricated metal products	332	10.2	10.2	0.0	17.1	18.0	4.7
Machinery	333	1.6	1.5	6.8	3.6	3.7	5.9
Computer and electronic products	334	1.2	0.6	18.6	0.3	0.2	0.9
Computers and peripheral equipment	3341	0.6	0.7	0.3	0.3	0.3	30.0
Communications equipment	3342	0.9	0.9	2.3	0.4	0.4	2.1
Semiconductor and other electronic components	3344	0.7	0.7	4.9	0.4	0.4	1.3
Navigational, measuring, electromedical, and control instruments	3345	5.1	2.3	25.2	0.6	0.7	1.0
Other computer and electronic products	other 334	4.5	4.4	0.0	0.4	0.3	52.1
Electrical equipment, appliances, and components	335	3.5	3.6	16.1	1.4	1.5	0.9
Transportation equipment	336	0.2	0.3	0.0	0.1	0.1	0.1
Motor vehicles, trailers, and parts	3361–63	0.4	0.4	0.0	0.2	0.2	0.4
Aerospace products and parts	3364	0.1	0.2	0.0	0.1	0.1	0.1
Other transportation equipment	other 336	0.2	0.7	0.0	0.1	0.2	0.0
Furniture and related products	337	8.1	8.1	0.0	1.1	1.1	0.0
Miscellaneous manufacturing	339	9.2	7.7	73.5	2.2	2.2	14.3
Medical equipment and supplies	3391	10.5	8.8	80.9	2.6	2.6	12.8
Other miscellaneous manufacturing	other 339	7.6	6.4	60.0	4.0	4.0	63.5

TABLE A-2. Relative standard error for survey estimates, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	Applied research			Development		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded
Nonmanufacturing industries	21–23, 42, 44–81	9.2	11.2	5.8	2.7	2.7	10.5
Mining, extraction, and support activities	21	6.7	6.7	0.0	0.1	0.1	0.0
Utilities	22	65.9	74.0	0.0	1.0	1.1	0.0
Construction	23	14.1	14.2	0.0	16.4	16.4	0.0
Wholesale trade	42	14.9	15.4	0.0	9.3	9.3	14.2
Retail trade	44, 45	11.3	11.3	0.0	0.3	0.3	0.0
Transportation and warehousing	48, 49	0.0	0.0	0.0	0.0	0.0	0.0
Information	51	1.5	1.5	22.0	1.3	1.3	2.7
Publishing	511	1.2	1.2	28.2	0.5	0.5	17.8
Newspaper, periodical, book, and directory	5111	17.3	17.8	0.0	4.1	4.1	0.0
Software	5112	1.2	1.2	29.5	0.4	0.4	17.8
Telecommunications	517	10.6	10.6	0.0	4.9	5.0	0.0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	12.5	12.5	0.0	2.7	2.7	0.0
Satellite telecommunications	5174	0.0	0.0	0.0	0.0	0.0	0.0
Other telecommunications	other 517	18.6	18.6	0.0	23.6	23.6	0.0
Internet service providers, Web search portals, and data-processing services	518	6.1	6.1	29.3	3.6	3.7	1.2
Internet service providers and Web search portals	5181	33.0	33.0	0.0	1.1	1.1	0.0
Data-processing, hosting, and related services	5182	6.0	6.0	29.3	6.2	6.5	1.2
Other information	other 51	17.2	16.8	91.5	38.3	38.3	0.0
Finance, insurance, and real estate	52, 53	1.6	1.6	0.0	11.8	11.8	0.0
Professional, scientific, and technical services	54	13.5	18.6	5.9	4.8	4.8	10.9
Architectural, engineering, and related services	5413	24.5	34.4	15.2	15.1	11.9	29.2
Computer systems design and related services	5415	10.0	11.3	21.4	7.3	7.3	44.1
Scientific R&D services	5417	3.2	3.6	6.5	1.8	2.2	3.5
Other professional, scientific, and technical services	other 54	92.6	93.6	25.0	11.5	15.9	2.3
Health care services	621–23	31.1	32.1	75.2	1.2	0.9	77.2
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	40.2	43.9	23.3	9.8	9.9	25.5

TABLE A-2. Relative standard error for survey estimates, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	Applied research			Development		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded
Company size (employees)							
All companies	-	3.9	3.9	26.0	4.1	2.4	30.2
5–24	-	15.8	17.4	28.9	11.6	11.4	43.7
25–49	-	16.0	18.1	25.0	8.3	8.1	34.1
50–99	-	38.0	41.8	13.3	7.3	7.6	16.3
100–249	-	6.3	7.0	4.4	10.5	10.3	28.4
250–499	-	1.4	1.6	0.5	1.6	1.7	0.3
500–999	-	1.6	1.8	0.0	1.6	1.7	0.2
1,000–4,999	-	0.2	0.2	0.0	0.1	0.2	0.0
5,000–9,999	-	0.0	0.0	0.0	0.0	0.0	0.0
10,000–24,999	-	0.0	0.0	0.0	0.0	0.0	0.0
25,000 or more	-	0.0	0.0	0.0	0.0	0.0	0.0

TABLE A-2. Relative standard error for survey estimates, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	R&D performed by other organizations			Company-funded R&D projected for next year		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded
All industries	21–23, 31–33, 42, 44–81	2.7	2.9	5.0	0.8	0.9	1.9
Manufacturing industries	31–33	3.3	3.5	7.3	0.3	0.3	0.6
Food	311	0.2	0.2	0.0	0.5	0.5	1.1
Beverage and tobacco products	312	0.0	0.0	0.0	0.2	0.2	0.0
Textiles, apparel, and leather	313–16	9.9	9.9	0.0	1.4	1.1	49.2
Wood products	321	15.7	15.7	0.0	2.3	2.1	84.0
Paper, printing, and support activities	322, 323	10.1	10.1	0.0	1.0	1.0	0.0
Petroleum and coal products	324	0.2	0.2	0.0	0.1	0.1	13.0
Chemicals	325	2.8	2.8	14.8	0.3	0.3	11.8
Basic chemicals	3251	0.4	0.4	0.0	1.1	0.7	19.8
Resin, synthetic rubber, fibers, and filament	3252	3.7	3.7	0.0	0.2	0.2	1.4
Pharmaceuticals and medicines	3254	2.9	2.9	54.3	0.4	0.4	16.2
Other chemicals	other 325	1.6	1.6	0.0	1.1	1.1	4.9
Plastics and rubber products	326	10.1	10.1	0.0	5.9	6.0	2.5
Nonmetallic mineral products	327	40.8	19.3	90.7	4.6	2.5	50.8
Primary metals	331	2.3	2.3	0.0	1.3	1.3	0.3
Fabricated metal products	332	21.3	23.7	13.7	18.4	19.2	13.9
Machinery	333	1.6	1.1	14.7	3.6	3.6	15.1
Computer and electronic products	334	1.6	1.6	6.8	0.2	0.2	0.7
Computers and peripheral equipment	3341	1.8	1.8	56.1	0.4	0.4	0.5
Communications equipment	3342	7.5	7.5	0.0	0.3	0.3	2.7
Semiconductor and other electronic components	3344	1.7	2.4	0.0	0.4	0.4	1.4
Navigational, measuring, electromedical, and control instruments	3345	1.7	1.2	13.2	0.4	0.5	0.8
Other computer and electronic products	other 334	6.0	5.7	46.1	0.4	0.4	37.6
Electrical equipment, appliances, and components	335	10.3	10.3	0.0	1.2	1.2	1.4
Transportation equipment	336	0.4	0.5	0.0	0.1	0.2	0.1
Motor vehicles, trailers, and parts	3361–63	0.1	0.1	0.0	0.2	0.2	0.8
Aerospace products and parts	3364	0.8	1.6	0.0	0.2	0.3	0.1
Other transportation equipment	other 336	1.9	1.9	0.0	0.1	0.2	0.0
Furniture and related products	337	4.7	4.7	0.0	1.4	1.4	79.7
Miscellaneous manufacturing	339	50.7	55.2	83.1	2.6	2.4	51.4
Medical equipment and supplies	3391	17.7	3.4	83.1	3.0	2.8	59.7
Other miscellaneous manufacturing	other 339	89.5	89.5	0.0	4.5	4.4	40.9

TABLE A-2. Relative standard error for survey estimates, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	R&D performed by other organizations			Company-funded R&D projected for next year		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded
Nonmanufacturing industries	21–23, 42, 44–81	4.6	5.0	4.4	2.6	2.8	5.4
Mining, extraction, and support activities	21	14.9	14.9	0.0	2.0	2.0	0.0
Utilities	22	0.2	0.2	0.0	38.8	42.5	0.0
Construction	23	0.0	0.0	0.0	13.2	13.3	0.0
Wholesale trade	42	17.5	17.5	0.0	6.5	6.6	9.7
Retail trade	44, 45	0.0	0.0	0.0	0.7	0.7	0.0
Transportation and warehousing	48, 49	0.0	0.0	0.0	0.0	0.0	0.0
Information	51	16.4	16.4	20.9	1.8	1.8	5.4
Publishing	511	3.1	3.1	20.9	0.4	0.4	21.3
Newspaper, periodical, book, and directory	5111	0.0	0.0	0.0	4.4	4.4	0.0
Software	5112	3.8	3.8	20.9	0.4	0.4	21.5
Telecommunications	517	59.5	59.5	0.0	3.9	3.9	0.0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	75.1	75.1	0.0	4.2	4.3	0.0
Satellite telecommunications	5174	0.0	0.0	0.0	0.0	0.0	0.0
Other telecommunications	other 517	95.8	95.8	0.0	9.6	9.6	0.0
Internet service providers, Web search portals, and data-processing services	518	2.8	2.8	0.0	3.7	3.8	1.6
Internet service providers and Web search portals	5181	1.2	1.2	0.0	1.9	1.9	0.0
Data-processing, hosting, and related services	5182	3.2	3.2	0.0	5.9	6.2	1.6
Other information	other 51	0.0	0.0	0.0	46.0	46.2	91.6
Finance, insurance, and real estate	52, 53	12.0	12.0	0.0	17.3	17.3	0.0
Professional, scientific, and technical services	54	5.1	5.8	4.7	4.9	5.7	5.6
Architectural, engineering, and related services	5413	7.2	19.5	0.9	12.3	13.3	15.2
Computer systems design and related services	5415	14.6	16.3	9.7	6.7	7.0	26.2
Scientific R&D services	5417	6.2	6.6	12.9	1.7	2.1	2.5
Other professional, scientific, and technical services	other 54	0.0	0.0	0.0	59.5	67.9	27.8
Health care services	621–23	22.0	22.0	0.0	9.4	7.7	79.6
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	73.1	79.0	0.0	12.8	13.1	23.4

TABLE A-2. Relative standard error for survey estimates, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	R&D performed by other organizations			Company-funded R&D projected for next year		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded
Company size (employees)							
All companies	-	2.7	2.9	5.0	0.8	0.9	1.9
5–24	-	25.4	27.4	59.9	9.6	10.1	25.4
25–49	-	30.2	31.5	29.3	7.1	7.2	21.4
50–99	-	7.0	7.4	10.7	15.3	16.4	11.1
100–249	-	10.9	11.4	3.5	8.1	8.2	19.0
250–499	-	6.3	6.5	0.0	1.1	1.2	0.5
500–999	-	0.5	0.6	0.0	1.6	1.7	0.1
1,000–4,999	-	0.3	0.3	0.0	0.1	0.1	0.0
5,000–9,999	-	0.0	0.0	0.0	0.0	0.0	0.0
10,000–24,999	-	0.0	0.0	0.0	0.0	0.0	0.0
25,000 or more	-	0.0	0.0	0.0	0.0	0.0	0.0

TABLE A-2. Relative standard error for survey estimates, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	Sales	Domestic employment	R&D area: Biotechnology	R&D area: Software development	R&D area: Materials synthesis and processing	R&D area: Other areas	R&D area: Percentage of nanotechnology
All industries	21–23, 31–33, 42, 44–81	0.7	1.9	1.0	3.3	1.1	0.8	24.2
Manufacturing industries	31–33	0.5	0.9	1.0	0.6	1.1	0.6	16.2
Food	311	1.4	1.4	1.8	9.5	0.4	0.7	43.9
Beverage and tobacco products	312	0.1	0.3	0.0	0.0	4.1	0.0	0.0
Textiles, apparel, and leather	313–16	7.4	6.0	0.0	1.7	2.1	2.3	26.6
Wood products	321	2.9	7.3	1.7	0.0	4.3	2.6	0.0
Paper, printing, and support activities	322, 323	0.4	1.0	0.4	28.2	7.3	3.9	12.7
Petroleum and coal products	324	0.2	1.0	0.0	2.0	0.6	0.2	0.0
Chemicals	325	0.3	0.6	1.0	16.3	2.0	0.2	18.7
Basic chemicals	3251	0.4	0.6	5.6	0.7	4.0	0.5	21.9
Resin, synthetic rubber, fibers, and filament	3252	0.2	1.0	0.0	87.1	1.4	1.6	27.1
Pharmaceuticals and medicines	3254	0.3	0.5	1.1	1.4	3.8	0.2	30.3
Other chemicals	other 325	1.4	1.9	0.1	66.9	2.6	1.7	27.7
Plastics and rubber products	326	3.9	7.7	48.3	42.8	16.1	7.8	56.1
Nonmetallic mineral products	327	1.3	1.4	6.3	0.5	10.8	7.3	51.6
Primary metals	331	0.8	0.9	0.0	65.7	1.1	3.2	0.0
Fabricated metal products	332	4.6	3.2	9.9	9.9	13.7	19.1	0.0
Machinery	333	1.8	2.1	33.9	5.6	7.5	4.3	58.9
Computer and electronic products	334	0.2	0.5	2.8	1.2	0.6	0.4	14.9
Computers and peripheral equipment	3341	0.2	0.4	0.0	0.7	7.4	0.5	0.0
Communications equipment	3342	0.4	0.9	0.0	2.5	2.5	0.8	0.0
Semiconductor and other electronic components	3344	0.4	0.8	0.0	2.7	0.7	0.6	20.3
Navigational, measuring, electromedical, and control instruments	3345	0.6	1.0	4.5	3.3	4.4	1.0	31.9
Other computer and electronic products	other 334	0.2	0.4	45.6	3.3	0.4	0.2	0.0
Electrical equipment, appliances, and components	335	0.5	0.8	7.7	13.5	2.6	0.9	45.8
Transportation equipment	336	0.6	0.6	0.0	0.2	1.7	0.1	0.0
Motor vehicles, trailers, and parts	3361–63	1.0	1.2	0.0	3.3	2.7	0.1	0.0
Aerospace products and parts	3364	0.1	0.2	0.0	0.0	0.1	0.2	0.0
Other transportation equipment	other 336	0.4	0.5	0.0	0.0	1.0	0.1	0.0
Furniture and related products	337	10.0	11.6	0.0	5.4	4.5	1.7	34.2
Miscellaneous manufacturing	339	14.8	16.0	6.4	5.1	6.4	5.0	53.2
Medical equipment and supplies	3391	21.0	23.1	6.4	6.0	5.4	7.7	22.1
Other miscellaneous manufacturing	other 339	1.8	2.9	0.0	9.7	13.9	3.3	75.9

TABLE A-2. Relative standard error for survey estimates, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	Sales	Domestic employment	R&D area: Biotechnology	R&D area: Software development	R&D area: Materials synthesis and processing	R&D area: Other areas	R&D area: Percentage of nanotechnology
Nonmanufacturing industries	21–23, 42, 44–81	1.6	4.3	2.9	4.2	2.9	3.7	46.7
Mining, extraction, and support activities	21	0.6	1.5	0.0	0.0	0.0	4.1	0.0
Utilities	22	12.0	21.2	1.6	95.1	0.0	1.1	0.0
Construction	23	25.4	33.6	0.0	0.0	47.6	41.7	0.0
Wholesale trade	42	9.7	11.6	6.4	14.9	12.7	13.1	93.8
Retail trade	44, 45	1.0	2.2	0.0	0.2	0.3	3.8	57.4
Transportation and warehousing	48, 49	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Information	51	0.4	1.0	0.0	1.4	0.1	5.2	45.8
Publishing	511	0.5	0.7	0.0	0.5	0.8	5.0	6.9
Newspaper, periodical, book, and directory	5111	0.4	1.5	0.0	3.2	0.0	4.9	0.0
Software	5112	0.6	0.7	0.0	0.5	0.8	29.2	7.8
Telecommunications	517	0.1	0.3	0.0	5.5	0.0	18.4	87.2
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	0.0	0.1	0.0	6.1	0.0	2.6	87.2
Satellite telecommunications	5174	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other telecommunications	other 517	0.3	1.4	0.0	0.7	0.0	52.1	0.0
Internet service providers, Web search portals, and data-processing services	518	2.0	3.7	0.2	4.1	0.1	3.4	0.0
Internet service providers and Web search portals	5181	1.0	3.2	72.9	1.1	87.8	0.0	0.0
Data-processing, hosting, and related services	5182	2.8	4.1	0.0	6.7	0.0	3.5	0.0
Other information	other 51	3.9	7.6	0.0	50.7	0.0	6.5	0.0
Finance, insurance, and real estate	52, 53	3.7	9.4	0.0	14.8	0.0	31.5	0.0
Professional, scientific, and technical services	54	2.7	2.8	2.8	12.0	3.1	5.9	28.1
Architectural, engineering, and related services	5413	8.1	6.1	1.8	13.6	13.4	10.7	0.0
Computer systems design and related services	5415	0.9	2.3	26.2	9.2	3.4	17.4	80.2
Scientific R&D services	5417	19.2	4.3	2.9	7.1	7.4	4.1	31.5
Other professional, scientific, and technical services	other 54	18.1	14.2	0.0	70.1	0.5	0.0	18.4
Health care services	621–23	2.9	10.8	30.8	46.9	0.0	1.4	0.0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	15.3	31.3	23.7	8.1	46.6	12.7	0.0

TABLE A-2. Relative standard error for survey estimates, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	Sales	Domestic employment	R&D area				
				Biotechnology	Software development	Materials synthesis and processing	Other areas	Percentage of nanotechnology
Company size (employees)								
All companies	-	0.7	1.9	1.0	3.3	1.1	0.8	24.2
5–24	-	11.4	7.5	19.3	12.4	20.0	21.2	41.4
25–49	-	13.4	7.6	9.4	9.9	10.6	13.0	17.3
50–99	-	10.4	11.0	6.0	36.1	7.7	9.5	11.9
100–249	-	10.0	10.7	4.5	22.9	10.1	4.3	38.7
250–499	-	6.8	15.7	0.6	3.8	8.0	0.7	26.7
500–999	-	11.3	25.3	0.0	2.2	0.2	2.7	7.3
1,000–4,999	-	1.1	1.0	0.0	0.0	1.0	0.2	2.6
5,000–9,999	-	0.3	0.3	0.0	0.0	0.0	0.0	0.0
10,000–24,999	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25,000 or more	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TABLE A-2. Relative standard error for survey estimates, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	Scientists and engineers by source of funds			Company-funded R&D performed outside of the 50 United States and DC
		Total	Company funded	Federally funded	
All industries	21–23, 31–33, 42, 44–81	1.3	1.3	4.3	0.6
Manufacturing industries	31–33	0.7	0.7	1.4	0.2
Food	311	1.3	1.3	10.0	0.0
Beverage and tobacco products	312	0.1	0.1	0.0	0.0
Textiles, apparel, and leather	313–16	2.3	1.6	77.1	0.6
Wood products	321	8.4	7.2	92.0	0.0
Paper, printing, and support activities	322, 323	4.4	4.4	0.0	0.0
Petroleum and coal products	324	1.3	1.3	62.3	0.0
Chemicals	325	0.3	0.3	13.9	0.4
Basic chemicals	3251	1.9	1.3	21.9	0.0
Resin, synthetic rubber, fibers, and filament	3252	0.5	0.5	1.8	0.0
Pharmaceuticals and medicines	3254	0.3	0.3	13.7	0.5
Other chemicals	other 325	1.4	1.4	11.8	0.0
Plastics and rubber products	326	6.1	6.1	29.7	8.5
Nonmetallic mineral products	327	4.5	3.3	49.5	1.5
Primary metals	331	1.5	1.5	1.7	0.1
Fabricated metal products	332	16.5	16.9	53.9	2.3
Machinery	333	3.5	3.5	28.1	0.1
Computer and electronic products	334	0.3	0.3	1.2	0.2
Computers and peripheral equipment	3341	0.5	0.5	1.3	0.0
Communications equipment	3342	0.4	0.4	2.2	0.4
Semiconductor and other electronic components	3344	0.4	0.4	3.7	0.2
Navigational, measuring, electromedical, and control instruments	3345	0.8	1.0	1.3	0.9
Other computer and electronic products	other 334	0.7	0.7	28.4	0.0
Electrical equipment, appliances, and components	335	2.6	2.6	3.3	0.1
Transportation equipment	336	0.3	0.3	0.2	0.0
Motor vehicles, trailers, and parts	3361–63	0.4	0.4	1.1	0.0
Aerospace products and parts	3364	0.2	0.3	0.2	0.0
Other transportation equipment	other 336	0.7	1.0	0.0	9.7
Furniture and related products	337	4.4	4.4	0.0	0.0
Miscellaneous manufacturing	339	2.6	2.5	40.5	0.6
Medical equipment and supplies	3391	3.4	3.3	50.4	0.7
Other miscellaneous manufacturing	other 339	3.2	3.1	42.7	0.3

TABLE A-2. Relative standard error for survey estimates, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	Scientists and engineers by source of funds			Company-funded R&D performed outside of the 50 United States and DC
		Total	Company funded	Federally funded	
Nonmanufacturing industries	21–23, 42, 44–81	3.3	3.3	9.2	2.4
Mining, extraction, and support activities	21	2.6	2.6	0.0	0.0
Utilities	22	34.7	36.8	0.0	0.0
Construction	23	17.3	17.5	0.0	0.0
Wholesale trade	42	16.2	16.2	6.2	6.2
Retail trade	44, 45	5.4	5.4	0.0	0.0
Transportation and warehousing	48, 49	0.0	0.0	0.0	0.0
Information	51	2.7	2.7	7.6	0.6
Publishing	511	0.9	0.9	26.8	0.7
Newspaper, periodical, book, and directory	5111	13.4	13.4	0.0	0.0
Software	5112	0.6	0.6	27.3	0.7
Telecommunications	517	7.7	7.7	0.0	2.9
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	4.5	4.5	0.0	2.9
Satellite telecommunications	5174	0.0	0.0	0.0	0.0
Other telecommunications	other 517	25.4	25.4	0.0	0.0
Internet service providers, Web search portals, and data-processing services	518	5.5	5.7	1.6	1.5
Internet service providers and Web search portals	5181	5.6	5.6	0.0	0.0
Data-processing, hosting, and related services	5182	7.0	7.4	1.6	1.8
Other information	other 51	54.3	54.4	91.6	0.0
Finance, insurance, and real estate	52, 53	10.9	10.9	0.0	0.0
Professional, scientific, and technical services	54	6.2	6.6	9.8	6.2
Architectural, engineering, and related services	5413	14.4	12.9	22.6	25.1
Computer systems design and related services	5415	5.5	5.7	19.8	7.2
Scientific R&D services	5417	4.1	5.5	3.5	10.0
Other professional, scientific, and technical services	other 54	60.6	64.4	27.8	0.0
Health care services	621–23	27.5	23.8	93.0	0.0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	14.7	15.6	42.6	0.0

TABLE A-2. Relative standard error for survey estimates, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	Scientists and engineers by source of funds			Company-funded R&D performed outside of the 50 United States and DC
		Total	Company funded	Federally funded	
Company size (employees)					
All companies	-	1.3	1.3	4.3	0.6
5–24	-	8.7	9.2	20.2	39.5
25–49	-	7.3	7.7	18.0	19.6
50–99	-	16.6	17.6	18.2	15.1
100–249	-	10.8	9.0	41.3	5.0
250–499	-	2.2	2.4	1.1	0.3
500–999	-	2.9	3.1	0.1	1.3
1,000–4,999	-	1.6	1.6	0.0	0.0
5,000–9,999	-	0.0	0.0	0.0	0.0
10,000–24,999	-	0.0	0.0	0.0	0.0
25,000 or more	-	0.0	0.0	0.0	0.0

- = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. A description of the standard error of estimate is given in the technical notes in appendix A. The percentage (or relative) standard errors (RSE) in this table may be converted to standard errors of estimate by multiplying the percentages shown by the associated estimates. For example, the relative standard error of estimate for company-funded R&D performance by the wood products industry (NAICS 321) is shown as 1.9%, and the associated company-funded R&D estimate for this industry is shown as $192 million in table 11. The standard error of estimate is 0.019 times $192 million, or $3.6 million. A relative standard error of 0.0 either relates to an estimate of 0 or indicates that the RSE itself has been rounded to zero. Also, RSEs for data items only collected on the Form RD-1 from companies selected for the sample with certainty are equal to 0.0. However, for data items only collected on Form RD-1, but imputed for companies receiving Form RD-1A, the respective RSEs are equal to some positive value. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE A-3. Relative standard error for estimates of all R&D and percentage of estimates attributed to certainty companies, by state: 2006

State	All R&D ($millions)	Relative standard error (%)	% of estimate from certainty companies
United States	247,669	0.8	91.5
Alabama	1,835	1.0	88.0
Alaska	49 e	11.1	34.1
Arizona	3,590	0.7	92.4
Arkansas	285	3.1	67.1
California	58,424	0.5	93.3
Colorado	4,657	1.0	90.3
Connecticut	8,273	0.4	96.0
Delaware	1,446	0.5	95.8
District of Columbia	276	13.6	62.4
Florida	4,139	2.5	80.1
Georgia	2,786	1.8	82.3
Hawaii	155	3.8	70.6
Idaho	625	0.7	92.4
Illinois	10,765	0.9	91.3
Indiana	4,858	0.5	93.2
Iowa	1,055	1.1	86.2
Kansas	2,064 i	0.6	93.4 i
Kentucky	839	1.4	84.1
Louisiana	367	4.8	60.9
Maine	253	1.9	79.3
Maryland	3,421	2.0	82.2
Massachusetts	15,562	0.5	93.4
Michigan	16,477	0.4	95.5
Minnesota	6,296	0.6	92.9
Mississippi	231	2.8	72.9
Missouri	2,675	1.2	87.6
Montana	103 i	3.3	72.6 i
Nebraska	447	1.9	80.9
Nevada	535	2.6	77.6
New Hampshire	1,774 i	0.6	92.5 i
New Jersey	14,606	0.6	93.9
New Mexico	676	1.0	87.5
New York	9,518	1.9	86.0
North Carolina	5,486	0.7	91.0
North Dakota	120	2.4	77.6
Ohio	6,852	0.9	88.9
Oklahoma	474	2.9	71.4
Oregon	3,419	0.5	93.4
Pennsylvania	9,819	0.8	91.5
Rhode Island	1,330 i	0.4	95.6 i
South Carolina	1,396	1.1	89.3
South Dakota	95	2.7	68.3
Tennessee	1,428	1.6	83.3
Texas	13,334	1.0	89.6
Utah	1,274	1.4	85.1

TABLE A-3. Relative standard error for estimates of all R&D and percentage of estimates attributed to certainty companies, by state: 2006

State	All R&D ($millions)	Relative standard error (%)	% of estimate from certainty companies
Vermont	360	0.8	90.1
Virginia	4,816	2.2	81.8
Washington	11,320	0.4	95.4
West Virginia	221	1.9	82.1
Wisconsin	3,020	1.0	88.0
Wyoming	27 e	7.0	40.3
Undistributed funds	3,814 i	0.0	100.0 i

e = estimated, more than 50% of cell value is imputed due to raking of state data; i = more than 50% of the value is imputed.

NOTES: A description of the standard error of estimate is given in the technical notes in appendix A. The percentage (or relative) standard errors may be converted to standard errors of estimate by multiplying the percentages shown by the associated estimates. For example, the relative standard error of estimate for United States, all R&D is shown as 0.8%, and the associated R&D estimate is shown as $247.7 billion. The standard error of estimate is 0.008 times $247.7 billion, or $2.0 billion. Certainties are companies whose probability of selection is one based on prior-year R&D expenditures equal to or greater than $3 million as well as other companies included in the sample for analytical purposes (analytical certainties). Noncertainties are companies whose probability of selection is less than one. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE A-4. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2006

Industry and company size	NAICS codes	All companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	% of responding companies reporting R&D
All industries	21–23, 31–33, 42, 44–81	31,913	24,748	77.5	37.9
Manufacturing industries	31–33	14,621	11,488	78.6	54.2
Food	311	821	666	81.1	49.7
Beverage and tobacco products	312	206	152	73.8	19.7
Textiles, apparel, and leather	313–16	631	467	74.0	35.3
Wood products	321	482	373	77.4	20.6
Paper, printing, and support activities	322, 323	683	537	78.6	29.4
Petroleum and coal products	324	172	120	69.8	44.2
Chemicals	325	1,446	1,158	80.1	72.6
Basic chemicals	3251	258	207	80.2	72.0
Resin, synthetic rubber, fibers, and filament	3252	163	129	79.1	65.9
Pharmaceuticals and medicines	3254	328	260	79.3	83.8
Other chemicals	other 325	697	562	80.6	69.2
Plastics and rubber products	326	875	704	80.5	60.2
Nonmetallic mineral products	327	464	367	79.1	34.9
Primary metals	331	379	308	81.3	42.2
Fabricated metal products	332	1,288	1,046	81.2	46.1
Machinery	333	1,524	1,240	81.4	65.4
Computer and electronic products	334	1,951	1,458	74.7	75.5
Computers and peripheral equipment	3341	275	208	75.6	76.0
Communications equipment	3342	348	265	76.1	81.5
Semiconductor and other electronic components	3344	563	414	73.5	65.7
Navigational, measuring, electromedical, and control instruments	3345	567	437	77.1	84.4
Other computer and electronic products	other 334	198	134	67.7	64.2
Electrical equipment, appliances, and components	335	665	519	78.0	70.9
Transportation equipment	336	951	736	77.4	52.7
Motor vehicles, trailers, and parts	3361–63	529	415	78.4	55.9
Aerospace products and parts	3364	174	134	77.0	51.5
Other transportation equipment	other 336	248	187	75.4	46.5
Furniture and related products	337	640	507	79.2	29.4
Miscellaneous manufacturing	339	1,346	1,085	80.6	53.9
Medical equipment and supplies	3391	625	503	80.5	67.2
Other miscellaneous manufacturing	other 339	721	582	80.7	42.4
Unclassified manufacturing	-	97	45	46.4	0.0

TABLE A-4. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2006

Industry and company size	NAICS codes	All companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	% of responding companies reporting R&D
Nonmanufacturing industries	21–23, 42, 44–81	17,292	13,260	76.7	23.9
Mining, extraction, and support activities	21	357	290	81.2	10.0
Utilities	22	137	116	84.7	31.9
Construction	23	1,380	1,103	79.9	4.0
Wholesale trade	42	1,745	1,352	77.5	30.0
Retail trade	44, 45	1,321	1,028	77.8	4.9
Transportation and warehousing	48, 49	415	316	76.1	8.2
Information	51	2,311	1,687	73.0	43.4
Publishing	511	1,052	773	73.5	60.8
Newspaper, periodical, book, and directory	5111	299	230	76.9	13.0
Software	5112	753	543	72.1	81.0
Telecommunications	517	332	233	70.2	20.6
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	177	129	72.9	19.4
Satellite telecommunications	5174	70	43	61.4	14.0
Other telecommunications	other 517	85	61	71.8	27.9
Internet service providers, Web search portals, and data-processing services	518	585	417	71.3	41.5
Internet service providers and Web search portals	5181	181	125	69.1	25.6
Data-processing, hosting, and related services	5182	404	292	72.3	48.3
Other information	other 51	342	264	77.2	15.5
Finance, insurance, and real estate	52, 53	988	805	81.5	7.8
Professional, scientific, and technical services	54	4,347	3,354	77.2	46.0
Architectural, engineering, and related services	5413	773	625	80.9	28.3
Computer systems design and related services	5415	1,421	1,027	72.3	56.4
Scientific R&D services	5417	1,239	977	78.9	72.9
Other professional, scientific, and technical services	other 54	914	725	79.3	10.3
Health care services	621–23	1,269	1,050	82.7	9.2
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	2,758	2,019	73.2	6.7
Unclassified nonmanufacturing	-	264	140	53.0	0.0

TABLE A-4. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2006

Industry and company size	NAICS codes	All companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	% of responding companies reporting R&D
Company size (employees)					
All companies	-	31,913	24,748	77.5	37.9
5–24	-	10,484	8,031	76.6	13.5
25–49	-	4,774	3,763	78.8	33.5
50–99	-	4,636	3,615	78.0	45.0
100–249	-	5,385	4,188	77.8	52.1
250–499	-	2,645	1,997	75.5	58.8
500–999	-	1,591	1,244	78.2	60.2
1,000–4,999	-	1,739	1,362	78.3	66.8
5,000–9,999	-	295	242	82.0	72.3
10,000–24,999	-	203	171	84.2	76.6
25,000 or more	-	161	135	83.9	68.1

TABLE A-4. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2006

Industry and company size	NAICS codes	Top 500 R&D-performing companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	% of responding companies reporting R&D
All industries	21–23, 31–33, 42, 44–81	500	446	89.2	98.7
Manufacturing industries	31–33	354	313	88.4	98.4
Food	311	15	15	100.0	100.0
Beverage and tobacco products	312	1	0	0.0	–
Textiles, apparel, and leather	313–16	1	1	100.0	100.0
Wood products	321	0	0	–	–
Paper, printing, and support activities	322, 323	7	7	100.0	100.0
Petroleum and coal products	324	4	4	100.0	100.0
Chemicals	325	99	90	90.9	98.9
Basic chemicals	3251	11	11	100.0	100.0
Resin, synthetic rubber, fibers, and filament	3252	2	2	100.0	100.0
Pharmaceuticals and medicines	3254	72	63	87.5	100.0
Other chemicals	other 325	14	14	100.0	92.9
Plastics and rubber products	326	4	4	100.0	100.0
Nonmetallic mineral products	327	4	4	100.0	100.0
Primary metals	331	2	2	100.0	100.0
Fabricated metal products	332	2	2	100.0	100.0
Machinery	333	25	21	84.0	100.0
Computer and electronic products	334	121	100	82.6	96.0
Computers and peripheral equipment	3341	18	16	88.9	100.0
Communications equipment	3342	20	16	80.0	93.8
Semiconductor and other electronic components	3344	44	33	75.0	100.0
Navigational, measuring, electromedical, and control instruments	3345	34	31	91.2	93.5
Other computer and electronic products	other 334	5	4	80.0	75.0
Electrical equipment, appliances, and components	335	6	6	100.0	100.0
Transportation equipment	336	47	42	89.4	100.0
Motor vehicles, trailers, and parts	3361–63	31	27	87.1	100.0
Aerospace products and parts	3364	11	10	90.9	100.0
Other transportation equipment	other 336	5	5	100.0	100.0
Furniture and related products	337	0	0	–	–
Miscellaneous manufacturing	339	16	15	93.8	100.0
Medical equipment and supplies	3391	13	12	92.3	100.0
Other miscellaneous manufacturing	other 339	3	3	100.0	100.0
Unclassified manufacturing	-	0	0	–	–

TABLE A-4. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2006

Industry and company size	NAICS codes	Top 500 R&D-performing companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	% of responding companies reporting R&D
Nonmanufacturing industries	21–23, 42, 44–81	146	133	91.1	99.2
Mining, extraction, and support activities	21	3	3	100.0	100.0
Utilities	22	0	0	–	–
Construction	23	2	2	100.0	100.0
Wholesale trade	42	0	0	–	–
Retail trade	44, 45	4	3	75.0	100.0
Transportation and warehousing	48, 49	1	1	100.0	100.0
Information	51	58	48	82.8	97.9
Publishing	511	41	33	80.5	97.0
Newspaper, periodical, book, and directory	5111	3	2	66.7	100.0
Software	5112	38	31	81.6	96.8
Telecommunications	517	10	8	80.0	100.0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	7	5	71.4	100.0
Satellite telecommunications	5174	0	0	–	–
Other telecommunications	other 517	3	3	100.0	100.0
Internet service providers, Web search portals, and data-processing services	518	6	6	100.0	100.0
Internet service providers and Web search portals	5181	2	2	100.0	100.0
Data-processing, hosting, and related services	5182	4	4	100.0	100.0
Other information	other 51	1	1	100.0	100.0
Finance, insurance, and real estate	52, 53	7	6	85.7	100.0
Professional, scientific, and technical services	54	66	65	98.5	100.0
Architectural, engineering, and related services	5413	12	12	100.0	100.0
Computer systems design and related services	5415	18	17	94.4	100.0
Scientific R&D services	5417	34	34	100.0	100.0
Other professional, scientific, and technical services	other 54	2	2	100.0	100.0
Health care services	621–23	3	3	100.0	100.0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	2	2	100.0	100.0
Unclassified nonmanufacturing	-	0	0	–	–

TABLE A-4. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2006

Industry and company size	NAICS codes	Top 500 R&D-performing companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	% of responding companies reporting R&D
Company size (employees)					
All companies	-	500	446	89.2	98.7
5–24	-	0	0	–	–
25–49	-	1	1	100.0	100.0
50–99	-	0	0	–	–
100–249	-	17	17	100.0	100.0
250–499	-	23	22	95.7	100.0
500–999	-	61	46	75.4	100.0
1,000–4,999	-	180	159	88.3	98.1
5,000–9,999	-	64	58	90.6	98.3
10,000–24,999	-	78	74	94.9	98.6
25,000 or more	-	76	69	90.8	98.6

TABLE A-4. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2006

Industry and company size	NAICS codes	All companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	% of responding companies reporting R&D
Form RD–1					
All industries	21–23, 31–33, 42, 44–81	3,537	2,945	83.3	91.7
Manufacturing industries	31–33	1,972	1,672	84.8	94.9
Food	311	65	61	93.8	98.4
Beverage and tobacco products	312	10	9	90.0	100.0
Textiles, apparel, and leather	313–16	35	32	91.4	87.5
Wood products	321	10	8	80.0	100.0
Paper, printing, and support activities	322, 323	46	42	91.3	95.2
Petroleum and coal products	324	11	7	63.6	85.7
Chemicals	325	342	300	87.7	97.0
Basic chemicals	3251	62	54	87.1	100.0
Resin, synthetic rubber, fibers, and filament	3252	26	23	88.5	95.7
Pharmaceuticals and medicines	3254	179	149	83.2	96.0
Other chemicals	other 325	75	74	98.7	97.3
Plastics and rubber products	326	95	83	87.4	95.2
Nonmetallic mineral products	327	29	26	89.7	92.3
Primary metals	331	32	29	90.6	89.7
Fabricated metal products	332	72	58	80.6	91.4
Machinery	333	200	174	87.0	93.7
Computer and electronic products	334	582	465	79.9	94.8
Computers and peripheral equipment	3341	72	64	88.9	96.9
Communications equipment	3342	143	110	76.9	91.8
Semiconductor and other electronic components	3344	162	125	77.2	96.8
Navigational, measuring, electromedical, and control instruments	3345	178	147	82.6	94.6
Other computer and electronic products	other 334	27	19	70.4	94.7
Electrical equipment, appliances, and components	335	100	83	83.0	92.8
Transportation equipment	336	174	151	86.8	92.7
Motor vehicles, trailers, and parts	3361–63	116	103	88.8	92.2
Aerospace products and parts	3364	36	30	83.3	93.3
Other transportation equipment	other 336	22	18	81.8	94.4
Furniture and related products	337	17	16	94.1	100.0
Miscellaneous manufacturing	339	152	128	84.2	97.7
Medical equipment and supplies	3391	114	93	81.6	98.9
Other miscellaneous manufacturing	other 339	38	35	92.1	94.3
Unclassified manufacturing	-	0	0	–	–

TABLE A-4. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2006

Industry and company size	NAICS codes	All companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	% of responding companies reporting R&D
Nonmanufacturing industries	21–23, 42, 44–81	1,565	1,273	81.3	87.5
Mining, extraction, and support activities	21	22	18	81.8	83.3
Utilities	22	21	19	90.5	73.7
Construction	23	15	15	100.0	73.3
Wholesale trade	42	108	83	76.9	81.9
Retail trade	44, 45	23	16	69.6	68.8
Transportation and warehousing	48, 49	13	12	92.3	66.7
Information	51	365	284	77.8	89.4
Publishing	511	267	209	78.3	90.4
Newspaper, periodical, book, and directory	5111	19	15	78.9	93.3
Software	5112	248	194	78.2	90.2
Telecommunications	517	29	20	69.0	75.0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	18	12	66.7	75.0
Satellite telecommunications	5174	2	1	50.0	0.0
Other telecommunications	other 517	9	7	77.8	85.7
Internet service providers, Web search portals, and data-processing services	518	54	42	77.8	88.1
Internet service providers and Web search portals	5181	7	6	85.7	66.7
Data-processing, hosting, and related services	5182	47	36	76.6	91.7
Other information	other 51	15	13	86.7	100.0
Finance, insurance, and real estate	52, 53	71	55	77.5	65.5
Professional, scientific, and technical services	54	850	710	83.5	91.3
Architectural, engineering, and related services	5413	81	65	80.2	95.4
Computer systems design and related services	5415	248	195	78.6	90.8
Scientific R&D services	5417	472	406	86.0	92.6
Other professional, scientific, and technical services	other 54	49	44	89.8	75.0
Health care services	621–23	17	14	82.4	71.4
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	60	47	78.3	83.0
Unclassified nonmanufacturing	-	0	0	–	–

TABLE A-4. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2006

Industry and company size	NAICS codes	All companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	% of responding companies reporting R&D
Company size (employees)					
All companies	-	3,537	2,945	83.3	91.7
5–24	-	82	61	74.4	70.5
25–49	-	238	188	79.0	92.6
50–99	-	362	292	80.7	89.4
100–249	-	698	573	82.1	89.7
250–499	-	477	397	83.2	93.7
500–999	-	475	398	83.8	93.5
1,000–4,999	-	784	661	84.3	92.7
5,000–9,999	-	172	151	87.8	94.0
10,000–24,999	-	142	128	90.1	95.3
25,000 or more	-	107	96	89.7	90.6

TABLE A-4. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2006

Industry and company size	NAICS codes	All companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	% of responding companies reporting R&D
Form RD–1A					
All industries	21–23, 31–33, 42, 44–81	28,376	21,803	76.8	30.7
Manufacturing industries	31–33	12,649	9,816	77.6	47.2
Food	311	756	605	80.0	44.8
Beverage and tobacco products	312	196	143	73.0	14.7
Textiles, apparel, and leather	313–16	596	435	73.0	31.5
Wood products	321	472	365	77.3	18.9
Paper, printing, and support activities	322, 323	637	495	77.7	23.8
Petroleum and coal products	324	161	113	70.2	41.6
Chemicals	325	1,104	858	77.7	64.1
Basic chemicals	3251	196	153	78.1	62.1
Resin, synthetic rubber, fibers, and filament	3252	137	106	77.4	59.4
Pharmaceuticals and medicines	3254	149	111	74.5	67.6
Other chemicals	other 325	622	488	78.5	65.0
Plastics and rubber products	326	780	621	79.6	55.6
Nonmetallic mineral products	327	435	341	78.4	30.5
Primary metals	331	347	279	80.4	37.3
Fabricated metal products	332	1,216	988	81.3	43.4
Machinery	333	1,324	1,066	80.5	60.8
Computer and electronic products	334	1,369	993	72.5	66.5
Computers and peripheral equipment	3341	203	144	70.9	66.7
Communications equipment	3342	205	155	75.6	74.2
Semiconductor and other electronic components	3344	401	289	72.1	52.2
Navigational, measuring, electromedical, and control instruments	3345	389	290	74.6	79.3
Other computer and electronic products	other 334	171	115	67.3	59.1
Electrical equipment, appliances, and components	335	565	436	77.2	66.7
Transportation equipment	336	777	585	75.3	42.4
Motor vehicles, trailers, and parts	3361–63	413	312	75.5	43.9
Aerospace products and parts	3364	138	104	75.4	39.4
Other transportation equipment	other 336	226	169	74.8	41.4
Furniture and related products	337	623	491	78.8	27.1
Miscellaneous manufacturing	339	1,194	957	80.2	48.1
Medical equipment and supplies	3391	511	410	80.2	60.0
Other miscellaneous manufacturing	other 339	683	547	80.1	39.1
Unclassified manufacturing	-	97	45	46.4	0.0

TABLE A-4. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2006

Industry and company size	NAICS codes	All companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	% of responding companies reporting R&D
Nonmanufacturing industries	21–23, 42, 44–81	15,727	11,987	76.2	17.1
Mining, extraction, and support activities	21	335	272	81.2	5.1
Utilities	22	116	97	83.6	23.7
Construction	23	1,365	1,088	79.7	3.0
Wholesale trade	42	1,637	1,269	77.5	26.6
Retail trade	44, 45	1,298	1,012	78.0	3.9
Transportation and warehousing	48, 49	402	304	75.6	5.9
Information	51	1,946	1,403	72.1	34.1
Publishing	511	785	564	71.8	49.8
Newspaper, periodical, book, and directory	5111	280	215	76.8	7.4
Software	5112	505	349	69.1	75.9
Telecommunications	517	303	213	70.3	15.5
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	159	117	73.6	13.7
Satellite telecommunications	5174	68	42	61.8	14.3
Other telecommunications	other 517	76	54	71.1	20.4
Internet service providers, Web search portals, and data-processing services	518	531	375	70.6	36.3
Internet service providers and Web search portals	5181	174	119	68.4	23.5
Data-processing, hosting, and related services	5182	357	256	71.7	42.2
Other information	other 51	327	251	76.8	11.2
Finance, insurance, and real estate	52, 53	917	750	81.8	3.6
Professional, scientific, and technical services	54	3,497	2,644	75.6	33.9
Architectural, engineering, and related services	5413	692	560	80.9	20.5
Computer systems design and related services	5415	1,173	832	70.9	48.3
Scientific R&D services	5417	767	571	74.4	58.8
Other professional, scientific, and technical services	other 54	865	681	78.7	6.2
Health care services	621–23	1,252	1,036	82.7	8.4
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	2,698	1,972	73.1	4.9
Unclassified nonmanufacturing	-	264	140	53.0	0.0

TABLE A-4. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2006

Industry and company size	NAICS codes	All companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	% of responding companies reporting R&D
Company size (employees)					
All companies	-	28,376	21,803	76.8	30.7
5–24	-	10,402	7,970	76.6	13.1
25–49	-	4,536	3,575	78.8	30.3
50–99	-	4,274	3,323	77.7	41.1
100–249	-	4,687	3,615	77.1	46.1
250–499	-	2,168	1,600	73.8	50.1
500–999	-	1,116	846	75.8	44.6
1,000–4,999	-	955	701	73.4	42.4
5,000–9,999	-	123	91	74.0	36.3
10,000–24,999	-	61	43	70.5	20.9
25,000 or more	-	54	39	72.2	12.8

- = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. The calculation of the percent of companies responding to the survey was based on all companies responding to the survey. It excludes companies for which total R&D expenditure data were imputed. Mathematically, the percentage was calculated by dividing the number of companies that received a questionnaire (indicated in the previous column) into the number of companies that returned a response or questionnaire regardless of the data or information supplied in the response or on the questionnaire. Companies that were missing or had an incomplete North American Classification System (NAICS) code at the time of sampling were assigned to an "unclassified" industry category temporarily. If an unclassified company reported R&D expenditures, its primary industrial activity was investigated and a NAICS code was assigned during statistical processing. The total "number of companies receiving a questionnaire" may be smaller than the number of "companies selected for the sample" in table A-1 because some companies selected for the survey went out of business or were merged with other companies between sample selection and survey mail-out; that is, the sample was updated before actual mail-out took place. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	All R&D			Basic research			Applied research		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded	Total	Company funded	Federally funded
All industries	21–23, 31–33, 42, 44–81	10	10	10	20	20	20	20	20	30
Manufacturing industries	31–33	10	20	10	20	20	10	30	20	30
Food	311	10	10	0	10	10	70	10	10	60
Beverage and tobacco products	312	80	80	0	0	0	0	10	10	0
Textiles, apparel, and leather	313–16	10	10	0	10	10	0	0	0	0
Wood products	321	20	20	10	70	70	0	70	70	0
Paper, printing, and support activities	322, 323	10	10	0	10	10	0	10	10	0
Petroleum and coal products	324	10	10	0	10	10	0	0	10	0
Chemicals	325	10	10	10	10	10	10	20	20	10
Basic chemicals	3251	10	10	0	10	10	40	10	10	10
Resin, synthetic rubber, fibers, and filament	3252	10	10	0	10	10	0	10	10	0
Pharmaceuticals and medicines	3254	10	10	10	10	10	0	20	20	0
Other chemicals	other 325	10	10	0	30	30	0	10	10	0
Plastics and rubber products	326	10	10	0	20	20	0	20	20	0
Nonmetallic mineral products	327	10	10	0	10	10	0	10	10	0
Primary metals	331	10	10	0	0	0	0	10	10	0
Fabricated metal products	332	20	20	70	10	10	0	10	10	0
Machinery	333	10	10	10	20	20	0	30	30	0
Computer and electronic products	334	30	30	20	40	40	10	30	30	40
Computers and peripheral equipment	3341	20	20	20	10	10	99	20	10	99
Communications equipment	3342	40	40	30	99	99	0	40	40	20
Semiconductor and other electronic components	3344	20	20	10	30	30	10	40	40	10
Navigational, measuring, electromedical, and control instruments	3345	20	20	20	10	20	10	20	20	10
Other computer and electronic products	other 334	40	40	0	70	70	0	20	20	0
Electrical equipment, appliances, and components	335	20	20	10	20	20	0	30	30	10
Transportation equipment	336	10	10	10	20	20	10	30	30	30
Motor vehicles, trailers, and parts	3361–63	10	10	10	40	50	30	30	30	30
Aerospace products and parts	3364	10	10	10	20	20	40	20	30	20
Other transportation equipment	other 336	10	10	0	10	10	0	70	10	90
Furniture and related products	337	10	10	0	0	10	0	10	10	0
Miscellaneous manufacturing	339	10	10	10	60	60	70	30	30	10
Medical equipment and supplies	3391	10	10	10	70	70	40	30	30	10
Other miscellaneous manufacturing	other 339	10	10	0	20	10	100	10	10	0

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	All R&D			Basic research			Applied research		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded	Total	Company funded	Federally funded
Nonmanufacturing industries	21–23, 42, 44–81	10	10	10	20	10	20	20	10	30
Mining, extraction, and support activities	21	10	10	0	40	40	0	10	30	100
Utilities	22	10	10	30	0	0	0	10	10	80
Construction	23	10	10	0	0	0	0	10	10	0
Wholesale trade	42	10	10	0	20	20	100	20	20	99
Retail trade	44, 45	30	30	99	0	0	0	60	60	0
Transportation and warehousing	48, 49	10	10	0	0	0	0	10	10	0
Information	51	10	10	0	10	10	0	10	10	0
Publishing	511	10	10	0	10	10	0	10	10	0
Newspaper, periodical, book, and directory	5111	40	40	0	0	0	0	40	50	0
Software	5112	10	10	0	10	10	0	10	10	0
Telecommunications	517	20	20	0	0	0	0	20	20	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	20	20	0	0	0	0	10	10	0
Satellite telecommunications	5174	0	0	0	0	0	0	0	0	0
Other telecommunications	other 517	10	10	0	0	0	0	40	40	0
Internet service providers, Web search portals, and data-processing services	518	10	10	0	0	0	0	10	10	0
Internet service providers and Web search portals	5181	10	10	0	0	0	0	40	40	0
Data-processing, hosting, and related services	5182	10	10	0	0	0	0	0	0	0
Other information	other 51	0	0	0	0	0	0	0	0	0
Finance, insurance, and real estate	52, 53	20	20	0	0	0	0	10	10	0
Professional, scientific, and technical services	54	10	10	10	20	20	20	20	10	30
Architectural, engineering, and related services	5413	10	10	10	40	30	60	20	20	60
Computer systems design and related services	5415	10	10	10	10	10	0	10	10	0
Scientific R&D services	5417	10	10	10	20	20	20	20	20	30
Other professional, scientific, and technical services	other 54	10	10	10	20	20	0	10	10	10
Health care services	621–23	10	10	0	0	0	0	0	0	0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	10	10	0	30	40	0	10	10	0

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	All R&D			Basic research			Applied research		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded	Total	Company funded	Federally funded
Company size (employees)										
All companies	-	10	10	10	20	20	20	20	20	30
5–24	-	10	10	10	10	10	10	10	10	10
25–49	-	10	10	10	20	20	10	10	10	10
50–99	-	10	10	10	40	40	50	10	10	30
100–249	-	10	10	10	20	20	20	20	20	30
250–499	-	20	20	10	10	10	0	10	10	10
500–999	-	20	30	10	20	20	10	30	30	30
1,000–4,999	-	20	20	10	20	20	10	30	20	50
5,000–9,999	-	20	20	10	40	40	10	40	40	20
10,000–24,999	-	10	10	10	10	10	10	10	10	10
25,000 or more	-	10	10	10	20	20	10	30	20	40

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006
(Percent)

Industry and company size	NAICS codes	Development			Type of R&D expense				
		Total	Company funded	Federally funded	Wages and salaries of R&D personnel	Fringe benefits of R&D personnel	Materials and supplies	R&D depreciation	Other costs
All industries	21–23, 31–33, 42, 44–81	20	20	20	50	60	60	50	50
Manufacturing industries	31–33	30	30	20	60	60	60	60	60
Food	311	10	10	0	40	40	40	40	30
Beverage and tobacco products	312	0	0	0	80	80	80	80	90
Textiles, apparel, and leather	313–16	10	10	0	30	30	50	30	30
Wood products	321	30	30	20	60	80	80	70	50
Paper, printing, and support activities	322, 323	10	10	0	90	90	99	90	90
Petroleum and coal products	324	40	40	0	90	99	50	90	99
Chemicals	325	20	20	30	70	70	80	60	80
Basic chemicals	3251	20	20	20	40	50	50	50	50
Resin, synthetic rubber, fibers, and filament	3252	20	20	0	10	30	10	10	50
Pharmaceuticals and medicines	3254	20	20	40	70	70	80	70	80
Other chemicals	other 325	50	50	50	40	40	50	30	70
Plastics and rubber products	326	10	10	40	40	40	10	60	40
Nonmetallic mineral products	327	10	10	0	40	30	30	40	50
Primary metals	331	50	50	80	70	70	70	80	70
Fabricated metal products	332	20	10	70	40	40	50	40	50
Machinery	333	10	10	10	60	50	60	50	40
Computer and electronic products	334	40	40	50	60	60	80	50	60
Computers and peripheral equipment	3341	20	20	0	80	80	80	90	70
Communications equipment	3342	60	60	90	40	30	70	30	60
Semiconductor and other electronic components	3344	20	20	10	40	40	50	30	40
Navigational, measuring, electromedical, and control instruments	3345	40	40	50	90	90	90	90	60
Other computer and electronic products	other 334	50	50	0	80	80	90	60	70
Electrical equipment, appliances, and components	335	20	20	10	40	40	40	40	30
Transportation equipment	336	30	30	10	60	60	50	70	30
Motor vehicles, trailers, and parts	3361–63	20	20	20	60	60	50	60	50
Aerospace products and parts	3364	40	40	20	40	60	40	70	20
Other transportation equipment	other 336	10	30	0	90	90	80	90	50
Furniture and related products	337	10	10	0	50	40	50	50	40
Miscellaneous manufacturing	339	10	10	0	50	50	60	60	40
Medical equipment and supplies	3391	20	20	0	60	60	60	60	50
Other miscellaneous manufacturing	other 339	10	10	0	40	40	50	70	30

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006
(Percent)

Industry and company size	NAICS codes	Development			Type of R&D expense				
		Total	Company funded	Federally funded	Wages and salaries of R&D personnel	Fringe benefits of R&D personnel	Materials and supplies	R&D depreciation	Other costs
Nonmanufacturing industries	21–23, 42, 44–81	10	10	20	40	40	60	40	30
Mining, extraction, and support activities	21	10	30	30	10	20	20	30	10
Utilities	22	20	20	10	30	30	40	50	20
Construction	23	10	10	0	80	90	90	99	80
Wholesale trade	42	10	10	0	50	50	60	40	60
Retail trade	44, 45	30	30	99	40	30	20	60	30
Transportation and warehousing	48, 49	20	20	0	80	90	80	90	80
Information	51	10	10	0	30	40	70	40	30
Publishing	511	10	10	0	30	40	60	50	20
Newspaper, periodical, book, and directory	5111	10	10	0	40	40	70	99	50
Software	5112	10	10	0	30	40	50	40	20
Telecommunications	517	20	20	0	60	70	90	70	60
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	30	30	0	50	60	90	70	50
Satellite telecommunications	5174	0	0	0	0	0	0	0	0
Other telecommunications	other 517	10	10	0	99	99	99	80	99
Internet service providers, Web search portals, and data-processing services	518	10	10	0	20	50	40	20	20
Internet service providers and Web search portals	5181	10	10	0	30	50	50	20	20
Data-processing, hosting, and related services	5182	10	10	0	20	40	40	20	20
Other information	other 51	10	10	0	40	20	20	20	20
Finance, insurance, and real estate	52, 53	10	10	0	30	40	50	50	20
Professional, scientific, and technical services	54	10	10	20	40	40	50	40	40
Architectural, engineering, and related services	5413	10	10	10	50	30	70	40	40
Computer systems design and related services	5415	10	10	10	20	20	20	20	10
Scientific R&D services	5417	20	20	40	60	50	50	50	50
Other professional, scientific, and technical services	other 54	10	10	0	40	30	70	70	70
Health care services	621–23	0	0	0	70	10	10	10	10
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	10	10	0	20	30	40	50	20

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	Development			Type of R&D expense				
		Total	Company funded	Federally funded	Wages and salaries of R&D personnel	Fringe benefits of R&D personnel	Materials and supplies	R&D depreciation	Other costs
Company size (employees)									
All companies	-	20	20	20	50	60	60	50	50
5–24	-	10	10	10	50	60	60	60	50
25–49	-	10	10	10	50	50	50	50	50
50–99	-	10	10	30	50	60	50	50	50
100–249	-	20	20	20	50	50	40	50	50
250–499	-	20	20	20	40	40	40	40	40
500–999	-	30	30	50	50	50	50	40	50
1,000–4,999	-	20	20	50	50	50	50	50	50
5,000–9,999	-	20	20	60	60	50	60	50	50
10,000–24,999	-	20	20	10	50	50	70	50	50
25,000 or more	-	20	20	20	60	70	70	60	60

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	R&D performed by other organizations			Company-funded R&D projected for next year		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded
All industries	21–23, 31–33, 42, 44–81	10	20	10	60	60	80
Manufacturing industries	31–33	10	20	10	70	70	90
Food	311	10	10	0	40	40	99
Beverage and tobacco products	312	0	10	0	90	90	0
Textiles, apparel, and leather	313–16	0	0	0	30	20	60
Wood products	321	70	70	0	50	50	90
Paper, printing, and support activities	322, 323	0	0	0	80	80	99
Petroleum and coal products	324	10	10	0	70	70	90
Chemicals	325	20	20	0	70	70	40
Basic chemicals	3251	10	10	0	40	40	30
Resin, synthetic rubber, fibers, and filament	3252	10	10	0	60	60	70
Pharmaceuticals and medicines	3254	20	20	0	70	70	50
Other chemicals	other 325	10	10	0	60	60	60
Plastics and rubber products	326	10	10	0	50	50	60
Nonmetallic mineral products	327	10	20	0	40	30	40
Primary metals	331	10	10	0	60	60	90
Fabricated metal products	332	10	10	0	20	20	70
Machinery	333	50	50	0	40	40	30
Computer and electronic products	334	10	10	10	70	70	90
Computers and peripheral equipment	3341	20	20	100	80	80	99
Communications equipment	3342	10	10	0	70	70	90
Semiconductor and other electronic components	3344	20	30	0	70	70	10
Navigational, measuring, electromedical, and control instruments	3345	10	10	0	80	70	90
Other computer and electronic products	other 334	10	10	0	60	60	0
Electrical equipment, appliances, and components	335	10	10	0	40	40	30
Transportation equipment	336	10	10	0	70	70	80
Motor vehicles, trailers, and parts	3361–63	10	10	0	60	60	20
Aerospace products and parts	3364	10	10	0	70	80	70
Other transportation equipment	other 336	40	40	0	80	50	99
Furniture and related products	337	0	0	0	40	40	0
Miscellaneous manufacturing	339	10	10	0	60	60	10
Medical equipment and supplies	3391	20	20	0	60	70	10
Other miscellaneous manufacturing	other 339	10	10	0	30	30	20

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	R&D performed by other organizations			Company-funded R&D projected for next year		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded
Nonmanufacturing industries	21–23, 42, 44–81	10	20	0	40	30	60
Mining, extraction, and support activities	21	10	10	0	10	10	0
Utilities	22	10	10	0	20	20	20
Construction	23	0	0	0	70	70	60
Wholesale trade	42	20	20	0	30	30	60
Retail trade	44, 45	90	90	0	80	80	100
Transportation and warehousing	48, 49	0	0	0	80	80	0
Information	51	20	20	0	30	40	20
Publishing	511	30	30	0	40	40	20
Newspaper, periodical, book, and directory	5111	60	60	0	40	40	0
Software	5112	30	30	0	40	40	20
Telecommunications	517	10	10	0	60	60	100
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	0	0	0	50	60	100
Satellite telecommunications	5174	0	0	0	0	0	0
Other telecommunications	other 517	10	10	0	80	80	0
Internet service providers, Web search portals, and data-processing services	518	10	10	0	20	20	10
Internet service providers and Web search portals	5181	0	0	0	30	30	0
Data-processing, hosting, and related services	5182	10	10	0	20	20	10
Other information	other 51	0	0	0	20	20	0
Finance, insurance, and real estate	52, 53	10	10	0	30	30	0
Professional, scientific, and technical services	54	10	10	0	40	30	60
Architectural, engineering, and related services	5413	10	10	0	50	40	70
Computer systems design and related services	5415	10	10	0	30	30	20
Scientific R&D services	5417	10	10	0	50	40	70
Other professional, scientific, and technical services	other 54	10	10	0	20	20	10
Health care services	621–23	0	0	0	10	10	10
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	10	10	0	30	30	40

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	R&D performed by other organizations			Company-funded R&D projected for next year		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded
Company size (employees)							
All companies	-	10	20	10	60	60	80
5–24	-	10	10	10	20	20	20
25–49	-	10	10	0	30	30	20
50–99	-	20	20	0	30	30	40
100–249	-	10	10	0	50	50	50
250–499	-	10	10	0	30	30	30
500–999	-	30	30	0	50	50	40
1,000–4,999	-	30	30	0	50	50	80
5,000–9,999	-	30	30	0	60	60	60
10,000–24,999	-	10	10	0	50	50	40
25,000 or more	-	20	20	0	80	70	99

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006
(Percent)

Industry and company size	NAICS codes	Company-funded R&D performed by other organizations					
		Total	For-profit companies	Federal agencies or laboratories	State government agencies or laboratories	Universities or colleges	Other nonprofit organizations
All industries	21–23, 31–33, 42, 44–81	20	20	10	0	10	10
Manufacturing industries	31–33	20	10	20	0	10	10
Food	311	10	10	0	0	0	0
Beverage and tobacco products	312	0	0	0	0	0	0
Textiles, apparel, and leather	313–16	0	0	0	0	0	0
Wood products	321	100	0	0	0	0	100
Paper, printing, and support activities	322, 323	0	0	0	0	0	0
Petroleum and coal products	324	10	10	0	0	0	0
Chemicals	325	20	20	0	0	10	10
Basic chemicals	3251	10	0	0	0	0	0
Resin, synthetic rubber, fibers, and filament	3252	10	10	0	0	10	0
Pharmaceuticals and medicines	3254	20	20	0	0	10	10
Other chemicals	other 325	10	10	0	0	0	0
Plastics and rubber products	326	10	10	0	0	20	0
Nonmetallic mineral products	327	10	0	0	0	0	0
Primary metals	331	10	0	0	0	0	0
Fabricated metal products	332	10	0	0	0	0	0
Machinery	333	50	60	0	0	0	0
Computer and electronic products	334	10	10	0	0	10	20
Computers and peripheral equipment	3341	20	10	0	0	20	0
Communications equipment	3342	10	10	0	0	0	90
Semiconductor and other electronic components	3344	30	30	0	0	10	0
Navigational, measuring, electromedical, and control instruments	3345	10	10	0	0	0	0
Other computer and electronic products	other 334	10	10	0	0	30	0
Electrical equipment, appliances, and components	335	20	10	0	0	0	0
Transportation equipment	336	10	10	0	0	10	0
Motor vehicles, trailers, and parts	3361–63	10	10	0	0	10	0
Aerospace products and parts	3364	10	10	0	0	0	0
Other transportation equipment	other 336	50	0	0	0	0	0
Furniture and related products	337	0	0	0	0	0	0
Miscellaneous manufacturing	339	20	20	99	0	20	70
Medical equipment and supplies	3391	20	20	99	0	20	70
Other miscellaneous manufacturing	other 339	50	0	0	0	0	0

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006
(Percent)

Industry and company size	NAICS codes	Company-funded R&D performed by other organizations					
		Total	For-profit companies	Federal agencies or laboratories	State government agencies or laboratories	Universities or colleges	Other nonprofit organizations
Nonmanufacturing industries	21–23, 42, 44–81	20	20	0	0	10	10
Mining, extraction, and support activities	21	10	10	0	0	0	0
Utilities	22	10	10	0	0	0	10
Construction	23	0	0	0	0	0	0
Wholesale trade	42	40	30	0	0	0	0
Retail trade	44, 45	90	90	0	0	0	0
Transportation and warehousing	48, 49	0	0	0	0	0	0
Information	51	20	20	0	0	10	0
Publishing	511	40	40	0	0	0	0
Newspaper, periodical, book, and directory	5111	70	70	0	0	0	0
Software	5112	30	30	0	0	0	0
Telecommunications	517	10	0	0	0	40	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	0	0	0	0	40	0
Satellite telecommunications	5174	0	0	0	0	0	0
Other telecommunications	other 517	100	0	0	0	0	0
Internet service providers, Web search portals, and data-processing services	518	10	10	0	0	0	0
Internet service providers and Web search portals	5181	0	0	0	0	0	0
Data-processing, hosting, and related services	5182	10	10	0	0	0	0
Other information	other 51	0	0	0	0	0	0
Finance, insurance, and real estate	52, 53	10	10	0	0	0	0
Professional, scientific, and technical services	54	10	10	0	0	10	10
Architectural, engineering, and related services	5413	10	10	0	0	0	0
Computer systems design and related services	5415	10	10	0	0	0	0
Scientific R&D services	5417	10	10	0	0	10	10
Other professional, scientific, and technical services	other 54	10	10	0	0	0	0
Health care services	621–23	0	0	0	0	0	0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	10	10	0	0	0	0

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	Company-funded R&D performed by other organizations					
		Total	For-profit companies	Federal agencies or laboratories	State government agencies or laboratories	Universities or colleges	Other nonprofit organizations
Company size (employees)							
All companies	-	20	20	10	0	10	10
5–24	-	10	10	0	0	30	0
25–49	-	20	20	0	0	10	0
50–99	-	30	20	0	0	20	10
100–249	-	10	10	90	0	20	0
250–499	-	10	20	0	0	0	70
500–999	-	30	30	0	0	10	0
1,000–4,999	-	20	20	0	0	20	50
5,000–9,999	-	30	30	0	0	10	40
10,000–24,999	-	10	10	0	0	0	0
25,000 or more	-	20	20	0	0	20	0

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006
(Percent)

Industry and company size	NAICS codes	Company-funded collaborative R&D performed by other organizations							
		Total	For-profit companies	Federal agencies or laboratories	State government agencies or laboratories	Universities or colleges	Other nonprofit organizations	Sales	Domestic employment
All industries	21–23, 31–33, 42, 44–81	10	10	10	0	10	0	10	10
Manufacturing industries	31–33	20	20	10	0	0	0	10	10
Food	311	0	0	0	0	0	0	10	10
Beverage and tobacco products	312	0	0	0	0	0	0	10	10
Textiles, apparel, and leather	313–16	0	0	0	0	0	0	10	10
Wood products	321	0	0	0	0	0	0	20	20
Paper, printing, and support activities	322, 323	0	0	0	0	0	0	10	10
Petroleum and coal products	324	0	0	0	0	0	0	10	10
Chemicals	325	0	0	0	0	0	0	10	10
Basic chemicals	3251	0	0	0	0	0	0	10	10
Resin, synthetic rubber, fibers, and filament	3252	0	0	0	0	0	0	20	10
Pharmaceuticals and medicines	3254	0	0	0	0	0	0	10	10
Other chemicals	other 325	0	0	0	0	0	0	10	10
Plastics and rubber products	326	0	0	0	0	0	0	10	10
Nonmetallic mineral products	327	0	0	0	0	0	0	20	10
Primary metals	331	0	0	0	0	0	0	10	10
Fabricated metal products	332	0	0	0	0	0	0	10	10
Machinery	333	10	10	0	0	0	0	10	10
Computer and electronic products	334	0	0	0	0	0	0	20	20
Computers and peripheral equipment	3341	0	0	0	0	0	0	20	30
Communications equipment	3342	0	0	0	0	0	0	10	20
Semiconductor and other electronic components	3344	0	0	0	0	0	0	20	20
Navigational, measuring, electromedical, and control instruments	3345	0	0	0	0	0	0	20	20
Other computer and electronic products	other 334	0	0	0	0	0	0	50	40
Electrical equipment, appliances, and components	335	0	0	0	0	0	0	20	20
Transportation equipment	336	60	60	40	0	0	0	10	10
Motor vehicles, trailers, and parts	3361–63	70	70	0	0	0	0	10	10
Aerospace products and parts	3364	0	0	0	0	0	0	10	10
Other transportation equipment	other 336	40	0	40	0	0	0	20	20
Furniture and related products	337	0	0	0	0	0	0	10	10
Miscellaneous manufacturing	339	0	0	0	0	0	0	10	10
Medical equipment and supplies	3391	0	0	0	0	0	0	20	10
Other miscellaneous manufacturing	other 339	0	0	0	0	0	0	10	10

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006
(Percent)

Industry and company size	NAICS codes	Company-funded collaborative R&D performed by other organizations							
		Total	For-profit companies	Federal agencies or laboratories	State government agencies or laboratories	Universities or colleges	Other nonprofit organizations	Sales	Domestic employment
Nonmanufacturing industries	21–23, 42, 44–81	10	10	10	0	10	0	20	10
Mining, extraction, and support activities	21	0	0	0	0	0	0	10	10
Utilities	22	0	0	100	0	0	0	0	10
Construction	23	0	0	0	0	0	0	10	10
Wholesale trade	42	0	0	0	0	0	0	10	10
Retail trade	44, 45	0	0	0	0	0	0	50	60
Transportation and warehousing	48, 49	0	0	0	0	0	0	10	10
Information	51	0	0	0	0	0	0	10	10
Publishing	511	0	0	0	0	0	0	20	20
Newspaper, periodical, book, and directory	5111	0	0	0	0	0	0	30	30
Software	5112	0	0	0	0	0	0	20	20
Telecommunications	517	0	0	0	0	0	0	10	10
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	0	0	0	0	0	0	20	10
Satellite telecommunications	5174	0	0	0	0	0	0	0	0
Other telecommunications	other 517	0	0	0	0	0	0	10	10
Internet service providers, Web search portals, and data-processing services	518	0	0	0	0	0	0	10	10
Internet service providers and Web search portals	5181	0	0	0	0	0	0	10	10
Data-processing, hosting, and related services	5182	0	0	0	0	0	0	10	10
Other information	other 51	0	0	0	0	0	0	0	0
Finance, insurance, and real estate	52, 53	0	0	0	0	0	0	20	10
Professional, scientific, and technical services	54	10	10	0	0	10	0	10	10
Architectural, engineering, and related services	5413	0	0	0	0	0	0	10	10
Computer systems design and related services	5415	0	0	0	0	0	0	10	20
Scientific R&D services	5417	10	10	0	0	10	0	10	10
Other professional, scientific, and technical services	other 54	0	0	0	0	0	0	10	10
Health care services	621–23	0	0	0	0	0	0	20	20
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	0	0	0	0	0	0	10	10

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	Company-funded collaborative R&D performed by other organizations							
		Total	For-profit companies	Federal agencies or laboratories	State government agencies or laboratories	Universities or colleges	Other nonprofit organizations	Sales	Domestic employment
Company size (employees)									
All companies	-	10	10	10	0	10	0	10	10
5–24	-	20	0	0	0	80	0	10	10
25–49	-	10	0	0	0	0	0	10	10
50–99	-	10	10	0	0	0	0	10	10
100–249	-	10	10	20	0	0	0	10	10
250–499	-	10	10	0	0	0	0	10	10
500–999	-	0	0	0	0	0	0	10	10
1,000–4,999	-	0	0	10	0	0	0	20	20
5,000–9,999	-	10	10	0	0	0	0	10	10
10,000–24,999	-	0	0	0	0	0	0	10	10
25,000 or more	-	40	40	0	0	0	0	10	10

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006
(Percent)

Industry and company size	NAICS codes	R&D area					Scientists and engineers by source of funds		
		Biotech-nology	Software development	Materials synthesis and processing	Other areas	Percentage of nanotechnology	Total	Company funded	Federally funded
All industries	21–23, 31–33, 42, 44–81	30	20	20	20	0	40	40	70
Manufacturing industries	31–33	30	20	20	30	0	50	50	80
Food	311	10	0	10	10	0	30	30	80
Beverage and tobacco products	312	0	0	10	10	0	90	80	0
Textiles, apparel, and leather	313–16	0	0	10	30	0	50	50	99
Wood products	321	0	10	10	10	0	60	50	99
Paper, printing, and support activities	322, 323	0	30	10	30	0	70	60	99
Petroleum and coal products	324	0	0	90	10	0	70	80	20
Chemicals	325	30	20	20	30	0	50	60	60
Basic chemicals	3251	10	10	10	10	0	40	40	50
Resin, synthetic rubber, fibers, and filament	3252	0	0	30	40	0	10	60	80
Pharmaceuticals and medicines	3254	30	20	30	30	0	50	60	70
Other chemicals	other 325	20	30	10	10	0	40	30	60
Plastics and rubber products	326	0	20	20	10	0	30	20	80
Nonmetallic mineral products	327	0	0	20	10	0	60	50	99
Primary metals	331	0	0	10	10	0	50	50	99
Fabricated metal products	332	90	10	10	20	0	40	40	40
Machinery	333	0	10	10	10	0	40	40	70
Computer and electronic products	334	40	40	10	30	0	50	50	99
Computers and peripheral equipment	3341	0	70	20	10	0	40	40	99
Communications equipment	3342	0	30	10	10	0	50	50	90
Semiconductor and other electronic components	3344	90	10	10	50	0	40	40	20
Navigational, measuring, electromedical, and control instruments	3345	20	30	20	30	0	60	50	99
Other computer and electronic products	other 334	0	30	30	10	0	60	60	60
Electrical equipment, appliances, and components	335	0	10	30	20	0	40	40	90
Transportation equipment	336	0	10	30	30	0	50	50	50
Motor vehicles, trailers, and parts	3361–63	0	50	30	20	0	60	60	40
Aerospace products and parts	3364	0	10	20	10	0	20	30	40
Other transportation equipment	other 336	0	50	80	80	0	40	30	80
Furniture and related products	337	0	20	10	20	0	40	40	100
Miscellaneous manufacturing	339	20	30	30	20	0	40	40	40
Medical equipment and supplies	3391	20	40	40	20	0	40	40	30
Other miscellaneous manufacturing	other 339	90	10	10	10	0	30	20	60

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006
(Percent)

Industry and company size	NAICS codes	R&D area					Scientists and engineers by source of funds		
		Biotech-nology	Software development	Materials synthesis and processing	Other areas	Percentage of nanotechnology	Total	Company funded	Federally funded
Nonmanufacturing industries	21–23, 42, 44–81	20	20	10	20	0	30	30	70
Mining, extraction, and support activities	21	50	0	0	20	0	20	20	40
Utilities	22	20	10	30	10	0	20	20	10
Construction	23	0	70	0	10	0	10	60	20
Wholesale trade	42	40	10	20	30	0	20	20	80
Retail trade	44, 45	0	50	20	20	0	40	40	100
Transportation and warehousing	48, 49	0	10	0	30	0	60	60	0
Information	51	10	20	20	30	0	20	20	20
Publishing	511	10	20	0	40	0	20	20	50
Newspaper, periodical, book, and directory	5111	100	20	0	50	0	40	40	100
Software	5112	0	20	0	10	0	20	20	50
Telecommunications	517	0	40	100	30	0	60	60	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	0	40	100	30	0	50	50	0
Satellite telecommunications	5174	0	0	0	0	0	0	0	0
Other telecommunications	other 517	0	80	0	40	0	90	90	0
Internet service providers, Web search portals, and data-processing services	518	0	10	0	0	0	20	20	10
Internet service providers and Web search portals	5181	0	10	0	0	0	20	20	0
Data-processing, hosting, and related services	5182	0	10	0	0	0	20	20	10
Other information	other 51	0	0	0	20	0	10	10	100
Finance, insurance, and real estate	52, 53	99	10	0	10	0	40	30	0
Professional, scientific, and technical services	54	20	10	10	20	0	30	30	70
Architectural, engineering, and related services	5413	10	10	50	10	0	50	50	70
Computer systems design and related services	5415	20	10	10	10	0	20	20	50
Scientific R&D services	5417	20	20	20	20	0	30	30	70
Other professional, scientific, and technical services	other 54	0	10	50	30	0	10	10	40
Health care services	621–23	20	10	10	10	0	20	40	99
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	40	10	10	20	0	50	40	70

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	R&D area					Scientists and engineers by source of funds		
		Biotech-nology	Software development	Materials synthesis and processing	Other areas	Percentage of nanotechnology	Total	Company funded	Federally funded
Company size (employees)									
All companies	-	30	20	20	20	0	40	40	70
5–24	-	10	10	10	10	0	30	30	80
25–49	-	20	10	20	10	0	30	20	50
50–99	-	30	10	20	20	0	20	20	80
100–249	-	10	20	30	30	0	40	30	80
250–499	-	30	30	10	20	0	30	30	70
500–999	-	30	30	30	20	0	40	40	50
1,000–4,999	-	40	20	20	20	0	40	40	40
5,000–9,999	-	90	20	20	50	0	50	50	20
10,000–24,999	-	0	50	10	10	0	50	50	90
25,000 or more	-	40	10	10	30	0	40	40	80

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006
(Percent)

Industry and company size	NAICS codes	Company-funded R&D performed outside of the 50 United States and DC							
			By organizations more than 50% owned by the company						
		Total	Puerto Rico	Canada	China	France	Germany	India	Ireland
All industries	21–23, 31–33, 42, 44–81	20	10	10	10	30	20	10	10
Manufacturing industries	31–33	20	10	20	20	30	20	20	20
Food	311	0	0	0	0	0	0	0	0
Beverage and tobacco products	312	0	0	0	0	0	0	0	0
Textiles, apparel, and leather	313–16	10	0	0	0	0	0	0	0
Wood products	321	10	0	100	0	0	0	0	0
Paper, printing, and support activities	322, 323	0	0	0	0	0	0	0	0
Petroleum and coal products	324	0	0	0	0	0	0	0	0
Chemicals	325	30	10	50	20	20	30	10	10
Basic chemicals	3251	10	0	0	0	0	0	0	0
Resin, synthetic rubber, fibers, and filament	3252	10	0	0	0	0	10	0	0
Pharmaceuticals and medicines	3254	30	10	60	40	30	40	10	10
Other chemicals	other 325	50	30	0	0	0	0	0	0
Plastics and rubber products	326	10	99	0	20	10	0	0	70
Nonmetallic mineral products	327	10	0	0	0	0	0	0	0
Primary metals	331	0	0	0	0	0	0	0	0
Fabricated metal products	332	20	0	10	80	0	0	0	0
Machinery	333	10	0	10	0	20	10	0	0
Computer and electronic products	334	20	0	20	20	40	50	20	40
Computers and peripheral equipment	3341	10	0	40	10	10	10	20	70
Communications equipment	3342	20	0	10	10	10	20	10	0
Semiconductor and other electronic components	3344	20	0	30	20	70	40	30	20
Navigational, measuring, electromedical, and control instruments	3345	20	0	10	0	20	20	40	0
Other computer and electronic products	other 334	10	0	0	0	0	99	0	0
Electrical equipment, appliances, and components	335	10	0	20	0	70	10	0	0
Transportation equipment	336	20	0	10	20	40	20	10	0
Motor vehicles, trailers, and parts	3361–63	20	0	10	60	50	20	20	0
Aerospace products and parts	3364	10	0	0	0	0	10	0	0
Other transportation equipment	other 336	10	0	0	0	0	0	0	0
Furniture and related products	337	20	0	100	0	0	0	0	0
Miscellaneous manufacturing	339	20	0	10	10	30	40	0	10
Medical equipment and supplies	3391	20	0	10	30	30	40	0	10
Other miscellaneous manufacturing	other 339	10	0	0	0	0	0	0	0

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006
(Percent)

Industry and company size	NAICS codes	Company-funded R&D performed outside of the 50 United States and DC							
			By organizations more than 50% owned by the company						
		Total	Puerto Rico	Canada	China	France	Germany	India	Ireland
Nonmanufacturing industries	21–23, 42, 44–81	10	0	10	10	10	10	10	0
Mining, extraction, and support activities	21	0	0	0	0	0	0	0	0
Utilities	22	0	0	0	0	0	0	0	0
Construction	23	0	0	0	0	0	0	0	0
Wholesale trade	42	10	0	0	0	0	20	30	0
Retail trade	44, 45	10	0	0	0	0	0	0	0
Transportation and warehousing	48, 49	0	0	0	0	0	0	0	0
Information	51	10	0	10	0	10	20	10	0
Publishing	511	10	0	10	0	10	10	10	0
Newspaper, periodical, book, and directory	5111	10	0	0	0	0	0	0	0
Software	5112	10	0	10	0	10	10	10	0
Telecommunications	517	30	0	0	0	0	30	60	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	30	0	0	0	0	30	60	0
Satellite telecommunications	5174	0	0	0	0	0	0	0	0
Other telecommunications	other 517	0	0	0	0	0	0	0	0
Internet service providers, Web search portals, and data-processing services	518	10	0	10	0	0	0	20	0
Internet service providers and Web search portals	5181	0	0	0	0	0	0	0	0
Data-processing, hosting, and related services	5182	10	0	10	0	0	0	30	0
Other information	other 51	0	0	0	0	0	0	0	0
Finance, insurance, and real estate	52, 53	0	0	0	0	0	0	0	0
Professional, scientific, and technical services	54	10	0	10	10	10	10	10	0
Architectural, engineering, and related services	5413	0	0	0	0	0	100	0	0
Computer systems design and related services	5415	10	0	10	10	10	10	20	0
Scientific R&D services	5417	10	0	10	0	0	0	10	0
Other professional, scientific, and technical services	other 54	10	0	100	0	0	0	0	0
Health care services	621–23	0	0	0	0	0	0	0	0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	10	0	0	0	0	0	0	0

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	Company-funded R&D performed outside of the 50 United States and DC							
			By organizations more than 50% owned by the company						
		Total	Puerto Rico	Canada	China	France	Germany	India	Ireland
Company size (employees)									
All companies	-	20	10	10	10	30	20	10	10
5–24	-	10	0	0	0	0	0	0	0
25–49	-	10	0	10	99	0	0	0	0
50–99	-	10	0	60	0	100	0	10	0
100–249	-	10	0	10	10	0	20	20	0
250–499	-	20	100	10	0	0	20	10	0
500–999	-	20	0	50	20	50	10	50	30
1,000–4,999	-	20	10	10	20	20	20	10	10
5,000–9,999	-	20	0	10	30	50	40	20	10
10,000–24,999	-	20	0	10	10	10	10	20	20
25,000 or more	-	20	10	20	10	30	20	10	10

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006
(Percent)

Industry and company size	NAICS codes	Company-funded R&D performed outside of the 50 United States and DC						
		By organizations more than 50% owned by the company						
		Israel	Italy	Japan	Singapore	Sweden	United Kingdom	Other locations
All industries	21–23, 31–33, 42, 44–81	30	20	30	20	10	10	20
Manufacturing industries	31–33	30	30	40	30	20	20	30
Food	311	0	0	0	0	0	0	0
Beverage and tobacco products	312	0	0	0	0	0	0	0
Textiles, apparel, and leather	313–16	0	0	0	0	0	10	0
Wood products	321	0	0	0	0	0	0	0
Paper, printing, and support activities	322, 323	0	0	0	0	0	0	0
Petroleum and coal products	324	0	0	0	0	0	0	0
Chemicals	325	20	50	50	10	40	20	10
Basic chemicals	3251	0	0	0	0	0	0	10
Resin, synthetic rubber, fibers, and filament	3252	0	0	0	0	0	0	0
Pharmaceuticals and medicines	3254	20	50	60	10	50	20	10
Other chemicals	other 325	0	0	0	0	0	0	90
Plastics and rubber products	326	0	0	0	0	0	10	10
Nonmetallic mineral products	327	0	0	0	0	0	0	70
Primary metals	331	0	0	0	0	0	0	0
Fabricated metal products	332	0	0	0	0	10	20	0
Machinery	333	10	10	10	0	0	10	30
Computer and electronic products	334	40	0	30	30	30	20	20
Computers and peripheral equipment	3341	100	0	20	10	0	10	30
Communications equipment	3342	90	0	50	30	80	40	10
Semiconductor and other electronic components	3344	20	0	30	10	10	40	10
Navigational, measuring, electromedical, and control instruments	3345	0	0	20	80	0	10	50
Other computer and electronic products	other 334	0	0	0	0	0	0	0
Electrical equipment, appliances, and components	335	0	0	0	0	0	10	10
Transportation equipment	336	0	10	30	0	10	40	70
Motor vehicles, trailers, and parts	3361–63	0	20	50	0	10	60	90
Aerospace products and parts	3364	0	0	10	0	0	10	0
Other transportation equipment	other 336	0	0	0	0	0	0	20
Furniture and related products	337	0	0	0	0	0	0	0
Miscellaneous manufacturing	339	0	90	50	0	10	30	10
Medical equipment and supplies	3391	0	90	50	0	10	80	10
Other miscellaneous manufacturing	other 339	0	0	0	0	0	0	0

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006
(Percent)

Industry and company size	NAICS codes	Company-funded R&D performed outside of the 50 United States and DC						
		By organizations more than 50% owned by the company						
		Israel	Italy	Japan	Singapore	Sweden	United Kingdom	Other locations
Nonmanufacturing industries	21–23, 42, 44–81	0	10	10	10	0	10	10
Mining, extraction, and support activities	21	0	0	0	0	0	0	0
Utilities	22	0	0	0	0	0	0	0
Construction	23	0	0	0	0	0	0	0
Wholesale trade	42	0	0	0	0	0	10	70
Retail trade	44, 45	0	0	0	0	0	0	10
Transportation and warehousing	48, 49	0	0	0	0	0	0	0
Information	51	0	0	10	0	0	10	10
Publishing	511	0	0	0	0	0	10	10
Newspaper, periodical, book, and directory	5111	0	0	0	0	0	0	0
Software	5112	0	0	0	0	0	10	10
Telecommunications	517	0	0	80	0	0	10	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	0	0	80	0	0	10	0
Satellite telecommunications	5174	0	0	0	0	0	0	0
Other telecommunications	other 517	0	0	0	0	0	0	0
Internet service providers, Web search portals, and data-processing services	518	0	0	0	0	0	10	0
Internet service providers and Web search portals	5181	0	0	0	0	0	0	0
Data-processing, hosting, and related services	5182	0	0	0	0	0	10	0
Other information	other 51	0	0	0	0	0	0	0
Finance, insurance, and real estate	52, 53	0	0	0	0	0	0	0
Professional, scientific, and technical services	54	0	10	0	10	0	10	10
Architectural, engineering, and related services	5413	0	0	0	0	0	0	0
Computer systems design and related services	5415	0	0	0	0	0	10	10
Scientific R&D services	5417	0	10	0	10	0	10	10
Other professional, scientific, and technical services	other 54	0	0	0	0	0	0	0
Health care services	621–23	0	0	0	0	0	0	0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	0	0	0	0	0	0	0

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	Company-funded R&D performed outside of the 50 United States and DC						
		By organizations more than 50% owned by the company						
		Israel	Italy	Japan	Singapore	Sweden	United Kingdom	Other locations
Company size (employees)								
All companies	-	30	20	30	20	10	10	20
5–24	-	0	0	0	0	0	0	0
25–49	-	0	70	0	0	0	40	10
50–99	-	100	0	0	0	0	30	20
100–249	-	0	0	20	0	0	20	60
250–499	-	0	0	0	10	0	0	40
500–999	-	50	0	10	10	60	20	20
1,000–4,999	-	70	10	20	70	10	10	30
5,000–9,999	-	30	0	30	10	10	20	30
10,000–24,999	-	10	0	10	0	0	10	10
25,000 or more	-	10	40	40	10	10	20	20

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006
(Percent)

Industry and company size	NAICS codes	Energy R&D							
		Total				Federally funded			
		Fossil fuels	Geothermal and solar	Nuclear	All other energy sources	Fossil fuels	Geothermal and solar	Nuclear	All other energy sources
All industries	21–23, 31–33, 42, 44–81	10	30	30	10	0	0	0	10
Manufacturing industries	31–33	10	10	0	10	0	0	0	0
Food	311	0	0	0	0	0	0	0	0
Beverage and tobacco products	312	0	0	0	0	0	0	0	0
Textiles, apparel, and leather	313–16	0	0	0	0	0	0	0	0
Wood products	321	0	0	0	0	0	0	0	0
Paper, printing, and support activities	322, 323	0	0	0	0	0	0	0	0
Petroleum and coal products	324	0	0	0	0	0	0	0	0
Chemicals	325	0	0	0	0	0	0	0	0
Basic chemicals	3251	0	0	0	0	0	0	0	0
Resin, synthetic rubber, fibers, and filament	3252	0	0	0	0	0	0	0	0
Pharmaceuticals and medicines	3254	0	0	0	0	0	0	0	0
Other chemicals	other 325	0	0	0	0	0	0	0	0
Plastics and rubber products	326	0	0	0	0	0	0	0	0
Nonmetallic mineral products	327	0	0	0	0	0	0	0	0
Primary metals	331	0	0	0	0	0	0	0	0
Fabricated metal products	332	0	0	0	0	0	0	0	0
Machinery	333	10	20	0	20	0	0	0	0
Computer and electronic products	334	0	0	0	0	0	0	0	0
Computers and peripheral equipment	3341	0	0	0	0	0	0	0	0
Communications equipment	3342	0	0	0	0	0	0	0	0
Semiconductor and other electronic components	3344	0	0	0	0	0	0	0	0
Navigational, measuring, electromedical, and control instruments	3345	0	0	0	0	0	0	0	0
Other computer and electronic products	other 334	0	0	0	0	0	0	0	0
Electrical equipment, appliances, and components	335	0	0	0	0	0	0	0	0
Transportation equipment	336	0	0	0	0	0	0	0	0
Motor vehicles, trailers, and parts	3361–63	0	0	0	0	0	0	0	0
Aerospace products and parts	3364	0	0	0	0	0	0	0	0
Other transportation equipment	other 336	0	0	0	0	0	0	0	0
Furniture and related products	337	0	0	0	0	0	0	0	0
Miscellaneous manufacturing	339	0	0	0	0	0	0	0	0
Medical equipment and supplies	3391	0	0	0	0	0	0	0	0
Other miscellaneous manufacturing	other 339	0	0	0	0	0	0	0	0

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006
(Percent)

Industry and company size	NAICS codes	Energy R&D							
		Total				Federally funded			
		Fossil fuels	Geothermal and solar	Nuclear	All other energy sources	Fossil fuels	Geothermal and solar	Nuclear	All other energy sources
Nonmanufacturing industries	21–23, 42, 44–81	10	60	60	30	0	0	0	10
Mining, extraction, and support activities	21	0	0	0	0	0	0	0	0
Utilities	22	0	0	0	0	0	0	0	0
Construction	23	10	0	0	0	0	0	0	0
Wholesale trade	42	0	0	0	0	0	0	0	0
Retail trade	44, 45	0	0	0	0	0	0	0	0
Transportation and warehousing	48, 49	0	0	0	0	0	0	0	0
Information	51	0	0	0	0	0	0	0	0
Publishing	511	0	0	0	0	0	0	0	0
Newspaper, periodical, book, and directory	5111	0	0	0	0	0	0	0	0
Software	5112	0	0	0	0	0	0	0	0
Telecommunications	517	0	0	0	0	0	0	0	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	0	0	0	0	0	0	0	0
Satellite telecommunications	5174	0	0	0	0	0	0	0	0
Other telecommunications	other 517	0	0	0	0	0	0	0	0
Internet service providers, Web search portals, and data-processing services	518	0	0	0	0	0	0	0	0
Internet service providers and Web search portals	5181	0	0	0	0	0	0	0	0
Data-processing, hosting, and related services	5182	0	0	0	0	0	0	0	0
Other information	other 51	0	0	0	0	0	0	0	0
Finance, insurance, and real estate	52, 53	0	0	0	0	0	0	0	0
Professional, scientific, and technical services	54	60	60	60	70	0	0	0	10
Architectural, engineering, and related services	5413	0	0	0	20	0	0	0	20
Computer systems design and related services	5415	100	99	100	100	0	0	0	0
Scientific R&D services	5417	0	0	0	0	0	0	0	0
Other professional, scientific, and technical services	other 54	0	0	0	0	0	0	0	0
Health care services	621–23	0	0	0	0	0	0	0	0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	0	0	0	0	0	0	0	0

TABLE A-5. Imputation rates for survey items, by industry and company size: 2006

(Percent)

Industry and company size	NAICS codes	Energy R&D							
		Total				Federally funded			
		Fossil fuels	Geothermal and solar	Nuclear	All other energy sources	Fossil fuels	Geothermal and solar	Nuclear	All other energy sources
Company size (employees)									
All companies	-	10	30	30	10	0	0	0	10
5–24	-	0	0	0	0	0	0	0	0
25–49	-	0	0	0	0	0	0	0	0
50–99	-	0	0	0	0	0	0	0	0
100–249	-	0	0	0	0	0	0	0	0
250–499	-	0	0	0	10	0	0	0	10
500–999	-	0	0	0	0	0	0	0	0
1,000–4,999	-	10	10	0	10	0	0	0	0
5,000–9,999	-	30	99	100	50	0	0	0	0
10,000–24,999	-	0	0	0	0	0	0	0	0
25,000 or more	-	0	0	0	0	0	0	0	0

– = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Percentages in this table are imputation rates that represent the weighted proportion of imputed data to the estimate in a given table cell in the detailed statistical tables. In those tables, cells for which more than 50% of the estimate is imputed are noted with i. In this table, imputation rates greater than 0% and less than 100% are rounded up to the nearest 10%, except rates greater than 90% and less than 100% are rounded to 99% to distinguish these rates from 100%. An imputation rate of 0% indicates that no nonzero imputed data are used in the calculation of the estimate. For definitions and more information about year-to-year comparability of statistics, see "Technical Notes," appendix A.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE A-6. R&D-performing companies that reported nonzero data for major survey items: 2006

(Percent)

Survey item	Form RD-1	Form RD-1A
All R&D	100.0	100.0
Company-funded R&D	98.0	97.5
Federal R&D	15.2	5.8
Basic research	14.4	9.5
Company funded	13.3	8.9
Federally funded	2.9	0.9
Applied research	38.6	36.1
Company funded	36.7	34.8
Federally funded	6.9	2.5
Development	73.6	82.8
Company funded	72.1	81.1
Federally funded	6.7	2.9
Type of R&D expense		
Wages and salaries for R&D personnel[a]	70.7	-
Fringe benefits for R&D personnel[a]	63.8	-
Materials and supplies[a]	63.5	-
R&D depreciation[a]	53.1	-
Other costs[a]	61.7	-
R&D performed by other organizations	26.7	17.5
Company funded	25.4	16.8
Federally funded	3.3	1.0
Company-funded R&D projected for next year	69.6	87.1
Company funded	68.6	85.4
Federally funded	8.2	4.6
Company-funded R&D performed by other organizations[a]	27.1	-
For-profit companies[a]	23.4	-
Federal agencies or laboratories[a]	0.8	-
State government agencies or laboratories[a]	0.4	-
Universities or colleges[a]	7.9	-
Other nonprofit organizations[a]	2.3	-
Company-funded collaborative R&D[a]	9.9	-
For-profit companies[a]	9.0	-
Federal agencies or laboratories[a]	0.7	-
State government agencies or laboratories[a]	0.3	-
Universities or colleges[a]	2.2	-
Other nonprofit organizations[a]	0.8	-
Sales	97.3	98.3
Domestic employment	99.1	99.0
R&D area		
Biotechnology	12.0	5.6
Software development	28.9	25.0
Materials synthesis and processing	16.9	21.7
Other technology areas	40.8	50.2
Percentage of nanotechnology	4.8	3.5
Scientists and engineers by source of funds	74.9	81.7
Company funded[a]	71.1	-
Federally funded[a]	8.3	-

TABLE A-6. R&D-performing companies that reported nonzero data for major survey items: 2006

(Percent)

Survey item	Form RD-1	Form RD-1A
Company-funded R&D performed outside of the 50 U.S. states and DC		
by organizations more than 50% owned by the company	30.9	7.1
Puerto Rico[a]	0.6	-
Canada[a]	8.1	-
China[a]	6.6	-
France[a]	6.4	-
Germany[a]	8.0	-
India[a]	5.5	-
Ireland[a]	2.4	-
Israel[a]	1.8	-
Italy[a]	3.4	-
Japan[a]	4.5	-
Singapore[a]	2.6	-
Sweden[a]	3.0	-
United Kingdom[a]	10.2	-
Other locations[a]	12.6	-
Energy R&D		
Fossil fuels[a]	1.6	-
Geothermal and solar[a]	0.4	-
Nuclear[a]	0.4	-
All other energy sources[a]	2.3	-
Federally funded		
Fossil fuels[a]	0.3	-
Geothermal and solar[a]	0.2	-
Nuclear[a]	0.1	-
All other energy sources[a]	0.9	-

- = not applicable.

[a] Data not collected on the Form RD-1A.

NOTES: Percentages are based on reported data for companies that reported any R&D expenditures. Imputed data are not included. Companies that reported they were out-of-scope, out-of-business, merged with another company, or had no R&D expenditures for 2006 were excluded from the calculations. For descriptions of the survey forms and more information, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE A-7. Funds for and number of companies performing industrial basic research, applied research, and development in the United States and funds not distributed, by industry and company size, by source of funds: 2006

(Millions of dollars)

Industry and company size	NAICS codes	All industrial R&D				Basic research			
		Companies	All funds	Federal	Company and other	Companies	All funds	Federal	Company and other
All industries	21–23, 31–33, 42, 44–81	44,266	247,669	24,304	223,365	4,541	7,078	1,037	6,042
Manufacturing industries	31–33	18,677	171,814	16,584	155,230	1,931	5,266	661	4,605
Food	311	728	2,720	4	2,716	120	140	D	D
Beverage and tobacco products	312	39	547 i	0	547 i	12	1	0	1
Textiles, apparel, and leather	313–16	505	594	11	583	55	D	0	D
Wood products	321	329	195	2	192	31	7 i	0	7 i
Paper, printing, and support activities	322, 323	573	D	D	2,793	30	13	0	13
Petroleum and coal products	324	107	1,432	1	1,431	20	D	*	D
Chemicals	325	1,921	46,329	211	46,119	264	2,333	D	D
Basic chemicals	3251	270	2,152	98	2,054	55	151	D	D
Resin, synthetic rubber, fibers, and filament	3252	152	1,975	13	1,963	20	163	0	163
Pharmaceuticals and medicines	3254	483	38,901	88	38,813	39	1,904	D	D
Other chemicals	other 325	1,016	3,300	12	3,288	150	116	*	115
Plastics and rubber products	326	1,236	2,245	27	2,217	160	D	D	D
Nonmetallic mineral products	327	398	1,014	78	936	71	D	D	63
Primary metals	331	236	651	13	638	11	7	D	D
Fabricated metal products	332	2,417	1,499	67 i	1,432	138	12	0	12
Machinery	333	3,114	9,848	106	9,743	265	79	17	62
Computer and electronic products	334	2,795	56,773	8,522	48,251	271	862	35	827
Computers and peripheral equipment	3341	289	D	D	7,289	20	D	D	D
Communications equipment	3342	500	D	D	10,911	48	D	D	D
Semiconductor and other electronic components	3344	728	18,888	354	18,534	123	473	14	459
Navigational, measuring, electromedical, and control instruments	3345	1,103	18,300	7,860	10,440	67	127	D	D
Other computer and electronic products	other 334	176	D	D	1,076	13	D	0	D
Electrical equipment, appliances, and components	335	986	2,281	66	2,215	58	D	D	D
Transportation equipment	336	1,129	D	D	30,010	83	D	D	D
Motor vehicles, trailers, and parts	3361–63	783	D	D	16,562	43	D	D	D
Aerospace products and parts	3364	132	16,367	4,372	11,995	16	580	143	437
Other transportation equipment	other 336	214	D	D	1,453	24	D	D	D
Furniture and related products	337	421	D	D	371	38	6	0	6
Miscellaneous manufacturing	339	1,741	5,150	114	5,036	304	148 i	5 i	143 i
Medical equipment and supplies	3391	923	4,098	101	3,998	108	125 i	D	D
Other miscellaneous manufacturing	other 339	818	1,052	14	1,038	196	24	D	D

TABLE A-7. Funds for and number of companies performing industrial basic research, applied research, and development in the United States and funds not distributed, by industry and company size, by source of funds: 2006

(Millions of dollars)

Industry and company size	NAICS codes	All industrial R&D				Basic research			
		Companies	All funds	Federal	Company and other	Companies	All funds	Federal	Company and other
Nonmanufacturing industries	21–23, 42, 44–81	25,590	75,855	7,719	68,135	2,610	1,812	375	1,437
Mining, extraction, and support activities	21	142	D	D	1,123	6	D	0	D
Utilities	22	175	248	34	214	6	2	D	D
Construction	23	795	1,379	12	1,368	9	D	D	D
Wholesale Trade	42	3,276	2,072	18	2,054	375	17	D	D
Retail trade	44, 45	577	D	D	1,372	4	D	0	D
Transportation and warehousing	48, 49	27	D	D	277	4	D	0	D
Information	51	3,138	26,883	136	26,748	200	154	D	D
Publishing	511	1,816	D	D	19,946	169	D	D	47
Newspaper, periodical, book, and directory	5111	235	D	D	992	3	D	0	D
Software	5112	1,581	D	D	18,953	166	D	D	D
Telecommunications	517	162	D	D	2,135	8	D	0	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	63	D	D	1,688	5	D	0	D
Satellite telecommunications	5174	6	D	0	D	0	0	0	0
Other telecommunications	other 517	94	D	0	D	3	D	0	D
Internet service providers, Web search portals, and data-processing services	518	774	4,029	93	3,936	20	D	D	D
Internet service providers and Web search portals	5181	143	D	0	D	13	D	0	D
Data-processing, hosting, and related services	5182	630	D	93	D	7	D	D	D
Other information	other 51	385	732	*	731	3	D	0	D
Finance, insurance, and real estate	52, 53	1,021	1,969	0	1,969	9	32	0	32
Professional, scientific, and technical services	54	10,856	38,049	7,438	30,611	1,477	1,320	357	964
Architectural, engineering, and related services	5413	2,444	6,579	1,714	4,866	112	95	30 i	66
Computer systems design and related services	5415	5,316	14,841	1,011	13,830	581	330	55	275
Scientific R&D services	5417	2,268	14,525	4,495	10,030	525	864	265	599
Other professional, scientific, and technical services	other 54	829	2,105	219	1,885	258	31	7	24
Health care services	621–23	1,945	992	37	955	508	D	D	D
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	3,637	1,479	34	1,445	13	16	D	D

TABLE A-7. Funds for and number of companies performing industrial basic research, applied research, and development in the United States and funds not distributed, by industry and company size, by source of funds: 2006

(Millions of dollars)

Industry and company size	NAICS codes	All industrial R&D				Basic research			
		Companies	All funds	Federal	Company and other	Companies	All funds	Federal	Company and other
Company size (employees)									
All companies	-	44,266	247,669	24,304	223,365	4,541	7,078	1,037	6,042
5–24	-	21,153	7,207	1,121	6,087	2,825	278	58	220
25–49	-	6,815	D	D	6,465	441	219	82	137
50–99	-	7,035	9,064	704	8,360	383	275	91	184
100–249	-	4,372	13,306	1,206	12,101	358	482	89	392
250–499	-	1,941	D	D	7,944	160	233	19	214
500–999	-	1,441	13,360	878	12,482	113	331	101	230
1,000–4,999	-	1,065	37,866	1,847	36,019	165	761	8	753
5,000–9,999	-	195	20,434	657	19,776	37	611	18	593
10,000–24,999	-	145	37,865	1,816	36,049	30	1,929	55	1,874
25,000 or more	-	105	92,925	14,843	78,082	28	1,959	514	1,446

TABLE A-7. Funds for and number of companies performing industrial basic research, applied research, and development in the United States and funds not distributed, by industry and company size, by source of funds: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Applied research				Development			
		Companies	All funds	Federal	Company and other	Companies	All funds	Federal	Company and other
All industries	21–23, 31–33, 42, 44–81	17,533	42,279	4,356	37,923	34,528	154,422	9,046	145,377
Manufacturing industries	31–33	6,914	28,984	2,680	26,304	15,743	103,194	6,535	96,659
Food	311	253	496	D	D	636	1,806	D	D
Beverage and tobacco products	312	24	70	0	70	24	45	0	45
Textiles, apparel, and leather	313–16	140	D	D	D	471	494	D	D
Wood products	321	34	68 i	0	68 i	135	109	*	108
Paper, printing, and support activities	322, 323	147	D	D	D	502	D	D	D
Petroleum and coal products	324	41	D	*	D	96	D	*	D
Chemicals	325	990	10,692	86	10,606	1,629	28,907	D	D
Basic chemicals	3251	120	564	D	D	228	1,346	51	1,294
Resin, synthetic rubber, fibers, and filament	3252	70	1,059	D	D	139	657	D	D
Pharmaceuticals and medicines	3254	255	8,320	D	D	373	24,842	42	24,800
Other chemicals	other 325	544	749	1	748	889	2,062	11	2,051
Plastics and rubber products	326	546	D	D	D	1,145	D	D	D
Nonmetallic mineral products	327	265	249	9	240	312	D	D	422
Primary metals	331	82	165	D	D	192	435	D	D
Fabricated metal products	332	907	219	1	218	1,962	1,065	66 i	999
Machinery	333	1,031	1,349	27	1,321	2,590	7,134	61	7,073
Computer and electronic products	334	1,042	8,282	235	8,048	2,375	30,997	1,913	29,084
Computers and peripheral equipment	3341	114	D	D	D	225	5,271	D	D
Communications equipment	3342	165	D	D	1,986	440	5,901 i	D	D
Semiconductor and other electronic components	3344	247	3,985	53	3,932	633	12,063	278	11,785
Navigational, measuring, electromedical, and control instruments	3345	477	1,330	85	1,245	934	7,133	D	D
Other computer and electronic products	other 334	39	D	0	D	144	629	D	D
Electrical equipment, appliances, and components	335	352	D	D	D	871	1,631	D	D
Transportation equipment	336	312	5,327	2,212	3,115	915	25,023	D	D
Motor vehicles, trailers, and parts	3361–63	190	D	D	1,556	618	9,944	D	D
Aerospace products and parts	3364	38	3,172	1,793	1,379	100	11,958	2,096	9,861
Other transportation equipment	other 336	84	D	D	180	197	3,121	D	D
Furniture and related products	337	72	D	0	D	382	D	D	D
Miscellaneous manufacturing	339	677	770	87	683	1,504	2,686	19	2,667
Medical equipment and supplies	3391	377	647	D	D	787	1,891	17	1,874
Other miscellaneous manufacturing	other 339	300	123	D	D	718	796	3	793

TABLE A-7. Funds for and number of companies performing industrial basic research, applied research, and development in the United States and funds not distributed, by industry and company size, by source of funds: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Applied research				Development			
		Companies	All funds	Federal	Company and other	Companies	All funds	Federal	Company and other
Nonmanufacturing industries	21–23, 42, 44–81	10,618	13,296	1,677	11,619	18,785	51,228	2,511	48,717
Mining, extraction, and support activities	21	115	D	D	D	35	684	D	D
Utilities	22	132	D	D	D	48	D	D	D
Construction	23	270	780	D	D	537	D	D	D
Wholesale Trade	42	705	345	D	D	2,746	1,573	D	D
Retail trade	44, 45	520	D	0	D	322	1,210	D	D
Transportation and warehousing	48, 49	11	D	D	D	21	78	0	78
Information	51	934	2,556	11	2,545	2,596	20,426	D	D
Publishing	511	663	D	D	1,909	1,516	14,606	16	14,590
Newspaper, periodical, book, and directory	5111	12	D	D	D	72	635	0	635
Software	5112	651	D	D	D	1,443	13,971	16	13,955
Telecommunications	517	30	D	0	D	153	1,786	D	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	24	D	0	D	59	D	D	D
Satellite telecommunications	5174	0	0	0	0	6	D	0	D
Other telecommunications	other 517	6	16	0	16	89	D	0	D
Internet service providers, Web search portals, and data-processing services	518	215	D	D	D	578	3,437	D	D
Internet service providers and Web search portals	5181	35	34	0	34	128	1,487	0	1,487
Data-processing, hosting, and related services	5182	181	D	D	D	450	1,950	D	D
Other information	other 51	26	D	*	D	349	596	0	596
Finance, insurance, and real estate	52, 53	18	57	0	57	1,008	1,651	0	1,651
Professional, scientific, and technical services	54	5,226	8,487	1,593	6,894	8,312	23,122	2,345	20,777
Architectural, engineering, and related services	5413	1,342	1,428	294 i	1,134	1,498	4,097	661	3,436
Computer systems design and related services	5415	1,975	1,451	360	1,090	4,760	12,203	554	11,649
Scientific R&D services	5417	1,386	4,277	924	3,353	1,499	6,133	938	5,196
Other professional, scientific, and technical services	other 54	524	1,331	15	1,316	556	689	193	496
Health care services	621–23	1,393	261	D	D	1,044	D	D	D
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	1,295	191	D	D	2,115	1,218	8	1,209

TABLE A-7. Funds for and number of companies performing industrial basic research, applied research, and development in the United States and funds not distributed, by industry and company size, by source of funds: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Applied research				Development			
		Companies	All funds	Federal	Company and other	Companies	All funds	Federal	Company and other
Company size (employees)									
All companies	-	17,533	42,279	4,356	37,923	34,528	154,422	9,046	145,377
5–24	-	9,402	2,168	374	1,794	15,975	4,255	471	3,783
25–49	-	2,693	D	D	1,833	5,208	4,132	305	3,828
50–99	-	2,240	3,129	283	2,846	5,687	5,064	284	4,781
100–249	-	1,419	2,339	219	2,120	3,581	9,303	756	8,546
250–499	-	626	D	D	1,484	1,697	5,771	325	5,446
500–999	-	553	3,165	323	2,842	1,196	8,163	448	7,715
1,000–4,999	-	401	6,856	533	6,323	847	24,407	618	23,789
5,000–9,999	-	87	4,466	66	4,399	151	13,271	573 i	12,699
10,000–24,999	-	70	7,909	244	7,665	109	21,627	1,030	20,597
25,000 or more	-	41	8,469	1,851	6,617	77	58,430	4,237	54,193

TABLE A-7. Funds for and number of companies performing industrial basic research, applied research, and development in the United States and funds not distributed, by industry and company size, by source of funds: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Expenditures not distributed[b]			
		Companies	All funds	Federal	Company and other
All industries	21–23, 31–33, 42, 44–81	3,771	43,889	9,865	34,024
Manufacturing industries	31–33	1,364	34,370	6,708	27,661
Food	311	68	278	0	278
Beverage and tobacco products	312	7	431	0	431
Textiles, apparel, and leather	313–16	13	45	0	45
Wood products	321	185	11	2	9
Paper, printing, and support activities	322, 323	14	2,123	12	2,111
Petroleum and coal products	324	3	925	1	925
Chemicals	325	120	4,397	1	4,396
Basic chemicals	3251	10	92	0	92
Resin, synthetic rubber, fibers, and filament	3252	6	97	0	97
Pharmaceuticals and medicines	3254	53	3,835	1	3,834
Other chemicals	other 325	51	374	0	374
Plastics and rubber products	326	26	263	0	263
Nonmetallic mineral products	327	26	212	*	211
Primary metals	331	9	44	*	44
Fabricated metal products	332	95	203	0	203
Machinery	333	270	1,287	0	1,287
Computer and electronic products	334	219	16,631	6,339	10,292
Computers and peripheral equipment	3341	33	1,076	1	1,075
Communications equipment	3342	35	3,069	11	3,058
Semiconductor and other electronic components	3344	57	2,367	10	2,358
Navigational, measuring, electromedical, and control instruments	3345	81	9,710	6,315	3,395
Other computer and electronic products	other 334	13	408	2	406
Electrical equipment, appliances, and components	335	55	243	2	241
Transportation equipment	336	112	5,670	349	5,322
Motor vehicles, trailers, and parts	3361–63	81	4,979	9	4,970
Aerospace products and parts	3364	23	657	340	317
Other transportation equipment	other 336	8	34	0	34
Furniture and related products	337	22	61	0	61
Miscellaneous manufacturing	339	122	1,545	2	1,542
Medical equipment and supplies	3391	62	1,436	1	1,435
Other miscellaneous manufacturing	other 339	61	109	1	107

TABLE A-7. Funds for and number of companies performing industrial basic research, applied research, and development in the United States and funds not distributed, by industry and company size, by source of funds: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Expenditures not distributed[b]			
		Companies	All funds	Federal	Company and other
Nonmanufacturing industries	21–23, 42, 44–81	2,407	9,519	3,156	6,362
Mining, extraction, and support activities	21	3	35	1	34
Utilities	22	5	7	0	7
Construction	23	1	*	0	*
Wholesale Trade	42	403	137	*	137
Retail trade	44, 45	3	1	0	1
Transportation and warehousing	48, 49	2	178	0	178
Information	51	297	3,747	1	3,746
Publishing	511	233	3,400	1	3,400
Newspaper, periodical, book, and directory	5111	162	350	0	350
Software	5112	72	3,050	1	3,049
Telecommunications	517	6	207	0	207
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	4	32	0	32
Satellite telecommunications	5174	0	0	0	0
Other telecommunications	other 517	2	174	0	174
Internet service providers, Web search portals, and data-processing services	518	43	83	1	82
Internet service providers and Web search portals	5181	0	0	0	0
Data-processing, hosting, and related services	5182	43	83	1	82
Other information	other 51	15	57	0	57
Finance, insurance, and real estate	52, 53	9	229	0	229
Professional, scientific, and technical services	54	659	5,120	3,144	1,977
Architectural, engineering, and related services	5413	43	959	729	230
Computer systems design and related services	5415	319	857	42	816
Scientific R&D services	5417	282	3,250	2,368	882
Other professional, scientific, and technical services	other 54	14	54	5	49
Health care services	621–23	264	10	1	9
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	761	55	9	46

TABLE A-7. Funds for and number of companies performing industrial basic research, applied research, and development in the United States and funds not distributed, by industry and company size, by source of funds: 2006

(Millions of dollars)

Industry and company size	NAICS codes	Expenditures not distributed[b]			
		Companies	All funds	Federal	Company and other
Company size (employees)					
All companies	-	3,771	43,889	9,865	34,024
5–24	-	2,174	507	217	290
25–49	-	441	702	34	668
50–99	-	469	595	46	549
100–249	-	282	1,184	141	1,042
250–499	-	117	805	5	800
500–999	-	63	1,701	6	1,695
1,000–4,999	-	139	5,842	688	5,154
5,000–9,999	-	26	2,086	*	2,086
10,000–24,999	-	30	6,400	487	5,913
25,000 or more	-	29	24,067	8,240	15,827

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

[b] The amounts of undistributed R&D are distributed among basic research, applied research, and development in table 24.

NOTES: The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. Some company respondents did not distribute their R&D among the three character of work categories, basic research, applied research, and development. The data from these companies are included in the expenditures not distributed columns of this table. During statistical processing, algorithms were used to approximate the distribution and the resulting statistics are in table 24. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2006.

TABLE A-8. Companies in the target population and selected for the sample, by industry and company size: 2007

Industry and company size	NAICS codes	Companies in target population	Companies selected for the sample			Companies with imputed R&D expenditures	
			All companies	Noncertainties	Certainties	Greater than or equal to $3 million	Less than $3 million
All industries	21–23, 31–33, 42, 44–81	1,900,724	32,000	18,378	13,622	558	48
Manufacturing industries	31–33	155,464	14,950	7,808	7,142	321	9
Food	311	11,429	817	423	394	7	0
Beverage and tobacco products	312	1,446	227	133	94	2	0
Textiles, apparel, and leather	313–16	9,250	599	363	236	2	1
Wood products	321	8,422	556	414	142	0	0
Paper, printing, and support activities	322, 323	16,371	691	472	219	5	0
Petroleum and coal products	324	562	132	34	98	2	0
Chemicals	325	5,775	1,523	588	935	35	0
Basic chemicals	3251	773	231	44	187	7	0
Resin, synthetic rubber, fibers, and filament	3252	449	219	88	131	0	0
Pharmaceuticals and medicines	3254	997	354	133	221	26	0
Other chemicals	other 325	3,556	719	323	396	2	0
Plastics and rubber products	326	7,660	896	406	490	14	0
Nonmetallic mineral products	327	6,439	436	254	182	3	1
Primary metals	331	2,682	387	190	197	3	1
Fabricated metal products	332	31,096	1,264	679	585	11	0
Machinery	333	14,571	1,517	780	737	33	2
Computer and electronic products	334	7,830	2,021	896	1,125	135	2
Computers and peripheral equipment	3341	687	244	81	163	13	0
Communications equipment	3342	1,024	398	171	227	40	0
Semiconductor and other electronic components	3344	2,852	596	321	275	29	1
Navigational, measuring, electromedical, and control instruments	3345	2,653	599	258	341	47	1
Other computer and electronic products	other 334	614	184	65	119	6	0
Electrical equipment, appliances, and components	335	3,161	730	352	378	17	0
Transportation equipment	336	6,237	1,064	577	487	25	1
Motor vehicles, trailers, and parts	3361–63	4,039	620	354	266	17	1
Aerospace products and parts	3364	834	203	99	104	5	0
Other transportation equipment	other 336	1,364	241	124	117	3	0
Furniture and related products	337	9,576	652	440	212	1	0
Miscellaneous manufacturing	339	12,695	1,346	765	581	26	1
Medical equipment and supplies	3391	4,227	584	303	281	21	0
Other miscellaneous manufacturing	other 339	8,468	762	462	300	5	1
Unclassified		262	92	42	50	0	0

TABLE A-8. Companies in the target population and selected for the sample, by industry and company size: 2007

Industry and company size	NAICS codes	Companies in target population	Companies selected for the sample			Companies with imputed R&D expenditures	
			All companies	Noncertainties	Certainties	Greater than or equal to $3 million	Less than $3 million
Nonmanufacturing industries	21–23, 42, 44–81	1,743,145	16,853	10,423	6,430	237	39
Mining, extraction, and support activities	21	8,323	438	306	132	4	0
Utilities	22	1,211	125	17	108	2	0
Construction	23	243,067	1,406	1,020	386	0	0
Wholesale trade	42	131,611	1,629	910	719	10	4
Retail trade	44, 45	241,513	1,247	1,025	222	3	0
Transportation and warehousing	48, 49	51,329	377	218	159	1	0
Information	51	26,718	2,402	1,278	1,124	75	4
Publishing	511	9,931	1,080	548	532	56	0
Newspaper, periodical, book, and directory	5111	6,655	232	134	98	3	0
Software	5112	3,276	848	414	434	53	0
Telecommunications	517	3,404	420	197	223	5	2
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	1,871	227	137	90	1	2
Satellite telecommunications	5174	140	61	3	58	0	0
Other telecommunications	other 517	1,393	132	57	75	4	0
Internet service providers, Web search portals, and data-processing services	518	4,495	505	237	268	8	1
Internet service providers and Web search portals	5181	1,489	155	71	84	0	1
Data-processing, hosting, and related services	5182	3,006	350	166	184	8	0
Other information	other 51	8,888	397	296	101	6	1
Finance, insurance, and real estate	52, 53	125,547	948	550	398	12	0
Professional, scientific, and technical services	54	204,092	4,305	2,112	2,193	121	28
Architectural, engineering, and related services	5413	35,912	824	539	285	18	3
Computer systems design and related services	5415	24,675	1,334	699	635	27	19
Scientific R&D services	5417	4,597	1,260	292	968	68	5
Other professional, scientific, and technical services	other 54	138,908	887	582	305	8	1
Health care services	621–23	206,513	1,202	866	336	0	1
Other nonmanufacturing[a]	56, 61, 624, 71, 72, 81	503,221	2,774	2,121	653	9	2
Unclassified		2,115	197	147	50	0	0

TABLE A-8. Companies in the target population and selected for the sample, by industry and company size: 2007

Industry and company size	NAICS codes	Companies in target population	Companies selected for the sample			Companies with imputed R&D expenditures	
			All companies	Noncertainties	Certainties	Greater than or equal to $3 million	Less than $3 million
Company size (employees)							
All companies	-	1,900,724	32,000	18,378	13,622	558	48
5–24	-	1,471,492	11,253	9,909	1,344	16	10
25–49	-	232,050	4,607	3,370	1,237	39	9
50–99	-	109,345	4,607	2,648	1,959	70	13
100–249	-	57,786	5,037	1,822	3,215	108	6
250–499	-	15,875	2,495	403	2,092	78	3
500–999	-	7,011	1,583	125	1,458	71	2
1,000–4,999	-	5,555	1,690	90	1,600	131	3
5,000–9,999	-	764	313	8	305	23	2
10,000–24,999	-	513	235	3	232	12	0
25,000 or more	-	333	180	0	180	10	0

- = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Certainties are companies whose probability of selection is one based on prior-year R&D expenditures equal to or greater than $3 million as well as others included in the sample for analytical purposes (analytical certainties). Noncertainties are companies whose probability of selection is less than one. Companies that were missing or had an incomplete North American Industry Classification System (NAICS) codes at the time of sampling were assigned to an "unclassified" industry category temporarily. If an unclassified company reported R&D expenditures, its primary industrial activity was investigated and a NAICS code was assigned during statistical processing. The total number of "companies selected for the sample" is larger than the number of "companies receiving a questionnaire" in table A-4 because some companies selected for the survey went out of business or were merged with other companies during the time between sample selection and survey mailout; that is, the sample was updated before actual mailout took place. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE A-9. Relative standard error for survey estimates, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	All R&D			Basic research			Applied research		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded	Total	Company funded	Federally funded
All industries	21–23, 31–33, 42, 44–81	0.8	0.9	2.1	10.6	6.5	37.4	5.4	6.0	10.7
Manufacturing industries	31–33	0.6	0.7	0.8	9.9	6.0	47.5	4.9	5.3	25.6
Food	311	1.3	1.3	0.0	0.5	0.5	0.0	1.2	1.2	0.0
Beverage and tobacco products	312	0.4	0.4	0.0	0.1	0.1	0.0	0.5	0.5	0.0
Textiles, apparel, and leather	313–16	14.9	15.1	0.0	4.1	4.3	0.0	4.8	5.5	0.0
Wood products	321	0.9	0.9	0.0	2.7	2.7	0.0	0.6	0.6	0.0
Paper, printing, and support activities	322, 323	1.3	1.3	0.0	7.2	7.2	0.0	6.8	6.8	0.0
Petroleum and coal products	324	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
Chemicals	325	1.8	1.8	32.1	6.1	6.1	5.1	5.3	5.3	46.5
Basic chemicals	3251	0.2	0.2	0.3	0.2	0.2	0.9	0.2	0.2	0.5
Resin, synthetic rubber, fibers, and filament	3252	0.5	0.5	0.5	0.4	0.4	8.7	0.2	0.2	1.3
Pharmaceuticals and medicines	3254	2.0	2.0	44.8	1.7	1.7	6.4	2.5	2.2	59.4
Other chemicals	other 325	0.9	0.9	0.1	2.1	2.1	0.0	0.9	0.9	0.3
Plastics and rubber products	326	6.3	6.4	1.0	1.7	1.6	44.4	1.8	1.8	1.3
Nonmetallic mineral products	327	7.3	7.4	1.2	0.9	0.9	0.0	20.6	20.7	3.6
Primary metals	331	4.5	4.5	0.2	2.1	2.1	72.6	2.8	2.8	0.0
Fabricated metal products	332	7.7	8.3	0.3	24.0	24.0	0.0	14.3	16.4	2.2
Machinery	333	1.0	1.0	1.5	5.3	5.3	0.0	3.1	3.2	2.1
Computer and electronic products	334	0.7	0.8	1.0	6.6	9.9	8.8	3.1	3.2	11.4
Computers and peripheral equipment	3341	0.2	0.2	0.1	0.1	0.2	0.4	1.5	1.6	0.4
Communications equipment	3342	3.1	3.2	1.8	1.3	1.4	0.0	6.1	6.4	1.4
Semiconductor and other electronic components	3344	0.5	0.5	3.3	1.3	1.3	2.4	0.4	0.4	1.4
Navigational, measuring, electromedical, and control instruments	3345	0.9	1.3	1.1	6.8	3.3	9.1	5.1	3.8	13.2
Other computer and electronic products	other 334	0.3	0.3	0.0	0.2	0.2	0.0	2.0	2.0	0.0
Electrical equipment, appliances, and components	335	6.1	6.3	5.3	5.3	5.4	0.7	14.7	14.8	0.7
Transportation equipment	336	0.3	0.4	0.1	3.1	6.4	0.0	10.5	18.0	0.4
Motor vehicles, trailers, and parts	3361–63	0.7	0.7	3.5	0.8	0.9	1.3	1.3	1.3	1.3
Aerospace products and parts	3364	0.1	0.1	0.2	0.0	0.0	0.0	0.3	0.1	0.5
Other transportation equipment	other 336	1.0	3.3	0.0	0.1	0.6	0.0	0.4	0.6	0.0
Furniture and related products	337	1.6	1.6	96.6	4.2	4.2	0.0	2.3	2.3	96.6
Miscellaneous manufacturing	339	6.0	6.0	51.1	16.4	16.7	0.0	33.3	34.3	79.9
Medical equipment and supplies	3391	7.4	7.4	56.4	3.8	3.8	0.0	36.0	37.2	81.4
Other miscellaneous manufacturing	other 339	4.8	4.9	4.8	47.2	52.6	0.0	9.4	9.4	0.0

TABLE A-9. Relative standard error for survey estimates, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	All R&D			Basic research			Applied research		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded	Total	Company funded	Federally funded
Nonmanufacturing industries	21–23, 42, 44–81	2.3	2.5	6.5	11.2	12.4	24.2	8.4	10.8	4.2
Mining, extraction, and support activities	21	6.2	6.2	0.0	12.8	12.8	0.0	3.5	3.5	0.0
Utilities	22	2.0	2.3	0.0	0.3	0.4	0.0	10.7	11.7	0.0
Construction	23	30.5	31.2	0.0	46.1	59.4	0.0	53.6	56.2	0.0
Wholesale trade	42	10.2	10.3	2.1	1.2	1.2	10.8	9.8	10.1	0.7
Retail trade	44, 45	18.8	18.6	99.8	34.4	34.4	0.0	62.3	61.5	99.8
Transportation and warehousing	48, 49	0.3	0.3	0.0	0.1	0.1	0.0	2.3	2.4	0.0
Information	51	0.5	0.5	0.6	3.5	3.6	32.9	2.6	2.6	16.0
Publishing	511	0.3	0.3	7.2	5.2	5.2	32.9	1.1	1.1	17.9
Newspaper, periodical, book, and directory	5111	1.4	1.4	0.0	0.1	0.1	0.0	11.0	11.2	0.0
Software	5112	0.3	0.3	7.4	5.4	5.4	32.9	1.1	1.1	19.2
Telecommunications	517	3.4	3.4	0.0	0.0	0.0	0.0	2.3	2.3	0.0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	3.5	3.5	0.0	0.0	0.0	0.0	1.0	1.0	0.0
Satellite telecommunications	5174	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other telecommunications	other 517	8.9	8.9	0.0	0.2	0.2	0.0	17.0	17.0	0.0
Internet service providers, Web search portals, and data-processing services	518	1.1	1.2	0.0	47.9	47.9	0.0	9.3	9.3	0.0
Internet service providers and Web search portals	5181	0.4	0.4	0.0	83.0	83.0	0.0	5.7	5.7	0.0
Data-processing, hosting, and related services	5182	2.4	2.7	0.0	33.2	33.2	0.0	10.0	10.1	0.0
Other information	other 51	11.5	11.5	0.0	72.6	72.6	0.0	37.9	37.9	0.0
Finance, insurance, and real estate	52, 53	1.0	1.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0
Professional, scientific, and technical services	54	4.3	5.1	4.5	11.6	11.6	24.8	11.2	16.3	4.3
Architectural, engineering, and related services	5413	9.5	13.1	8.9	53.4	63.4	63.7	21.3	30.2	13.9
Computer systems design and related services	5415	2.8	2.7	20.5	14.8	5.4	51.2	9.0	8.4	27.4
Scientific R&D services	5417	2.1	2.1	5.1	8.0	11.1	8.7	3.0	3.9	4.3
Other professional, scientific, and technical services	other 54	45.6	46.8	12.6	45.7	48.9	36.2	78.1	78.6	48.2
Health care services	621–23	22.2	22.3	7.8	94.8	95.1	1.9	41.8	42.2	1.9
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	27.0	7.4	95.7	4.9	6.7	5.6	6.2	6.9	5.6

TABLE A-9. Relative standard error for survey estimates, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	All R&D			Basic research			Applied research		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded	Total	Company funded	Federally funded
Company size (employees)										
All companies	-	0.8	0.9	2.1	10.6	6.5	37.4	5.4	6.0	10.7
5–24	-	10.1	10.2	30.7	37.1	42.5	73.6	15.3	17.0	29.6
25–49	-	11.8	12.7	15.1	22.2	28.9	24.1	13.5	15.1	21.7
50–99	-	15.0	16.1	26.3	20.2	22.5	42.4	36.2	39.2	51.5
100–249	-	3.9	4.1	9.2	10.4	9.4	23.4	9.2	9.1	21.3
250–499	-	0.8	0.9	1.5	0.8	0.8	0.0	0.4	0.5	0.0
500–999	-	4.7	4.9	0.0	0.3	0.4	0.0	9.6	10.3	0.0
1,000–4,999	-	0.2	0.2	0.0	0.0	0.0	0.0	0.9	1.0	0.0
5,000–9,999	-	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
10,000–24,999	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25,000 or more	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TABLE A-9. Relative standard error for survey estimates, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	Development			Type of R&D expense				
		Total	Company funded	Federally funded	Wages and salaries of R&D personnel	Fringe benefits of R&D personnel	Materials and supplies	R&D depreciation	Other costs
All industries	21–23, 31–33, 42, 44–81	5.9	5.8	25.1	0.9	0.7	1.1	0.6	1.2
Manufacturing industries	31–33	5.8	6.3	34.0	0.6	0.5	1.2	0.5	0.9
Food	311	1.8	1.8	0.0	0.9	0.6	10.5	0.3	0.3
Beverage and tobacco products	312	0.3	0.3	0.0	0.6	0.3	0.8	0.0	0.0
Textiles, apparel, and leather	313–16	16.3	16.4	0.0	24.2	1.0	2.5	0.9	0.6
Wood products	321	1.1	1.1	0.0	1.2	1.5	1.0	1.3	0.5
Paper, printing, and support activities	322, 323	2.0	2.0	0.0	2.0	0.9	1.4	0.7	0.4
Petroleum and coal products	324	3.6	3.6	0.0	3.6	3.6	3.8	3.8	3.4
Chemicals	325	6.6	6.6	13.6	2.2	1.1	4.5	0.6	2.1
Basic chemicals	3251	0.2	0.2	0.0	0.2	0.2	0.3	0.1	0.1
Resin, synthetic rubber, fibers, and filament	3252	0.9	1.0	0.0	0.7	0.3	1.5	0.2	0.2
Pharmaceuticals and medicines	3254	2.8	2.8	26.6	2.7	1.3	5.1	0.8	2.3
Other chemicals	other 325	1.0	1.0	0.0	0.8	0.3	6.2	0.2	0.7
Plastics and rubber products	326	8.3	8.3	1.3	9.6	8.6	3.8	5.0	5.2
Nonmetallic mineral products	327	1.1	1.1	1.2	9.5	1.0	13.8	0.3	3.8
Primary metals	331	5.7	5.8	0.0	8.7	7.9	1.7	2.2	1.9
Fabricated metal products	332	9.5	10.0	1.6	7.6	16.2	8.0	4.0	8.8
Machinery	333	0.9	0.9	2.1	1.3	1.4	1.8	0.6	0.6
Computer and electronic products	334	2.3	2.6	3.1	0.6	0.5	1.1	0.3	1.4
Computers and peripheral equipment	3341	0.2	0.2	0.4	0.3	0.1	0.5	0.1	0.1
Communications equipment	3342	2.3	2.3	3.3	2.3	1.9	0.3	1.4	6.7
Semiconductor and other electronic components	3344	0.7	0.7	4.0	0.3	0.6	2.7	0.3	0.5
Navigational, measuring, electromedical, and control instruments	3345	1.3	1.0	3.3	1.1	0.6	1.2	0.5	1.0
Other computer and electronic products	other 334	0.3	0.3	0.0	0.4	0.3	0.8	0.9	0.0
Electrical equipment, appliances, and components	335	6.0	6.2	5.7	3.4	2.1	16.1	6.1	11.7
Transportation equipment	336	14.3	17.2	0.1	0.2	0.4	0.3	1.1	0.6
Motor vehicles, trailers, and parts	3361–63	0.9	0.9	7.0	0.5	0.8	0.7	0.8	1.7
Aerospace products and parts	3364	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other transportation equipment	other 336	1.2	4.0	0.0	0.7	0.3	1.4	14.4	2.3
Furniture and related products	337	1.5	1.5	96.6	2.0	2.8	0.8	1.6	1.2
Miscellaneous manufacturing	339	12.8	12.9	4.0	7.0	9.2	5.2	14.2	4.6
Medical equipment and supplies	3391	3.2	3.2	4.2	8.7	11.4	3.7	15.7	5.6
Other miscellaneous manufacturing	other 339	5.1	5.1	14.0	4.9	1.7	21.5	5.5	1.9

TABLE A-9. Relative standard error for survey estimates, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	Development			Type of R&D expense				
		Total	Company funded	Federally funded	Wages and salaries of R&D personnel	Fringe benefits of R&D personnel	Materials and supplies	R&D depreciation	Other costs
Nonmanufacturing industries	21–23, 42, 44–81	2.1	2.1	13.9	2.4	1.9	2.8	1.7	3.8
Mining, extraction, and support activities	21	7.6	7.7	0.0	3.6	2.1	27.8	0.2	5.8
Utilities	22	0.4	0.5	0.0	1.5	1.8	1.9	2.1	2.4
Construction	23	19.4	19.4	0.0	52.4	44.1	0.0	0.0	17.4
Wholesale trade	42	12.0	12.0	2.7	15.5	6.3	9.5	3.2	8.0
Retail trade	44, 45	19.1	19.1	0.0	22.2	10.8	20.4	13.6	26.7
Transportation and warehousing	48, 49	0.1	0.1	0.0	0.5	0.0	0.0	0.0	0.0
Information	51	0.5	0.5	0.1	0.5	0.4	1.4	0.5	0.9
Publishing	511	0.3	0.3	1.4	0.3	0.2	1.4	0.4	0.3
Newspaper, periodical, book, and directory	5111	1.4	1.4	0.0	1.9	1.3	21.0	0.4	2.5
Software	5112	0.3	0.3	1.4	0.3	0.2	0.6	0.9	0.3
Telecommunications	517	3.7	3.7	0.0	4.1	3.4	4.6	7.0	2.3
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	3.9	3.9	0.0	3.5	2.4	4.9	16.1	3.4
Satellite telecommunications	5174	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other telecommunications	other 517	9.1	9.1	0.0	13.8	11.0	11.6	6.0	0.4
Internet service providers, Web search portals, and data-processing services	518	0.9	1.0	0.0	1.3	2.3	2.4	0.4	1.2
Internet service providers and Web search portals	5181	0.3	0.3	0.0	0.4	1.4	0.6	0.2	1.0
Data-processing, hosting, and related services	5182	2.1	2.5	0.0	2.9	3.9	9.1	1.7	2.1
Other information	other 51	5.0	5.0	0.0	6.8	2.8	4.9	3.8	29.6
Finance, insurance, and real estate	52, 53	1.1	1.1	0.0	1.0	1.0	1.0	1.3	0.9
Professional, scientific, and technical services	54	4.0	4.3	9.5	4.6	2.9	2.8	3.2	7.1
Architectural, engineering, and related services	5413	11.3	14.4	16.4	10.4	6.1	12.8	17.4	15.4
Computer systems design and related services	5415	2.8	2.8	22.1	3.3	2.8	5.5	3.1	3.0
Scientific R&D services	5417	2.7	2.3	12.9	2.4	2.5	1.4	3.3	3.2
Other professional, scientific, and technical services	other 54	34.6	36.1	7.9	39.8	29.8	40.3	39.6	75.9
Health care services	621–23	11.2	11.3	34.2	26.6	26.5	44.5	21.0	13.1
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	28.6	7.9	98.9	27.7	48.2	57.1	1.5	2.9

TABLE A-9. Relative standard error for survey estimates, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	Development			Type of R&D expense				
		Total	Company funded	Federally funded	Wages and salaries of R&D personnel	Fringe benefits of R&D personnel	Materials and supplies	R&D depreciation	Other costs
Company size (employees)									
All companies	-	5.9	5.8	25.1	0.9	0.7	1.1	0.6	1.2
5–24	-	13.0	12.5	48.0	10.6	15.3	13.9	13.1	15.4
25–49	-	16.2	16.9	24.7	13.5	11.5	23.9	12.4	10.7
50–99	-	7.5	7.6	22.0	14.1	10.3	7.0	10.6	21.6
100–249	-	4.7	4.9	13.5	4.4	5.4	2.8	3.3	5.6
250–499	-	1.1	1.1	2.4	1.1	0.6	0.5	0.6	1.8
500–999	-	5.2	5.3	0.0	7.8	5.6	0.7	6.0	2.1
1,000–4,999	-	0.0	0.0	0.0	0.2	0.0	0.8	0.0	0.1
5,000–9,999	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10,000–24,999	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25,000 or more	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TABLE A-9. Relative standard error for survey estimates, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	R&D performed by other organizations			Company-funded R&D projected for next year		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded
All industries	21–23, 31–33, 42, 44–81	10.1	10.8	17.0	0.9	0.9	2.4
Manufacturing industries	31–33	13.3	14.0	7.2	0.8	0.9	1.0
Food	311	1.3	1.3	0.0	1.4	1.3	67.9
Beverage and tobacco products	312	0.0	0.0	0.0	0.3	0.3	0.0
Textiles, apparel, and leather	313–16	14.7	16.9	0.0	14.9	15.1	0.0
Wood products	321	2.6	2.6	0.0	1.3	1.3	0.0
Paper, printing, and support activities	322, 323	2.9	2.9	0.0	1.2	1.2	0.0
Petroleum and coal products	324	0.4	0.4	0.0	3.6	3.6	0.0
Chemicals	325	19.3	19.4	86.7	2.3	2.3	38.4
Basic chemicals	3251	4.2	4.4	0.5	0.1	0.1	0.2
Resin, synthetic rubber, fibers, and filament	3252	0.1	0.1	0.0	0.3	0.3	0.2
Pharmaceuticals and medicines	3254	19.9	20.1	92.6	2.6	2.6	52.4
Other chemicals	other 325	5.2	5.2	0.0	1.1	1.1	0.0
Plastics and rubber products	326	26.2	26.2	0.0	6.6	6.7	3.7
Nonmetallic mineral products	327	11.8	11.9	81.5	8.3	8.4	1.6
Primary metals	331	0.2	0.1	72.5	3.4	3.4	16.2
Fabricated metal products	332	8.3	8.3	0.0	8.1	8.6	5.7
Machinery	333	12.6	13.0	4.6	0.9	0.9	6.0
Computer and electronic products	334	1.5	1.1	7.8	0.9	1.0	1.2
Computers and peripheral equipment	3341	4.0	4.1	0.0	0.2	0.2	0.2
Communications equipment	3342	1.5	1.5	30.2	3.9	4.0	3.9
Semiconductor and other electronic components	3344	4.4	0.8	12.9	0.5	0.5	3.6
Navigational, measuring, electromedical, and control instruments	3345	1.6	1.6	3.0	0.9	1.2	1.3
Other computer and electronic products	other 334	1.3	1.4	0.0	0.3	0.3	0.0
Electrical equipment, appliances, and components	335	3.3	3.4	7.9	6.5	6.7	9.2
Transportation equipment	336	4.2	5.4	0.4	0.5	0.7	0.2
Motor vehicles, trailers, and parts	3361–63	2.0	2.0	77.8	1.5	1.5	8.8
Aerospace products and parts	3364	0.1	0.2	0.0	0.1	0.1	0.3
Other transportation equipment	other 336	57.1	68.5	0.0	1.1	3.4	0.0
Furniture and related products	337	4.5	4.5	0.0	1.7	1.7	96.6
Miscellaneous manufacturing	339	4.0	4.1	0.0	5.6	5.6	49.1
Medical equipment and supplies	3391	3.2	3.3	0.0	6.5	6.6	53.5
Other miscellaneous manufacturing	other 339	39.5	43.9	0.0	9.1	9.1	6.0

TABLE A-9. Relative standard error for survey estimates, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	R&D performed by other organizations			Company-funded R&D projected for next year		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded
Nonmanufacturing industries	21–23, 42, 44–81	9.1	9.1	33.0	2.3	2.4	7.0
Mining, extraction, and support activities	21	0.0	0.0	0.0	4.0	4.0	0.0
Utilities	22	3.4	3.6	0.0	1.7	2.0	0.0
Construction	23	98.0	98.0	0.0	30.9	31.7	0.0
Wholesale trade	42	16.5	16.5	0.0	10.4	10.5	0.0
Retail trade	44, 45	41.4	41.4	0.0	17.3	17.0	99.8
Transportation and warehousing	48, 49	0.0	0.0	0.0	0.1	0.1	0.0
Information	51	1.4	1.5	0.0	0.4	0.4	11.5
Publishing	511	3.9	3.9	0.0	0.3	0.3	9.8
Newspaper, periodical, book, and directory	5111	11.6	11.6	0.0	1.8	1.8	0.0
Software	5112	4.1	4.2	0.0	0.3	0.3	9.9
Telecommunications	517	0.7	0.7	0.0	3.3	3.3	0.0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	2.4	2.4	0.0	3.8	3.8	0.0
Satellite telecommunications	5174	0.0	0.0	0.0	0.0	0.0	0.0
Other telecommunications	other 517	0.2	0.2	0.0	6.8	6.8	0.0
Internet service providers, Web search portals, and data-processing services	518	2.2	3.0	0.0	1.4	1.3	15.1
Internet service providers and Web search portals	5181	4.8	4.8	0.0	1.3	0.8	96.9
Data-processing, hosting, and related services	5182	2.5	3.8	0.0	2.9	3.1	0.0
Other information	other 51	1.0	1.0	0.0	7.2	7.2	0.0
Finance, insurance, and real estate	52, 53	0.1	0.1	0.0	1.0	1.0	0.0
Professional, scientific, and technical services	54	13.7	15.8	11.0	4.3	5.1	4.3
Architectural, engineering, and related services	5413	6.7	31.6	0.0	10.5	14.7	8.0
Computer systems design and related services	5415	13.9	15.2	0.6	2.7	2.6	19.9
Scientific R&D services	5417	5.5	5.7	20.4	2.8	3.2	5.1
Other professional, scientific, and technical services	other 54	74.3	74.7	0.0	47.0	48.7	32.8
Health care services	621–23	0.0	0.0	0.0	21.5	21.6	6.1
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	92.0	4.1	99.4	27.7	6.8	96.1

TABLE A-9. Relative standard error for survey estimates, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	R&D performed by other organizations			Company-funded R&D projected for next year		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded
Company size (employees)							
All companies	-	10.1	10.8	17.0	0.9	0.9	2.4
5–24	-	33.6	38.8	65.6	12.4	13.3	31.7
25–49	-	77.3	78.5	8.3	11.2	12.0	15.1
50–99	-	34.5	36.8	0.3	15.2	16.2	26.9
100–249	-	5.5	6.0	0.6	4.5	4.8	9.7
250–499	-	4.8	5.0	0.0	1.4	1.5	1.6
500–999	-	0.1	0.1	0.0	4.5	4.7	0.0
1,000–4,999	-	0.1	0.1	0.0	0.2	0.2	0.0
5,000–9,999	-	0.4	0.4	0.0	0.0	0.0	0.0
10,000–24,999	-	0.0	0.0	0.0	0.0	0.0	0.0
25,000 or more	-	0.0	0.0	0.0	0.0	0.0	0.0

TABLE A-9. Relative standard error for survey estimates, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	Sales	Domestic employment	R&D area: Biotechnology	Software development	Materials synthesis and processing	Other areas	Percentage of nanotechnology
All industries	21–23, 31–33, 42, 44–81	0.7	1.1	2.6	1.5	1.6	1.8	21.9
Manufacturing industries	31–33	1.0	1.5	3.2	1.1	1.0	0.8	18.4
Food	311	0.7	0.9	1.4	2.8	3.0	1.7	58.1
Beverage and tobacco products	312	0.0	0.1	3.4	0.0	0.8	0.2	0.0
Textiles, apparel, and leather	313–16	10.6	11.8	5.0	2.9	1.1	34.6	53.9
Wood products	321	0.8	1.2	0.0	3.1	1.8	1.5	0.0
Paper, printing, and support activities	322, 323	2.8	7.3	0.0	24.9	11.3	1.9	45.6
Petroleum and coal products	324	0.2	2.4	0.0	0.0	1.4	0.1	0.0
Chemicals	325	0.8	2.1	3.6	9.0	2.2	3.3	38.5
Basic chemicals	3251	2.9	1.5	4.3	21.9	0.3	0.2	37.1
Resin, synthetic rubber, fibers, and filament	3252	0.8	1.7	1.0	0.0	1.4	0.3	83.8
Pharmaceuticals and medicines	3254	0.6	1.1	3.7	13.8	4.4	4.0	18.4
Other chemicals	other 325	2.4	6.5	0.2	3.0	1.1	0.9	44.5
Plastics and rubber products	326	22.6	14.1	1.5	22.1	8.9	9.7	12.2
Nonmetallic mineral products	327	15.2	18.1	1.3	10.7	1.2	0.8	35.3
Primary metals	331	1.1	5.9	0.0	35.6	1.9	5.4	0.0
Fabricated metal products	332	3.9	4.4	1.0	20.4	34.8	3.9	40.9
Machinery	333	0.8	1.2	42.0	3.8	2.2	1.0	62.5
Computer and electronic products	334	0.4	0.7	5.4	2.3	1.1	0.6	11.6
Computers and peripheral equipment	3341	0.1	0.4	0.0	0.5	13.0	0.3	50.4
Communications equipment	3342	0.4	1.3	0.0	8.6	1.6	0.3	0.0
Semiconductor and other electronic components	3344	0.4	0.4	0.0	4.8	0.4	1.1	24.3
Navigational, measuring, electromedical, and control instruments	3345	1.0	1.5	7.9	2.5	9.0	1.5	15.0
Other computer and electronic products	other 334	0.1	0.4	0.0	2.2	0.0	0.4	0.0
Electrical equipment, appliances, and components	335	1.7	0.8	94.5	2.4	11.1	3.2	32.2
Transportation equipment	336	1.9	4.5	0.0	0.1	2.2	0.5	11.7
Motor vehicles, trailers, and parts	3361–63	2.9	8.4	0.0	3.6	1.8	1.1	17.9
Aerospace products and parts	3364	0.8	0.4	0.0	0.0	0.2	0.1	0.0
Other transportation equipment	other 336	0.6	0.9	0.0	0.1	27.6	3.8	10.1
Furniture and related products	337	2.0	4.2	0.0	86.8	1.0	1.5	0.0
Miscellaneous manufacturing	339	10.8	13.0	7.9	15.2	9.0	2.9	35.5
Medical equipment and supplies	3391	12.9	18.3	7.6	25.4	12.9	3.8	47.9
Other miscellaneous manufacturing	other 339	2.2	2.8	84.1	14.4	2.8	4.0	45.3

TABLE A-9. Relative standard error for survey estimates, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	Sales	Domestic employment	R&D area: Biotechnology	Software development	Materials synthesis and processing	Other areas	Percentage of nanotechnology
Nonmanufacturing industries	21–23, 42, 44–81	1.0	1.6	4.0	1.9	6.3	8.5	35.2
Mining, extraction, and support activities	21	0.6	2.3	0.0	12.6	0.7	10.3	75.6
Utilities	22	3.2	3.2	0.3	0.0	0.0	2.4	0.0
Construction	23	11.2	22.9	0.0	77.8	43.4	10.9	0.0
Wholesale trade	42	6.7	9.2	26.2	7.4	44.1	5.6	94.0
Retail trade	44, 45	3.6	2.7	83.6	30.2	45.9	7.7	99.8
Transportation and warehousing	48, 49	0.0	0.1	0.0	0.0	5.1	0.0	0.0
Information	51	0.1	0.2	1.3	0.6	6.5	1.2	46.1
Publishing	511	0.4	0.5	0.4	0.3	0.6	1.6	53.5
Newspaper, periodical, book, and directory	5111	0.7	1.0	0.0	2.2	0.0	1.6	0.0
Software	5112	0.5	0.5	0.4	0.3	0.6	9.8	53.5
Telecommunications	517	0.1	0.2	0.0	4.3	3.4	2.8	0.0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	0.1	0.2	0.0	3.6	0.0	3.5	0.0
Satellite telecommunications	5174	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other telecommunications	other 517	0.2	0.4	0.0	11.9	3.4	2.4	0.0
Internet service providers, Web search portals, and data-processing services	518	0.8	1.1	3.5	1.3	24.3	0.3	84.4
Internet service providers and Web search portals	5181	1.5	3.0	0.0	0.4	85.5	0.1	96.9
Data-processing, hosting, and related services	5182	0.9	1.1	3.5	2.9	0.0	0.7	0.0
Other information	other 51	0.6	1.0	0.0	24.0	0.0	1.9	0.0
Finance, insurance, and real estate	52, 53	0.0	0.4	34.1	0.1	0.5	0.1	0.0
Professional, scientific, and technical services	54	4.9	7.4	3.3	4.6	4.1	13.6	30.3
Architectural, engineering, and related services	5413	5.6	4.5	5.6	31.4	7.3	10.6	58.4
Computer systems design and related services	5415	1.1	1.6	22.6	3.6	2.0	11.6	62.0
Scientific R&D services	5417	1.3	1.8	3.4	2.3	12.3	5.5	24.1
Other professional, scientific, and technical services	other 54	31.9	32.7	0.1	35.8	3.1	87.2	48.0
Health care services	621–23	8.1	9.3	53.5	35.1	0.0	20.7	0.0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	5.5	7.7	12.7	7.9	18.9	67.9	12.1

TABLE A-9. Relative standard error for survey estimates, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	Sales	Domestic employment	R&D area				
				Biotechnology	Software development	Materials synthesis and processing	Other areas	Percentage of nanotechnology
Company size (employees)								
All companies	-	0.7	1.1	2.6	1.5	1.6	1.8	21.9
5–24	-	11.3	8.0	21.7	12.9	26.1	22.1	32.1
25–49	-	9.7	9.5	32.8	17.6	11.2	15.2	55.2
50–99	-	8.6	10.8	9.3	6.2	10.4	35.1	24.1
100–249	-	5.8	7.9	1.1	5.9	10.1	5.9	13.1
250–499	-	7.6	11.5	4.1	1.9	2.6	0.6	4.9
500–999	-	14.1	16.2	0.0	18.7	1.1	0.8	0.0
1,000–4,999	-	1.1	1.1	0.0	0.0	0.0	0.0	2.0
5,000–9,999	-	1.2	1.4	0.0	0.0	0.0	0.0	0.0
10,000–24,999	-	0.1	0.1	0.0	0.0	0.0	0.0	0.0
25,000 or more	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TABLE A-9. Relative standard error for survey estimates, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	Scientists and engineers by source of funds			Company-funded R&D performed outside of the 50 United States and DC
		Total	Company funded	Federally funded	
All industries	21–23, 31–33, 42, 44–81	0.8	0.9	3.2	1.4
Manufacturing industries	31–33	0.6	0.6	1.0	1.8
Food	311	2.8	2.8	0.0	0.2
Beverage and tobacco products	312	0.4	0.4	0.0	0.0
Textiles, apparel, and leather	313–16	11.0	11.1	0.0	0.3
Wood products	321	2.1	2.1	0.0	0.0
Paper, printing, and support activities	322, 323	4.6	4.6	0.0	0.0
Petroleum and coal products	324	18.0	18.0	0.0	0.0
Chemicals	325	1.4	1.4	21.4	4.0
Basic chemicals	3251	0.6	0.6	0.6	0.0
Resin, synthetic rubber, fibers, and filament	3252	2.1	2.1	1.8	0.0
Pharmaceuticals and medicines	3254	1.9	1.9	41.4	4.3
Other chemicals	other 325	1.4	1.4	0.3	0.1
Plastics and rubber products	326	11.9	11.9	9.1	4.1
Nonmetallic mineral products	327	4.4	4.5	4.7	0.5
Primary metals	331	7.9	8.0	3.1	0.0
Fabricated metal products	332	8.5	8.6	2.4	0.6
Machinery	333	1.7	1.7	6.1	0.3
Computer and electronic products	334	0.7	0.8	1.3	0.7
Computers and peripheral equipment	3341	0.3	0.3	0.5	0.1
Communications equipment	3342	2.8	2.8	0.8	0.2
Semiconductor and other electronic components	3344	0.3	0.3	4.3	1.8
Navigational, measuring, electromedical, and control instruments	3345	1.5	1.9	1.5	0.0
Other computer and electronic products	other 334	0.5	0.5	0.0	0.1
Electrical equipment, appliances, and components	335	4.6	4.7	12.3	0.1
Transportation equipment	336	0.6	0.7	0.5	1.6
Motor vehicles, trailers, and parts	3361–63	1.0	1.0	2.0	0.8
Aerospace products and parts	3364	0.3	0.4	0.6	0.0
Other transportation equipment	other 336	2.8	3.7	0.0	74.0
Furniture and related products	337	9.0	9.1	96.6	0.0
Miscellaneous manufacturing	339	4.9	5.0	21.2	8.3
Medical equipment and supplies	3391	6.6	6.7	26.3	10.8
Other miscellaneous manufacturing	other 339	6.0	6.1	12.3	1.6

TABLE A-9. Relative standard error for survey estimates, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	Scientists and engineers by source of funds			Company-funded R&D performed outside of the 50 United States and DC
		Total	Company funded	Federally funded	
Nonmanufacturing industries	21–23, 42, 44–81	2.1	2.2	6.2	1.7
Mining, extraction, and support activities	21	6.5	6.5	0.0	0.0
Utilities	22	1.8	2.1	0.0	0.0
Construction	23	29.6	30.8	0.0	0.0
Wholesale trade	42	12.0	12.1	1.2	10.0
Retail trade	44, 45	21.9	21.4	99.8	0.0
Transportation and warehousing	48, 49	16.2	16.2	0.0	0.0
Information	51	0.6	0.6	1.3	0.2
Publishing	511	0.4	0.4	6.9	0.2
Newspaper, periodical, book, and directory	5111	2.3	2.3	0.0	0.0
Software	5112	0.5	0.5	7.0	0.2
Telecommunications	517	3.0	3.0	0.0	0.8
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	4.3	4.3	0.0	1.0
Satellite telecommunications	5174	0.0	0.0	0.0	0.0
Other telecommunications	other 517	2.8	2.8	0.0	0.0
Internet service providers, Web search portals, and data-processing services	518	1.9	2.0	0.0	0.8
Internet service providers and Web search portals	5181	1.5	1.5	0.0	0.9
Data-processing, hosting, and related services	5182	2.8	3.0	0.0	1.0
Other information	other 51	10.8	10.8	0.0	71.8
Finance, insurance, and real estate	52, 53	1.3	1.3	0.0	0.0
Professional, scientific, and technical services	54	3.5	4.1	4.8	3.9
Architectural, engineering, and related services	5413	6.9	8.7	8.1	0.3
Computer systems design and related services	5415	3.7	3.7	21.6	4.6
Scientific R&D services	5417	3.1	3.6	5.3	6.5
Other professional, scientific, and technical services	other 54	30.6	31.6	42.5	0.1
Health care services	621–23	29.9	30.1	5.9	0.0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	26.0	11.8	86.0	0.0

TABLE A-9. Relative standard error for survey estimates, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	Scientists and engineers by source of funds			Company-funded R&D performed outside of the 50 United States and DC
		Total	Company funded	Federally funded	
Company size (employees)					
All companies	-	0.8	0.9	3.2	1.4
5–24	-	8.8	8.8	30.2	32.7
25–49	-	9.8	10.3	16.6	37.3
50–99	-	9.6	10.0	27.8	8.0
100–249	-	5.3	5.6	8.9	9.8
250–499	-	2.0	2.2	1.6	4.2
500–999	-	3.7	4.0	0.0	4.7
1,000–4,999	-	0.1	0.1	0.0	0.0
5,000–9,999	-	0.0	0.0	0.0	0.0
10,000–24,999	-	0.0	0.0	0.0	0.0
25,000 or more	-	0.0	0.0	0.0	0.0

- = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. A description of the standard error of estimate is given in the technical notes in Appendix A. The percentage (or relative) standard errors (RSE) in this table may be converted to standard errors of estimate by multiplying the percentages shown by the associated estimates. For example, the relative standard error of estimate for company-funded R&D performance by the wood products industry (NAICS 321) is shown as 1.9%, and the associated company-funded R&D estimate for this industry is shown as $192 million in Table 11. The standard error of estimate is 0.019 times $192 million, or $3.6 million. A relative standard error of 0.0 either relates to an estimate of 0 or indicates that the RSE itself has been rounded to zero. Also, RSEs for data items only collected on the Form RD-1 from companies selected for the sample with certainty are equal to 0.0. However, for data items only collected on Form RD-1, but imputed for companies receiving Form RD-1A, the respective RSEs are equal to some positive value. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE A-10. Relative standard error for estimates of all R&D and percentage of estimates attributed to certainty companies, by state: 2007

State	All R&D (millions)	Relative standard error (%)	% of estimate from certainty companies
United States	269,267	0.8	90.3
Alabama	1,771	1.2	84.7
Alaska	58 e	7.1	47.1
Arizona	3,846	1.7	86.6
Arkansas	339	2.8	66.7
California	64,187	0.6	92.3
Colorado	5,223	0.8	92.0
Connecticut	9,444	0.3	96.0
Delaware	1,472	0.5	96.1
District of Columbia	379	12.2	65.0
Florida	4,569	2.6	77.5
Georgia	2,788	1.9	80.5
Hawaii	218	3.3	73.4
Idaho	726	1.1	89.9
Illinois	11,362	1.1	90.1
Indiana	4,939	0.6	92.3
Iowa	1,202	1.2	85.8
Kansas	1,304	1.0	87.5
Kentucky	890	1.7	81.1
Louisiana	373 e	6.2	44.7
Maine	265	2.8	73.0
Maryland	3,665	2.2	79.6
Massachusetts	19,488	0.5	94.0
Michigan	15,736	0.4	95.0
Minnesota	6,636	0.7	91.4
Mississippi	279	3.3	68.8
Missouri	2,736	1.4	85.3
Montana	134	3.7	69.9 i
Nebraska	489	2.3	77.7
Nevada	567	3.7	69.7
New Hampshire	1,814 i	0.7	91.0 i
New Jersey	17,892	0.8	92.5
New Mexico	568	1.5	83.2
New York	10,916	2.2	83.8
North Carolina	6,829	0.8	91.0
North Dakota	126	2.1	77.5
Ohio	7,265	0.9	88.6
Oklahoma	527	3.2	69.4
Oregon	3,629 i	0.7	91.7 i
Pennsylvania	10,387	0.9	90.1
Rhode Island	411	2.3	78.9
South Carolina	1,426	1.6	84.3
South Dakota	132	2.7	61.5
Tennessee	1,638	1.9	80.5
Texas	13,889	1.1	88.2
Utah	1,764	2.5	81.7

TABLE A-10. Relative standard error for estimates of all R&D and percentage of estimates attributed to certainty companies, by state: 2007

State	All R&D (millions)	Relative standard error (%)	% of estimate from certainty companies
Vermont	413	1.0	89.0
Virginia	4,840	1.5	81.6
Washington	12,687	0.5	95.0
West Virginia	233	2.9	77.6
Wisconsin	3,411	1.0	87.6
Wyoming	37 e	11.8	29.7
Undistributed funds	3,347 i	0.0	100.0 i

e = estimated, more than 50% of cell value is imputed due to raking of state data; i = more than 50% of the value is imputed.

NOTES: A description of the standard error of estimate is given in the technical notes in appendix A. The percentage (or relative) standard errors may be converted to standard errors of estimate by multiplying the percentages shown by the associated estimates. For example, the relative standard error of estimate for United States, all R&D is shown as 0.8%, and the associated R&D estimate is shown as $247.7 billion. The standard error of estimate is 0.008 times $247.7 billion, or $2.0 billion. Certainties are companies whose probability of selection is one based on prior-year R&D expenditures equal to or greater than $3 million as well as other companies included in the sample for analytical purposes (analytical certainties). Noncertainties are companies whose probability of selection is less than one. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE A-11. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2007

Industry and company size	NAICS codes	All companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	companies reporting R&D
All industries	21–23, 31–33, 42, 44–81	31,766	25,652	80.8	37.0
Manufacturing industries	31–33	14,940	11,952	80.0	52.9
Food	311	814	655	80.5	53.1
Beverage and tobacco products	312	226	188	83.2	14.9
Textiles, apparel, and leather	313–16	596	444	74.5	32.9
Wood products	321	554	436	78.7	18.8
Paper, printing, and support activities	322, 323	686	553	80.6	28.0
Petroleum and coal products	324	131	100	76.3	47.0
Chemicals	325	1,551	1,260	81.2	72.5
Basic chemicals	3251	228	192	84.2	79.2
Resin, synthetic rubber, fibers, and filament	3252	219	175	79.9	56.0
Pharmaceuticals and medicines	3254	390	307	78.7	81.1
Other chemicals	other 325	714	586	82.1	70.6
Plastics and rubber products	326	889	742	83.5	57.7
Nonmetallic mineral products	327	435	351	80.7	38.2
Primary metals	331	386	322	83.4	42.5
Fabricated metal products	332	1,262	1,038	82.3	44.0
Machinery	333	1,515	1,239	81.8	64.0
Computer and electronic products	334	2,026	1,524	75.2	71.5
Computers and peripheral equipment	3341	243	182	74.9	70.9
Communications equipment	3342	394	279	70.8	76.7
Semiconductor and other electronic components	3344	598	464	77.6	64.9
Navigational, measuring, electromedical, and control instruments	3345	607	468	77.1	80.3
Other computer and electronic products	other 334	184	131	71.2	53.4
Electrical equipment, appliances, and components	335	729	558	76.5	66.8
Transportation equipment	336	1,067	848	79.5	51.7
Motor vehicles, trailers, and parts	3361–63	623	494	79.3	55.5
Aerospace products and parts	3364	203	159	78.3	48.4
Other transportation equipment	other 336	241	195	80.9	44.6
Furniture and related products	337	652	554	85.0	30.3
Miscellaneous manufacturing	339	1,344	1,089	81.0	53.8
Medical equipment and supplies	3391	583	480	82.3	66.3
Other miscellaneous manufacturing	other 339	761	609	80.0	44.0
Unclassified manufacturing	-	77	51	66.2	0.0

TABLE A-11. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2007

Industry and company size	NAICS codes	All companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	companies reporting R&D
Nonmanufacturing industries	21–23, 42, 44–81	16,826	13,700	81.4	23.1
Mining, extraction, and support activities	21	437	369	84.4	10.6
Utilities	22	121	95	78.5	40.0
Construction	23	1,404	1,183	84.3	3.1
Wholesale trade	42	1,595	1,319	82.7	29.9
Retail trade	44, 45	1,244	1,039	83.5	5.8
Transportation and warehousing	48, 49	374	309	82.6	10.0
Information	51	2,372	1,790	75.5	42.2
Publishing	511	1,060	787	74.2	62.1
Newspaper, periodical, book, and directory	5111	231	187	81.0	15.0
Software	5112	829	600	72.4	76.8
Telecommunications	517	417	309	74.1	18.4
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	227	176	77.5	15.9
Satellite telecommunications	5174	59	40	67.8	10.0
Other telecommunications	other 517	131	93	71.0	26.9
Internet service providers, Web search portals, and data-processing services	518	501	391	78.0	44.5
Internet service providers and Web search portals	5181	155	124	80.0	36.3
Data-processing, hosting, and related services	5182	346	267	77.2	48.3
Other information	other 51	394	303	76.9	11.9
Finance, insurance, and real estate	52, 53	945	793	83.9	8.1
Professional, scientific, and technical services	54	4,194	3,449	82.2	44.0
Architectural, engineering, and related services	5413	817	708	86.7	23.3
Computer systems design and related services	5415	1,315	1,019	77.5	56.7
Scientific R&D services	5417	1,178	955	81.1	71.6
Other professional, scientific, and technical services	other 54	884	767	86.8	11.6
Health care services	621–23	1,193	1,060	88.9	9.9
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	2,761	2,182	79.0	5.4
Unclassified nonmanufacturing	-	186	112	60.2	0.0

TABLE A-11. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2007

Industry and company size	NAICS codes	All companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	companies reporting R&D
Company size (employees)					
All companies	-	31,766	25,652	80.8	37.0
5–24	-	10,540	8,626	81.8	12.7
25–49	-	4,709	3,836	81.5	34.1
50–99	-	4,791	3,893	81.3	44.1
100–249	-	5,150	4,132	80.2	52.4
250–499	-	2,630	2,018	76.7	57.5
500–999	-	1,567	1,237	78.9	60.1
1,000–4,999	-	1,673	1,310	78.3	66.7
5,000–9,999	-	308	258	83.8	70.5
10,000–24,999	-	232	197	84.9	73.6
25,000 or more	-	166	145	87.3	64.1

TABLE A-11. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2007

Industry and company size	NAICS codes	Top 500 R&D-performing companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	companies reporting R&D
All industries	21–23, 31–33, 42, 44–81	500	431	86.2	99.1
Manufacturing industries	31–33	363	307	84.6	98.7
Food	311	15	14	93.3	92.9
Beverage and tobacco products	312	1	1	100.0	100.0
Textiles, apparel, and leather	313–16	1	1	100.0	100.0
Wood products	321	0	0	–	–
Paper, printing, and support activities	322, 323	7	6	85.7	100.0
Petroleum and coal products	324	4	4	100.0	100.0
Chemicals	325	105	95	90.5	100.0
Basic chemicals	3251	10	10	100.0	100.0
Resin, synthetic rubber, fibers, and filament	3252	2	2	100.0	100.0
Pharmaceuticals and medicines	3254	76	66	86.8	100.0
Other chemicals	other 325	17	17	100.0	100.0
Plastics and rubber products	326	4	4	100.0	100.0
Nonmetallic mineral products	327	3	3	100.0	100.0
Primary metals	331	3	3	100.0	100.0
Fabricated metal products	332	3	2	66.7	100.0
Machinery	333	25	21	84.0	100.0
Computer and electronic products	334	119	86	72.3	96.5
Computers and peripheral equipment	3341	16	12	75.0	100.0
Communications equipment	3342	21	16	76.2	93.8
Semiconductor and other electronic components	3344	42	30	71.4	93.3
Navigational, measuring, electromedical, and control instruments	3345	36	26	72.2	100.0
Other computer and electronic products	other 334	4	2	50.0	100.0
Electrical equipment, appliances, and components	335	7	7	100.0	100.0
Transportation equipment	336	46	43	93.5	100.0
Motor vehicles, trailers, and parts	3361–63	29	28	96.6	100.0
Aerospace products and parts	3364	12	11	91.7	100.0
Other transportation equipment	other 336	5	4	80.0	100.0
Furniture and related products	337	2	2	100.0	100.0
Miscellaneous manufacturing	339	18	15	83.3	100.0
Medical equipment and supplies	3391	14	11	78.6	100.0
Other miscellaneous manufacturing	other 339	4	4	100.0	100.0
Unclassified manufacturing	-	0	0	–	–

TABLE A-11. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2007

Industry and company size	NAICS codes	Top 500 R&D-performing companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	companies reporting R&D
Nonmanufacturing industries	21–23, 42, 44–81	137	124	90.5	100.0
Mining, extraction, and support activities	21	3	3	100.0	100.0
Utilities	22	1	1	100.0	100.0
Construction	23	1	1	100.0	100.0
Wholesale trade	42	0	0	–	–
Retail trade	44, 45	4	4	100.0	100.0
Transportation and warehousing	48, 49	0	0	–	–
Information	51	53	48	90.6	100.0
Publishing	511	36	34	94.4	100.0
Newspaper, periodical, book, and directory	5111	2	2	100.0	100.0
Software	5112	34	32	94.1	100.0
Telecommunications	517	9	7	77.8	100.0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	6	4	66.7	100.0
Satellite telecommunications	5174	0	0	–	–
Other telecommunications	other 517	3	3	100.0	100.0
Internet service providers, Web search portals, and data-processing services	518	6	6	100.0	100.0
Internet service providers and Web search portals	5181	2	2	100.0	100.0
Data-processing, hosting, and related services	5182	4	4	100.0	100.0
Other information	other 51	2	1	50.0	100.0
Finance, insurance, and real estate	52, 53	8	8	100.0	100.0
Professional, scientific, and technical services	54	64	57	89.1	100.0
Architectural, engineering, and related services	5413	9	8	88.9	100.0
Computer systems design and related services	5415	18	15	83.3	100.0
Scientific R&D services	5417	35	32	91.4	100.0
Other professional, scientific, and technical services	other 54	2	2	100.0	100.0
Health care services	621–23	2	2	100.0	100.0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	1	0	0.0	–
Unclassified nonmanufacturing	-	0	0	–	–

TABLE A-11. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2007

Industry and company size	NAICS codes	Top 500 R&D-performing companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	companies reporting R&D
Company size (employees)					
All companies	-	500	431	86.2	99.1
5–24	-	0	0	–	–
25–49	-	0	0	–	–
50–99	-	2	2	100.0	100.0
100–249	-	19	17	89.5	100.0
250–499	-	21	18	85.7	100.0
500–999	-	55	46	83.6	97.8
1,000–4,999	-	178	143	80.3	98.6
5,000–9,999	-	62	53	85.5	100.0
10,000–24,999	-	87	82	94.3	100.0
25,000 or more	-	76	70	92.1	98.6

TABLE A-11. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2007

Industry and company size	NAICS codes	All companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	companies reporting R&D
Form RD–1					
All industries	21–23, 31–33, 42, 44–81	3,395	2,762	81.4	93.0
Manufacturing industries	31–33	1,860	1,529	82.2	95.6
Food	311	60	54	90.0	98.1
Beverage and tobacco products	312	12	10	83.3	80.0
Textiles, apparel, and leather	313–16	29	26	89.7	80.8
Wood products	321	8	7	87.5	100.0
Paper, printing, and support activities	322, 323	41	37	90.2	94.6
Petroleum and coal products	324	10	7	70.0	100.0
Chemicals	325	322	280	87.0	96.8
Basic chemicals	3251	60	52	86.7	98.1
Resin, synthetic rubber, fibers, and filament	3252	19	19	100.0	94.7
Pharmaceuticals and medicines	3254	180	148	82.2	95.9
Other chemicals	other 325	63	61	96.8	98.4
Plastics and rubber products	326	80	67	83.8	94.0
Nonmetallic mineral products	327	29	25	86.2	96.0
Primary metals	331	37	34	91.9	97.1
Fabricated metal products	332	63	52	82.5	94.2
Machinery	333	184	151	82.1	98.7
Computer and electronic products	334	542	408	75.3	94.9
Computers and peripheral equipment	3341	62	50	80.6	94.0
Communications equipment	3342	124	85	68.5	90.6
Semiconductor and other electronic components	3344	148	113	76.4	98.2
Navigational, measuring, electromedical, and control instruments	3345	188	144	76.6	95.8
Other computer and electronic products	other 334	20	16	80.0	87.5
Electrical equipment, appliances, and components	335	93	74	79.6	95.9
Transportation equipment	336	183	157	85.8	94.9
Motor vehicles, trailers, and parts	3361–63	117	103	88.0	94.2
Aerospace products and parts	3364	42	34	81.0	97.1
Other transportation equipment	other 336	24	20	83.3	95.0
Furniture and related products	337	20	19	95.0	100.0
Miscellaneous manufacturing	339	147	121	82.3	95.9
Medical equipment and supplies	3391	111	91	82.0	94.5
Other miscellaneous manufacturing	other 339	36	30	83.3	100.0
Unclassified manufacturing	-	0	0	–	–

TABLE A-11. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2007

Industry and company size	NAICS codes	All companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	companies reporting R&D
Nonmanufacturing industries	21–23, 42, 44–81	1,535	1,233	80.3	89.9
Mining, extraction, and support activities	21	19	17	89.5	88.2
Utilities	22	17	13	76.5	84.6
Construction	23	13	13	100.0	69.2
Wholesale trade	42	114	90	78.9	96.7
Retail trade	44, 45	18	16	88.9	81.3
Transportation and warehousing	48, 49	9	8	88.9	87.5
Information	51	345	262	75.9	91.6
Publishing	511	243	186	76.5	93.0
Newspaper, periodical, book, and directory	5111	12	10	83.3	90.0
Software	5112	231	176	76.2	93.2
Telecommunications	517	30	21	70.0	81.0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	17	13	76.5	76.9
Satellite telecommunications	5174	2	1	50.0	100.0
Other telecommunications	other 517	11	7	63.6	85.7
Internet service providers, Web search portals, and data-processing services	518	55	46	83.6	89.1
Internet service providers and Web search portals	5181	10	9	90.0	88.9
Data-processing, hosting, and related services	5182	45	37	82.2	89.2
Other information	other 51	17	9	52.9	100.0
Finance, insurance, and real estate	52, 53	60	50	83.3	62.0
Professional, scientific, and technical services	54	872	711	81.5	91.6
Architectural, engineering, and related services	5413	94	75	79.8	86.7
Computer systems design and related services	5415	241	185	76.8	91.4
Scientific R&D services	5417	484	407	84.1	94.8
Other professional, scientific, and technical services	other 54	53	44	83.0	70.5
Health care services	621–23	12	10	83.3	90.0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	56	43	76.8	81.4
Unclassified nonmanufacturing	-	0	0	–	–

TABLE A-11. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2007

Industry and company size	NAICS codes	All companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	companies reporting R&D
Company size (employees)					
	-	3,395	2,762	81.4	93.0
5–24	-	100	69	69.0	81.2
25–49	-	263	215	81.7	93.5
50–99	-	405	320	79.0	91.6
100–249	-	592	478	80.7	92.5
250–499	-	423	335	79.2	93.7
500–999	-	438	358	81.7	93.3
1,000–4,999	-	760	619	81.4	94.0
5,000–9,999	-	173	148	85.5	94.6
10,000–24,999	-	139	127	91.4	96.9
25,000 or more	-	102	93	91.2	91.4

TABLE A-11. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2007

Industry and company size	NAICS codes	All companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	companies reporting R&D
Form RD–1A					
All industries	21–23, 31–33, 42, 44–81	28,371	22,890	80.7	30.2
Manufacturing industries	31–33	13,080	10,423	79.7	46.6
Food	311	754	601	79.7	49.1
Beverage and tobacco products	312	214	178	83.2	11.2
Textiles, apparel, and leather	313–16	567	418	73.7	29.9
Wood products	321	546	429	78.6	17.5
Paper, printing, and support activities	322, 323	645	516	80.0	23.3
Petroleum and coal products	324	121	93	76.9	43.0
Chemicals	325	1,229	980	79.7	65.5
Basic chemicals	3251	168	140	83.3	72.1
Resin, synthetic rubber, fibers, and filament	3252	200	156	78.0	51.3
Pharmaceuticals and medicines	3254	210	159	75.7	67.3
Other chemicals	other 325	651	525	80.6	67.4
Plastics and rubber products	326	809	675	83.4	54.1
Nonmetallic mineral products	327	406	326	80.3	33.7
Primary metals	331	349	288	82.5	36.1
Fabricated metal products	332	1,199	986	82.2	41.4
Machinery	333	1,331	1,088	81.7	59.2
Computer and electronic products	334	1,484	1,116	75.2	63.0
Computers and peripheral equipment	3341	181	132	72.9	62.1
Communications equipment	3342	270	194	71.9	70.6
Semiconductor and other electronic components	3344	450	351	78.0	54.1
Navigational, measuring, electromedical, and control instruments	3345	419	324	77.3	73.5
Other computer and electronic products	other 334	164	115	70.1	48.7
Electrical equipment, appliances, and components	335	636	484	76.1	62.4
Transportation equipment	336	884	691	78.2	41.8
Motor vehicles, trailers, and parts	3361–63	506	391	77.3	45.3
Aerospace products and parts	3364	161	125	77.6	35.2
Other transportation equipment	other 336	217	175	80.6	38.9
Furniture and related products	337	632	535	84.7	27.9
Miscellaneous manufacturing	339	1,197	968	80.9	48.6
Medical equipment and supplies	3391	472	389	82.4	59.6
Other miscellaneous manufacturing	other 339	725	579	79.9	41.1
Unclassified manufacturing	-	77	51	66.2	0.0

TABLE A-11. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2007

Industry and company size	NAICS codes	All companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	companies reporting R&D
Nonmanufacturing industries	21–23, 42, 44–81	15,291	12,467	81.5	16.4
Mining, extraction, and support activities	21	418	352	84.2	6.8
Utilities	22	104	82	78.8	32.9
Construction	23	1,391	1,170	84.1	2.4
Wholesale trade	42	1,481	1,229	83.0	25.1
Retail trade	44, 45	1,226	1,023	83.4	4.6
Transportation and warehousing	48, 49	365	301	82.5	8.0
Information	51	2,027	1,528	75.4	33.8
Publishing	511	817	601	73.6	52.6
Newspaper, periodical, book, and directory	5111	219	177	80.8	10.7
Software	5112	598	424	70.9	70.0
Telecommunications	517	387	288	74.4	13.9
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	210	163	77.6	11.0
Satellite telecommunications	5174	57	39	68.4	7.7
Other telecommunications	other 517	120	86	71.7	22.1
Internet service providers, Web search portals, and data-processing services	518	446	345	77.4	38.6
Internet service providers and Web search portals	5181	145	115	79.3	32.2
Data-processing, hosting, and related services	5182	301	230	76.4	41.7
Other information	other 51	377	294	78.0	9.2
Finance, insurance, and real estate	52, 53	885	743	84.0	4.4
Professional, scientific, and technical services	54	3,322	2,738	82.4	31.6
Architectural, engineering, and related services	5413	723	633	87.6	15.8
Computer systems design and related services	5415	1,074	834	77.7	49.0
Scientific R&D services	5417	694	548	79.0	54.4
Other professional, scientific, and technical services	other 54	831	723	87.0	8.0
Health care services	621–23	1,181	1,050	88.9	9.1
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	2,705	2,139	79.1	3.8
Unclassified nonmanufacturing	-	186	112	60.2	0.0

TABLE A-11. Unit response rates and percentage of companies performing R&D, by industry and type of survey form: 2007

Industry and company size	NAICS codes	All companies			
		Companies receiving a questionnaire	Companies responding to the survey	% of companies responding to the survey	companies reporting R&D
Company size (employees)					
All companies	-	28,371	22,890	80.7	30.2
5–24	-	10,440	8,557	82.0	12.1
25–49	-	4,446	3,621	81.4	30.6
50–99	-	4,386	3,573	81.5	39.9
100–249	-	4,558	3,654	80.2	47.2
250–499	-	2,207	1,683	76.3	50.3
500–999	-	1,129	879	77.9	46.5
1,000–4,999	-	913	691	75.7	42.3
5,000–9,999	-	135	110	81.5	38.2
10,000–24,999	-	93	70	75.3	31.4
25,000 or more	-	64	52	81.3	15.4

- = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. The calculation of the percent of companies responding to the survey was based on all companies responding to the survey. It excludes companies for which total R&D expenditure data were imputed. Mathematically, the percentage was calculated by dividing the number of companies that received a questionnaire (indicated in the previous column) into the number of companies that returned a response or questionnaire regardless of the data or information supplied in the response or on the questionnaire. Companies that were missing or had an incomplete North American Classification System (NAICS) code at the time of sampling were assigned to an "unclassified" industry category temporarily. If an unclassified company reported R&D expenditures, its primary industrial activity was investigated and a NAICS code was assigned during statistical processing. The total "number of companies receiving a questionnaire" may be smaller than the number of "companies selected for the sample" in table A-1 because some companies selected for the survey went out of business or were merged with other companies between sample selection and survey mail-out; that is, the sample was updated before actual mail-out took place. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	All R&D			Basic research			Applied research		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded	Total	Company funded	Federally funded
All industries	21–23, 31–33, 42, 44–81	10	10	20	20	20	10	20	20	10
Manufacturing industries	31–33	10	20	20	20	20	10	20	20	10
Food	311	10	10	0	20	20	99	10	10	99
Beverage and tobacco products	312	20	20	0	0	0	0	0	0	0
Textiles, apparel, and leather	313–16	20	10	0	0	0	0	0	10	0
Wood products	321	30	30	100	50	50	0	30	30	0
Paper, printing, and support activities	322, 323	30	30	0	10	10	0	10	10	0
Petroleum and coal products	324	10	20	0	0	0	0	10	0	0
Chemicals	325	10	10	20	10	10	10	20	20	10
Basic chemicals	3251	10	10	10	10	10	0	10	10	0
Resin, synthetic rubber, fibers, and filament	3252	0	10	0	0	0	0	0	10	0
Pharmaceuticals and medicines	3254	10	10	20	10	10	10	20	20	10
Other chemicals	other 325	10	10	0	10	10	0	10	10	0
Plastics and rubber products	326	10	10	99	10	10	0	10	10	100
Nonmetallic mineral products	327	10	10	50	10	10	99	10	10	0
Primary metals	331	10	10	0	10	10	0	10	10	0
Fabricated metal products	332	20	20	90	0	10	0	10	10	0
Machinery	333	10	10	10	30	30	0	10	10	20
Computer and electronic products	334	20	20	30	40	60	10	30	30	10
Computers and peripheral equipment	3341	30	20	0	50	50	0	60	70	0
Communications equipment	3342	20	20	10	90	99	10	40	50	10
Semiconductor and other electronic components	3344	20	30	10	90	90	10	20	30	20
Navigational, measuring, electromedical, and control instruments	3345	30	20	30	10	10	10	20	20	20
Other computer and electronic products	other 334	50	50	0	30	30	0	10	10	0
Electrical equipment, appliances, and components	335	20	20	20	10	10	0	10	10	0
Transportation equipment	336	10	10	10	10	20	10	20	20	10
Motor vehicles, trailers, and parts	3361–63	10	10	0	10	10	0	10	10	0
Aerospace products and parts	3364	10	10	10	30	20	40	20	30	20
Other transportation equipment	other 336	10	10	10	10	10	0	10	20	0
Furniture and related products	337	10	10	0	0	0	0	0	0	0
Miscellaneous manufacturing	339	20	20	10	10	10	0	10	10	0
Medical equipment and supplies	3391	20	20	10	10	10	0	10	10	0
Other miscellaneous manufacturing	other 339	10	10	0	0	10	0	10	10	0

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	All R&D			Basic research			Applied research		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded	Total	Company funded	Federally funded
Nonmanufacturing industries	21–23, 42, 44–81	10	10	10	20	20	20	10	10	10
Mining, extraction, and support activities	21	10	10	20	10	10	0	10	10	0
Utilities	22	20	20	20	30	10	100	10	10	60
Construction	23	20	10	0	0	0	0	0	0	0
Wholesale trade	42	10	10	0	0	0	0	10	10	0
Retail trade	44, 45	10	10	0	0	0	0	10	10	0
Transportation and warehousing	48, 49	10	10	0	0	0	0	0	0	0
Information	51	10	10	10	50	60	0	10	10	0
Publishing	511	10	10	0	10	10	0	10	10	0
Newspaper, periodical, book, and directory	5111	10	10	0	0	0	0	0	0	0
Software	5112	10	10	0	10	10	0	10	10	0
Telecommunications	517	40	40	100	80	80	0	40	40	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	50	50	100	99	99	0	50	50	0
Satellite telecommunications	5174	0	0	0	0	0	0	0	0	0
Other telecommunications	other 517	20	20	0	0	0	0	0	0	0
Internet service providers, Web search portals, and data-processing services	518	10	10	0	0	10	0	0	10	0
Internet service providers and Web search portals	5181	10	10	0	0	0	0	0	10	0
Data-processing, hosting, and related services	5182	10	10	0	0	20	0	0	0	0
Other information	other 51	50	50	0	0	0	0	0	10	0
Finance, insurance, and real estate	52, 53	10	10	0	30	30	0	10	10	0
Professional, scientific, and technical services	54	10	10	10	10	10	10	10	10	10
Architectural, engineering, and related services	5413	10	10	20	10	10	10	10	10	30
Computer systems design and related services	5415	10	10	10	10	10	10	10	10	10
Scientific R&D services	5417	10	10	10	20	20	20	10	10	10
Other professional, scientific, and technical services	other 54	10	10	10	10	10	10	10	10	10
Health care services	621–23	10	20	0	0	0	0	30	60	0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	40	50	10	30	20	80	10	10	70

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	All R&D			Basic research			Applied research		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded	Total	Company funded	Federally funded
Company size (employees)										
All companies	-	10	10	20	20	20	10	20	20	10
5–24	-	10	10	10	10	10	10	10	20	10
25–49	-	10	10	10	10	10	10	10	10	10
50–99	-	10	10	10	10	10	10	10	10	10
100–249	-	20	20	20	20	20	20	20	20	20
250–499	-	20	20	30	20	10	60	20	20	20
500–999	-	20	20	10	20	20	10	20	20	10
1,000–4,999	-	20	20	30	10	10	30	10	20	10
5,000–9,999	-	20	20	20	60	60	0	30	30	0
10,000–24,999	-	10	10	40	10	10	10	20	20	10
25,000 or more	-	10	10	10	20	20	10	20	20	10

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	Development			Type of R&D expense				
		Total	Company funded	Federally funded	Wages and salaries of R&D personnel	Fringe benefits of R&D personnel	Materials and supplies	R&D depreciation	Other costs
All industries	21–23, 31–33, 42, 44–81	20	20	20	30	40	40	30	40
Manufacturing industries	31–33	20	20	20	40	40	40	40	50
Food	311	10	10	0	20	20	10	20	20
Beverage and tobacco products	312	10	10	0	20	20	20	20	20
Textiles, apparel, and leather	313–16	10	10	0	20	20	30	20	30
Wood products	321	30	30	100	30	30	30	10	10
Paper, printing, and support activities	322, 323	10	10	0	80	80	80	90	80
Petroleum and coal products	324	10	10	0	60	60	70	70	60
Chemicals	325	10	10	30	40	40	40	30	40
Basic chemicals	3251	10	10	20	20	30	20	20	30
Resin, synthetic rubber, fibers, and filament	3252	10	10	0	10	10	10	10	10
Pharmaceuticals and medicines	3254	10	10	40	40	40	50	40	50
Other chemicals	other 325	10	10	0	10	10	10	10	10
Plastics and rubber products	326	10	10	0	20	20	30	30	20
Nonmetallic mineral products	327	10	10	40	20	20	20	20	20
Primary metals	331	10	10	0	10	10	20	40	20
Fabricated metal products	332	10	10	0	30	30	40	30	30
Machinery	333	10	10	10	40	40	40	40	50
Computer and electronic products	334	30	30	50	50	50	50	40	60
Computers and peripheral equipment	3341	20	20	0	50	50	60	40	70
Communications equipment	3342	80	80	30	40	40	70	50	60
Semiconductor and other electronic components	3344	20	20	10	30	30	30	30	40
Navigational, measuring, electromedical, and control instruments	3345	30	30	60	60	60	70	60	60
Other computer and electronic products	other 334	10	10	0	50	50	40	50	80
Electrical equipment, appliances, and components	335	10	10	0	20	20	20	30	40
Transportation equipment	336	20	20	10	50	60	40	50	50
Motor vehicles, trailers, and parts	3361–63	10	10	0	50	50	40	40	50
Aerospace products and parts	3364	40	40	10	30	60	30	50	40
Other transportation equipment	other 336	10	20	10	90	90	80	50	80
Furniture and related products	337	0	0	0	20	20	20	10	20
Miscellaneous manufacturing	339	10	10	10	30	20	30	30	40
Medical equipment and supplies	3391	10	10	10	30	30	30	30	30
Other miscellaneous manufacturing	other 339	10	10	0	20	20	20	20	60

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	Development			Type of R&D expense				
		Total	Company funded	Federally funded	Wages and salaries of R&D personnel	Fringe benefits of R&D personnel	Materials and supplies	R&D depreciation	Other costs
Nonmanufacturing industries	21–23, 42, 44–81	10	10	10	20	20	20	20	30
Mining, extraction, and support activities	21	10	10	0	10	10	10	20	20
Utilities	22	10	10	0	50	30	30	20	30
Construction	23	0	10	0	10	10	10	10	40
Wholesale trade	42	10	10	0	20	20	20	20	30
Retail trade	44, 45	10	10	0	10	10	10	10	10
Transportation and warehousing	48, 49	10	10	0	20	30	40	40	50
Information	51	10	10	10	20	30	20	20	20
Publishing	511	10	10	0	20	20	20	20	20
Newspaper, periodical, book, and directory	5111	10	10	0	20	20	20	10	10
Software	5112	10	10	0	20	20	20	20	20
Telecommunications	517	40	40	100	50	70	30	20	30
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	50	50	100	50	90	30	20	40
Satellite telecommunications	5174	0	0	0	50	50	90	50	99
Other telecommunications	other 517	10	10	0	20	10	20	10	10
Internet service providers, Web search portals, and data-processing services	518	10	10	0	20	30	20	10	20
Internet service providers and Web search portals	5181	10	10	0	10	10	10	10	10
Data-processing, hosting, and related services	5182	10	10	0	30	50	50	30	30
Other information	other 51	60	60	0	40	60	70	60	80
Finance, insurance, and real estate	52, 53	10	10	0	10	20	20	10	40
Professional, scientific, and technical services	54	10	10	10	20	20	20	20	30
Architectural, engineering, and related services	5413	10	10	10	20	10	10	20	40
Computer systems design and related services	5415	10	10	20	10	10	10	10	20
Scientific R&D services	5417	20	20	10	20	20	20	20	20
Other professional, scientific, and technical services	other 54	10	10	40	10	10	20	10	90
Health care services	621–23	0	10	0	20	10	10	30	20
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	40	60	0	70	80	80	30	70

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	Development			Type of R&D expense				
		Total	Company funded	Federally funded	Wages and salaries of R&D personnel	Fringe benefits of R&D personnel	Materials and supplies	R&D depreciation	Other costs
Company size (employees)									
All companies	-	20	20	20	30	40	40	30	40
5–24	-	10	10	10	20	20	20	10	30
25–49	-	10	10	20	10	10	10	20	30
50–99	-	10	10	30	20	20	20	20	40
100–249	-	20	20	10	20	20	20	30	30
250–499	-	20	20	30	30	30	30	30	30
500–999	-	20	20	10	30	30	30	30	30
1,000–4,999	-	20	20	20	30	30	40	30	40
5,000–9,999	-	10	10	10	30	30	30	30	40
10,000–24,999	-	10	10	60	40	30	40	30	40
25,000 or more	-	20	20	10	40	50	50	40	60

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	R&D performed by other organizations			Company-funded R&D projected for next year		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded
All industries	21–23, 31–33, 42, 44–81	10	10	0	40	40	60
Manufacturing industries	31–33	10	10	0	50	50	80
Food	311	10	10	0	20	20	20
Beverage and tobacco products	312	10	10	0	20	20	0
Textiles, apparel, and leather	313–16	0	10	0	50	50	0
Wood products	321	10	0	0	30	30	100
Paper, printing, and support activities	322, 323	10	10	0	80	80	100
Petroleum and coal products	324	10	10	0	70	70	100
Chemicals	325	10	10	0	40	40	30
Basic chemicals	3251	10	10	0	20	20	40
Resin, synthetic rubber, fibers, and filament	3252	0	0	0	10	10	0
Pharmaceuticals and medicines	3254	10	10	0	40	40	30
Other chemicals	other 325	10	10	0	40	40	10
Plastics and rubber products	326	10	10	0	40	40	50
Nonmetallic mineral products	327	10	10	0	20	20	50
Primary metals	331	10	10	0	20	20	10
Fabricated metal products	332	0	0	0	30	30	90
Machinery	333	10	10	0	30	30	30
Computer and electronic products	334	20	20	0	70	60	80
Computers and peripheral equipment	3341	10	10	0	70	80	80
Communications equipment	3342	20	20	0	80	80	50
Semiconductor and other electronic components	3344	10	20	0	60	60	10
Navigational, measuring, electromedical, and control instruments	3345	30	40	0	60	40	90
Other computer and electronic products	other 334	10	10	0	50	50	0
Electrical equipment, appliances, and components	335	10	10	0	30	20	50
Transportation equipment	336	10	10	0	50	60	80
Motor vehicles, trailers, and parts	3361–63	10	10	0	20	40	30
Aerospace products and parts	3364	10	10	0	60	70	70
Other transportation equipment	other 336	10	10	0	80	60	99
Furniture and related products	337	0	0	0	10	10	0
Miscellaneous manufacturing	339	10	10	0	40	40	10
Medical equipment and supplies	3391	10	10	0	40	40	10
Other miscellaneous manufacturing	other 339	10	10	0	30	30	20

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	R&D performed by other organizations			Company-funded R&D projected for next year		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded
Nonmanufacturing industries	21–23, 42, 44–81	10	10	0	30	30	20
Mining, extraction, and support activities	21	10	10	0	10	10	40
Utilities	22	0	0	0	20	20	20
Construction	23	99	0	0	10	10	30
Wholesale trade	42	10	10	0	20	20	0
Retail trade	44, 45	10	10	0	30	30	0
Transportation and warehousing	48, 49	0	0	0	40	40	0
Information	51	20	30	0	30	30	10
Publishing	511	30	30	0	30	30	10
Newspaper, periodical, book, and directory	5111	10	10	0	20	20	0
Software	5112	30	30	0	30	30	10
Telecommunications	517	30	30	0	60	60	100
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	99	99	0	80	80	100
Satellite telecommunications	5174	0	0	0	10	10	0
Other telecommunications	other 517	10	10	0	30	30	0
Internet service providers, Web search portals, and data-processing services	518	20	20	0	20	20	0
Internet service providers and Web search portals	5181	10	10	0	20	20	0
Data-processing, hosting, and related services	5182	20	30	0	30	30	0
Other information	other 51	10	10	0	60	60	0
Finance, insurance, and real estate	52, 53	10	10	0	20	20	0
Professional, scientific, and technical services	54	10	10	0	20	20	30
Architectural, engineering, and related services	5413	10	10	0	30	20	70
Computer systems design and related services	5415	10	20	0	20	10	40
Scientific R&D services	5417	10	10	0	20	30	10
Other professional, scientific, and technical services	other 54	10	10	0	10	10	10
Health care services	621–23	0	0	0	20	30	10
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	10	10	0	50	60	10

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	R&D performed by other organizations			Company-funded R&D projected for next year		
		Total	Company funded	Federally funded	Total	Company funded	Federally funded
Company size (employees)							
All companies	-	10	10	0	40	40	60
5–24	-	10	10	0	10	10	10
25–49	-	10	10	0	10	10	20
50–99	-	10	10	0	20	20	20
100–249	-	20	10	0	20	30	20
250–499	-	20	20	0	30	30	40
500–999	-	10	10	0	40	40	40
1,000–4,999	-	20	20	0	40	40	70
5,000–9,999	-	10	10	0	30	30	80
10,000–24,999	-	20	20	0	40	40	50
25,000 or more	-	10	10	0	60	60	80

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	Company-funded R&D performed by other organizations					
		Total	For-profit companies	Federal agencies or laboratories	State government agencies or laboratories	Universities or colleges	Other nonprofit organizations
All industries	21–23, 31–33, 42, 44–81	10	10	20	0	10	10
Manufacturing industries	31–33	10	10	20	0	10	10
Food	311	10	10	0	0	10	10
Beverage and tobacco products	312	10	10	0	0	30	0
Textiles, apparel, and leather	313–16	0	0	0	0	0	0
Wood products	321	0	0	0	0	0	0
Paper, printing, and support activities	322, 323	10	10	0	0	0	0
Petroleum and coal products	324	10	100	0	0	0	0
Chemicals	325	10	20	30	0	10	10
Basic chemicals	3251	10	10	0	0	10	0
Resin, synthetic rubber, fibers, and filament	3252	0	0	0	0	0	0
Pharmaceuticals and medicines	3254	10	20	40	0	10	10
Other chemicals	other 325	10	10	0	0	10	0
Plastics and rubber products	326	10	10	0	0	0	0
Nonmetallic mineral products	327	10	10	0	0	0	0
Primary metals	331	10	10	0	0	0	0
Fabricated metal products	332	0	0	0	0	0	0
Machinery	333	20	20	0	0	10	0
Computer and electronic products	334	20	20	40	0	20	50
Computers and peripheral equipment	3341	10	10	0	0	20	0
Communications equipment	3342	20	20	0	0	0	0
Semiconductor and other electronic components	3344	20	20	100	0	40	0
Navigational, measuring, electromedical, and control instruments	3345	40	40	0	0	10	60
Other computer and electronic products	other 334	10	10	0	0	0	0
Electrical equipment, appliances, and components	335	10	10	0	0	0	100
Transportation equipment	336	10	10	0	0	10	10
Motor vehicles, trailers, and parts	3361–63	10	10	0	0	0	0
Aerospace products and parts	3364	10	10	0	0	10	10
Other transportation equipment	other 336	60	0	0	0	0	0
Furniture and related products	337	0	0	0	0	0	0
Miscellaneous manufacturing	339	10	10	0	0	10	0
Medical equipment and supplies	3391	10	10	0	0	10	0
Other miscellaneous manufacturing	other 339	10	0	0	0	0	0

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	Company-funded R&D performed by other organizations					
		Total	For-profit companies	Federal agencies or laboratories	State government agencies or laboratories	Universities or colleges	Other nonprofit organizations
Nonmanufacturing industries	21–23, 42, 44–81	10	10	10	0	10	10
Mining, extraction, and support activities	21	10	10	0	0	10	0
Utilities	22	0	0	0	0	0	0
Construction	23	0	0	0	0	0	0
Wholesale trade	42	20	10	0	0	0	0
Retail trade	44, 45	10	10	0	0	0	0
Transportation and warehousing	48, 49	0	0	0	0	0	0
Information	51	30	30	0	0	50	0
Publishing	511	30	20	0	0	0	0
Newspaper, periodical, book, and directory	5111	10	10	0	0	0	0
Software	5112	30	30	0	0	0	0
Telecommunications	517	40	40	0	0	99	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	99	100	0	0	99	0
Satellite telecommunications	5174	0	0	0	0	0	0
Other telecommunications	other 517	10	0	0	0	0	0
Internet service providers, Web search portals, and data-processing services	518	30	30	0	0	0	0
Internet service providers and Web search portals	5181	10	0	0	0	0	0
Data-processing, hosting, and related services	5182	30	30	0	0	0	0
Other information	other 51	10	10	0	0	0	0
Finance, insurance, and real estate	52, 53	10	10	0	0	0	0
Professional, scientific, and technical services	54	10	10	10	0	10	20
Architectural, engineering, and related services	5413	10	10	0	0	0	0
Computer systems design and related services	5415	30	20	0	0	0	0
Scientific R&D services	5417	10	10	40	0	10	20
Other professional, scientific, and technical services	other 54	10	10	0	0	0	0
Health care services	621–23	0	0	0	0	100	0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	20	0	0	0	0	0

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	Company-funded R&D performed by other organizations					
		Total	For-profit companies	Federal agencies or laboratories	State government agencies or laboratories	Universities or colleges	Other nonprofit organizations
Company size (employees)							
All companies	-	10	10	20	0	10	10
5–24	-	10	0	0	0	10	80
25–49	-	10	10	99	0	50	0
50–99	-	10	10	10	0	10	10
100–249	-	10	10	0	0	10	0
250–499	-	20	20	0	0	20	10
500–999	-	10	10	0	0	20	50
1,000–4,999	-	20	20	0	0	20	40
5,000–9,999	-	10	10	0	0	10	0
10,000–24,999	-	20	20	40	0	10	0
25,000 or more	-	10	10	0	0	10	0

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	Company-funded collaborative R&D performed by other organizations							
		Total	For-profit companies	Federal agencies or laboratories	State government agencies or laboratories	Universities or colleges	Other nonprofit organizations	Sales	Domestic employment
All industries	21–23, 31–33, 42, 44–81	20	20	10	0	20	0	10	10
Manufacturing industries	31–33	20	20	0	0	30	0	10	10
Food	311	60	50	0	0	99	0	10	10
Beverage and tobacco products	312	0	0	0	0	0	0	10	20
Textiles, apparel, and leather	313–16	0	0	0	0	0	0	10	10
Wood products	321	0	0	0	0	0	0	20	10
Paper, printing, and support activities	322, 323	0	0	0	0	0	0	20	20
Petroleum and coal products	324	0	0	0	0	0	0	10	10
Chemicals	325	10	10	0	0	0	0	10	10
Basic chemicals	3251	0	0	0	0	0	0	10	10
Resin, synthetic rubber, fibers, and filament	3252	0	0	0	0	0	0	10	10
Pharmaceuticals and medicines	3254	10	10	0	0	0	0	10	10
Other chemicals	other 325	0	0	0	0	0	0	10	10
Plastics and rubber products	326	0	0	0	0	0	0	10	10
Nonmetallic mineral products	327	0	0	0	0	0	0	10	10
Primary metals	331	0	0	0	0	0	0	20	10
Fabricated metal products	332	0	0	0	0	0	0	10	10
Machinery	333	0	0	0	0	0	0	20	10
Computer and electronic products	334	60	60	0	0	0	0	30	20
Computers and peripheral equipment	3341	99	99	0	0	0	0	40	20
Communications equipment	3342	0	0	0	0	0	0	20	20
Semiconductor and other electronic components	3344	70	70	0	0	0	0	20	20
Navigational, measuring, electromedical, and control instruments	3345	40	40	0	0	0	0	20	30
Other computer and electronic products	other 334	0	0	0	0	0	0	40	50
Electrical equipment, appliances, and components	335	0	0	0	0	0	0	30	30
Transportation equipment	336	10	10	0	0	0	0	10	10
Motor vehicles, trailers, and parts	3361–63	10	10	0	0	0	0	10	10
Aerospace products and parts	3364	0	0	0	0	0	0	10	10
Other transportation equipment	other 336	0	10	0	0	0	0	10	10
Furniture and related products	337	0	0	0	0	0	0	10	10
Miscellaneous manufacturing	339	0	0	0	0	0	0	10	10
Medical equipment and supplies	3391	0	0	0	0	0	0	10	10
Other miscellaneous manufacturing	other 339	0	0	0	0	0	0	10	10

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	Company-funded collaborative R&D performed by other organizations							
		Total	For-profit companies	Federal agencies or laboratories	State government agencies or laboratories	Universities or colleges	Other nonprofit organizations	Sales	Domestic employment
Nonmanufacturing industries	21–23, 42, 44–81	20	20	30	0	10	0	20	10
Mining, extraction, and support activities	21	0	0	0	0	0	0	10	10
Utilities	22	0	0	0	0	0	0	10	10
Construction	23	0	0	0	0	0	0	10	0
Wholesale trade	42	0	0	0	0	0	0	10	10
Retail trade	44, 45	0	0	0	0	0	0	20	30
Transportation and warehousing	48, 49	0	0	0	0	0	0	10	10
Information	51	0	0	0	0	0	0	30	10
Publishing	511	0	0	0	0	0	0	10	10
Newspaper, periodical, book, and directory	5111	0	0	0	0	0	0	20	10
Software	5112	0	0	0	0	0	0	10	10
Telecommunications	517	0	0	0	0	0	0	40	10
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	0	0	0	0	0	0	50	10
Satellite telecommunications	5174	0	0	0	0	0	0	0	0
Other telecommunications	other 517	0	0	0	0	0	0	10	10
Internet service providers, Web search portals, and data-processing services	518	0	0	0	0	0	0	10	10
Internet service providers and Web search portals	5181	0	0	0	0	0	0	10	10
Data-processing, hosting, and related services	5182	0	0	0	0	0	0	10	10
Other information	other 51	0	0	0	0	0	0	40	20
Finance, insurance, and real estate	52, 53	0	0	0	0	0	0	10	10
Professional, scientific, and technical services	54	30	30	40	0	20	0	10	10
Architectural, engineering, and related services	5413	0	0	0	0	0	0	20	20
Computer systems design and related services	5415	40	40	0	0	0	0	10	10
Scientific R&D services	5417	30	30	40	0	30	0	20	10
Other professional, scientific, and technical services	other 54	0	0	0	0	0	0	10	10
Health care services	621–23	0	0	0	0	0	0	20	10
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	0	0	0	0	0	0	30	20

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	Company-funded collaborative R&D performed by other organizations							
		Total	For-profit companies	Federal agencies or laboratories	State government agencies or laboratories	Universities or colleges	Other nonprofit organizations	Sales	Domestic employment
Company size (employees)									
All companies	-	20	20	10	0	20	0	10	10
5–24	-	10	0	0	0	10	0	10	10
25–49	-	10	0	0	0	0	0	10	10
50–99	-	10	0	10	0	0	0	10	10
100–249	-	30	30	90	0	80	0	10	10
250–499	-	0	0	0	0	0	0	10	10
500–999	-	20	20	0	0	0	0	10	10
1,000–4,999	-	50	50	0	0	0	0	20	20
5,000–9,999	-	10	10	0	0	70	0	20	20
10,000–24,999	-	0	0	0	0	0	0	10	10
25,000 or more	-	0	0	0	0	0	0	10	10

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	R&D area					Scientists and engineers by source of funds		
		Biotech-nology	Software development	Materials synthesis and processing	Other areas	Percentage of nanotechnology	Total	Company funded	Federally funded
All industries	21–23, 31–33, 42, 44–81	10	10	10	10	0	30	30	70
Manufacturing industries	31–33	10	10	10	10	0	40	30	70
Food	311	10	10	10	10	0	20	20	100
Beverage and tobacco products	312	10	0	10	10	0	20	10	0
Textiles, apparel, and leather	313–16	0	10	10	10	0	40	40	70
Wood products	321	0	0	10	50	0	30	20	100
Paper, printing, and support activities	322, 323	10	40	10	20	0	50	50	100
Petroleum and coal products	324	0	0	10	10	0	50	60	100
Chemicals	325	10	10	10	10	0	40	30	60
Basic chemicals	3251	10	0	10	10	0	50	50	20
Resin, synthetic rubber, fibers, and filament	3252	0	0	10	10	0	10	50	40
Pharmaceuticals and medicines	3254	10	10	10	10	0	40	30	90
Other chemicals	other 325	10	10	10	10	0	20	10	30
Plastics and rubber products	326	0	20	10	10	0	30	20	90
Nonmetallic mineral products	327	10	99	10	10	0	50	40	90
Primary metals	331	0	10	10	10	0	30	30	40
Fabricated metal products	332	0	20	10	10	0	30	30	80
Machinery	333	10	30	10	10	0	30	40	70
Computer and electronic products	334	50	20	10	30	0	40	40	80
Computers and peripheral equipment	3341	0	10	10	30	0	20	20	90
Communications equipment	3342	0	30	30	30	0	50	60	70
Semiconductor and other electronic components	3344	99	10	10	30	0	40	30	20
Navigational, measuring, electromedical, and control instruments	3345	30	20	20	20	0	50	50	80
Other computer and electronic products	other 334	0	10	20	10	0	40	30	100
Electrical equipment, appliances, and components	335	0	10	10	30	0	20	20	80
Transportation equipment	336	0	10	20	10	0	30	30	40
Motor vehicles, trailers, and parts	3361–63	0	10	30	10	0	30	30	40
Aerospace products and parts	3364	0	10	10	10	0	20	20	40
Other transportation equipment	other 336	0	10	50	20	0	30	20	70
Furniture and related products	337	0	10	10	10	0	30	20	100
Miscellaneous manufacturing	339	20	20	20	10	0	30	30	70
Medical equipment and supplies	3391	20	10	20	10	0	30	40	60
Other miscellaneous manufacturing	other 339	10	20	10	10	0	20	10	90

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	R&D area					Scientists and engineers by source of funds		
		Biotech-nology	Software development	Materials synthesis and processing	Other areas	Percentage of nanotechnology	Total	Company funded	Federally funded
Nonmanufacturing industries	21–23, 42, 44–81	20	10	10	10	0	20	20	70
Mining, extraction, and support activities	21	80	20	10	10	0	20	10	60
Utilities	22	50	10	10	20	0	30	20	50
Construction	23	0	10	10	10	0	10	10	10
Wholesale trade	42	10	20	10	10	0	20	20	20
Retail trade	44, 45	0	10	10	10	0	10	20	100
Transportation and warehousing	48, 49	0	0	0	10	0	60	20	0
Information	51	0	10	20	20	0	20	20	20
Publishing	511	0	10	0	0	0	20	20	30
Newspaper, periodical, book, and directory	5111	0	20	0	0	0	30	10	100
Software	5112	0	10	0	0	0	20	20	30
Telecommunications	517	0	60	0	20	0	50	70	100
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	0	70	0	20	0	80	80	100
Satellite telecommunications	5174	0	0	0	0	0	0	0	0
Other telecommunications	other 517	0	20	0	0	0	10	70	0
Internet service providers, Web search portals, and data-processing services	518	0	20	0	10	0	20	10	10
Internet service providers and Web search portals	5181	0	10	0	10	0	20	10	0
Data-processing, hosting, and related services	5182	0	30	0	20	0	20	10	10
Other information	other 51	0	40	99	70	0	30	30	0
Finance, insurance, and real estate	52, 53	0	10	10	10	0	30	20	0
Professional, scientific, and technical services	54	20	10	10	10	0	20	20	70
Architectural, engineering, and related services	5413	80	10	10	10	0	30	40	70
Computer systems design and related services	5415	20	10	10	10	0	20	20	50
Scientific R&D services	5417	20	10	20	10	0	10	30	80
Other professional, scientific, and technical services	other 54	0	20	50	10	0	10	10	60
Health care services	621–23	10	0	0	10	0	50	30	60
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	0	70	30	10	0	30	40	99

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	R&D area					Scientists and engineers by source of funds		
		Biotech-nology	Software development	Materials synthesis and processing	Other areas	Percentage of nanotechnology	Total	Company funded	Federally funded
Company size (employees)									
All companies	-	10	10	10	10	0	30	30	70
5–24	-	10	20	10	10	0	20	20	90
25–49	-	20	10	20	10	0	20	20	60
50–99	-	20	20	20	10	0	20	20	70
100–249	-	10	20	20	20	0	20	20	50
250–499	-	20	20	20	20	0	20	20	60
500–999	-	20	20	20	20	0	30	30	20
1,000–4,999	-	20	10	10	20	0	30	30	60
5,000–9,999	-	40	10	20	20	0	30	30	50
10,000–24,999	-	10	10	10	10	0	50	40	60
25,000 or more	-	10	10	10	10	0	30	30	80

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	Company-funded R&D performed outside of the 50 United States and DC							
			By organizations more than 50% owned by the company						
		Total	Puerto Rico	Canada	China	France	Germany	India	Ireland
All industries	21–23, 31–33, 42, 44–81	10	10	10	10	10	10	10	10
Manufacturing industries	31–33	10	10	10	10	10	10	10	10
Food	311	10	0	10	0	20	60	0	0
Beverage and tobacco products	312	10	0	0	0	0	0	0	0
Textiles, apparel, and leather	313–16	0	0	0	0	0	0	0	0
Wood products	321	0	0	0	0	0	0	0	0
Paper, printing, and support activities	322, 323	10	0	0	0	0	0	0	0
Petroleum and coal products	324	0	0	0	0	0	0	0	0
Chemicals	325	10	10	10	10	10	30	0	10
Basic chemicals	3251	10	0	0	10	0	0	0	0
Resin, synthetic rubber, fibers, and filament	3252	0	0	0	0	0	0	0	0
Pharmaceuticals and medicines	3254	10	10	10	10	0	40	0	0
Other chemicals	other 325	0	0	0	10	10	0	0	100
Plastics and rubber products	326	10	0	10	10	10	10	0	0
Nonmetallic mineral products	327	10	0	0	0	0	0	0	0
Primary metals	331	0	0	0	0	0	0	0	0
Fabricated metal products	332	10	0	40	0	20	20	0	0
Machinery	333	10	0	10	10	10	10	10	0
Computer and electronic products	334	10	0	30	10	10	10	20	10
Computers and peripheral equipment	3341	10	0	20	0	0	20	20	0
Communications equipment	3342	20	0	30	60	50	80	50	10
Semiconductor and other electronic components	3344	10	0	20	10	20	10	10	0
Navigational, measuring, electromedical, and control instruments	3345	10	0	30	0	10	10	0	0
Other computer and electronic products	other 334	0	0	0	0	0	0	0	0
Electrical equipment, appliances, and components	335	10	0	30	10	70	10	0	0
Transportation equipment	336	10	0	10	0	10	10	0	100
Motor vehicles, trailers, and parts	3361–63	10	0	10	0	10	10	0	100
Aerospace products and parts	3364	10	0	0	0	0	0	0	0
Other transportation equipment	other 336	0	0	0	0	0	0	0	0
Furniture and related products	337	0	0	0	0	0	0	0	0
Miscellaneous manufacturing	339	10	0	0	10	0	10	0	10
Medical equipment and supplies	3391	10	0	0	0	0	0	0	10
Other miscellaneous manufacturing	other 339	20	0	0	10	0	99	0	0

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	Company-funded R&D performed outside of the 50 United States and DC							
			By organizations more than 50% owned by the company						
		Total	Puerto Rico	Canada	China	France	Germany	India	Ireland
Nonmanufacturing industries	21–23, 42, 44–81	10	0	10	10	30	10	10	10
Mining, extraction, and support activities	21	10	0	0	0	0	0	0	0
Utilities	22	0	0	0	0	0	0	0	0
Construction	23	70	0	0	0	0	0	0	0
Wholesale trade	42	10	0	0	10	0	10	10	70
Retail trade	44, 45	0	0	0	0	0	0	0	0
Transportation and warehousing	48, 49	0	0	0	0	0	0	0	0
Information	51	10	0	10	10	30	20	10	10
Publishing	511	10	0	10	10	30	20	10	10
Newspaper, periodical, book, and directory	5111	10	0	100	0	0	0	0	0
Software	5112	10	0	10	10	30	20	10	10
Telecommunications	517	0	0	0	0	0	0	0	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	0	0	0	0	0	0	0	0
Satellite telecommunications	5174	0	0	0	0	0	0	0	0
Other telecommunications	other 517	0	0	0	0	0	0	0	0
Internet service providers, Web search portals, and data-processing services	518	10	0	0	0	10	0	0	10
Internet service providers and Web search portals	5181	0	0	0	0	0	0	0	0
Data-processing, hosting, and related services	5182	10	0	0	0	10	0	0	70
Other information	other 51	0	0	0	0	0	0	0	0
Finance, insurance, and real estate	52, 53	10	0	0	0	100	0	0	0
Professional, scientific, and technical services	54	10	0	10	0	10	10	10	10
Architectural, engineering, and related services	5413	10	0	0	0	0	0	10	0
Computer systems design and related services	5415	10	0	10	0	0	10	10	10
Scientific R&D services	5417	10	0	10	0	10	10	0	0
Other professional, scientific, and technical services	other 54	20	0	0	0	0	0	70	0
Health care services	621–23	0	0	0	0	0	0	0	0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	80	0	70	0	99	99	50	0

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	Company-funded R&D performed outside of the 50 United States and DC							
			By organizations more than 50% owned by the company						
		Total	Puerto Rico	Canada	China	France	Germany	India	Ireland
Company size (employees)									
All companies	-	10	10	10	10	10	10	10	10
5–24	-	10	0	0	0	0	0	0	0
25–49	-	10	0	0	0	0	10	40	90
50–99	-	20	0	0	0	0	10	10	99
100–249	-	10	0	10	0	10	10	10	0
250–499	-	20	0	20	30	20	40	20	20
500–999	-	20	100	20	10	10	30	20	10
1,000–4,999	-	10	30	10	20	10	10	20	10
5,000–9,999	-	10	0	10	10	10	10	10	0
10,000–24,999	-	10	0	20	20	10	10	20	10
25,000 or more	-	10	0	10	0	10	10	10	0

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	Company-funded R&D performed outside of the 50 United States and DC						
		By organizations more than 50% owned by the company						
		Israel	Italy	Japan	Singapore	Sweden	United Kingdom	Other locations
All industries	21–23, 31–33, 42, 44–81	10	10	10	20	10	10	20
Manufacturing industries	31–33	10	10	10	30	10	10	20
Food	311	0	10	0	30	40	20	10
Beverage and tobacco products	312	0	0	0	0	0	0	0
Textiles, apparel, and leather	313–16	0	0	0	0	0	0	10
Wood products	321	0	0	0	0	0	0	0
Paper, printing, and support activities	322, 323	0	0	0	0	0	0	0
Petroleum and coal products	324	0	0	0	0	0	0	0
Chemicals	325	0	10	10	50	10	10	10
Basic chemicals	3251	0	0	0	0	0	0	10
Resin, synthetic rubber, fibers, and filament	3252	0	0	0	0	0	0	10
Pharmaceuticals and medicines	3254	0	0	10	60	10	10	10
Other chemicals	other 325	0	10	0	0	0	0	30
Plastics and rubber products	326	0	0	0	0	0	30	50
Nonmetallic mineral products	327	0	0	0	0	0	0	0
Primary metals	331	0	0	0	0	0	0	0
Fabricated metal products	332	0	50	0	0	0	10	20
Machinery	333	0	30	0	0	10	10	30
Computer and electronic products	334	10	40	10	10	20	20	70
Computers and peripheral equipment	3341	0	30	0	0	10	10	90
Communications equipment	3342	80	100	99	100	100	50	50
Semiconductor and other electronic components	3344	0	0	10	0	40	30	70
Navigational, measuring, electromedical, and control instruments	3345	10	0	30	40	0	10	30
Other computer and electronic products	other 334	0	0	10	0	0	10	0
Electrical equipment, appliances, and components	335	0	0	0	0	0	50	10
Transportation equipment	336	0	0	0	10	0	10	20
Motor vehicles, trailers, and parts	3361–63	0	0	0	30	0	10	20
Aerospace products and parts	3364	0	0	0	0	0	0	20
Other transportation equipment	other 336	0	0	0	0	0	0	0
Furniture and related products	337	0	0	0	0	0	0	0
Miscellaneous manufacturing	339	0	0	10	0	0	10	10
Medical equipment and supplies	3391	0	0	0	0	0	0	0
Other miscellaneous manufacturing	other 339	0	0	10	0	0	10	10

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	Company-funded R&D performed outside of the 50 United States and DC						
		By organizations more than 50% owned by the company						
		Israel	Italy	Japan	Singapore	Sweden	United Kingdom	Other locations
Nonmanufacturing industries	21–23, 42, 44–81	10	20	10	10	10	10	20
Mining, extraction, and support activities	21	0	0	0	0	0	0	90
Utilities	22	0	0	0	0	0	0	0
Construction	23	0	0	0	0	0	0	0
Wholesale trade	42	0	0	0	0	0	0	10
Retail trade	44, 45	0	0	0	0	0	0	0
Transportation and warehousing	48, 49	0	0	0	0	0	0	0
Information	51	10	10	10	10	10	10	10
Publishing	511	10	10	20	10	10	10	20
Newspaper, periodical, book, and directory	5111	0	0	0	0	0	10	0
Software	5112	10	10	20	10	10	10	20
Telecommunications	517	0	0	0	0	0	0	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	0	0	0	0	0	0	0
Satellite telecommunications	5174	0	0	0	0	0	0	0
Other telecommunications	other 517	0	0	0	0	0	0	0
Internet service providers, Web search portals, and data-processing services	518	0	0	0	0	0	10	0
Internet service providers and Web search portals	5181	0	0	0	0	0	0	0
Data-processing, hosting, and related services	5182	0	0	0	0	0	10	0
Other information	other 51	0	0	0	0	0	0	100
Finance, insurance, and real estate	52, 53	0	0	0	0	0	10	0
Professional, scientific, and technical services	54	0	0	10	10	0	10	10
Architectural, engineering, and related services	5413	0	0	0	0	0	0	0
Computer systems design and related services	5415	0	0	10	99	0	20	10
Scientific R&D services	5417	0	0	0	0	0	10	10
Other professional, scientific, and technical services	other 54	0	0	0	0	0	30	70
Health care services	621–23	0	0	0	0	0	0	0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	100	70	0	100	0	80	70

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	Company-funded R&D performed outside of the 50 United States and DC						
		By organizations more than 50% owned by the company						
		Israel	Italy	Japan	Singapore	Sweden	United Kingdom	Other locations
Company size (employees)								
All companies	-	10	10	10	20	10	10	20
5–24	-	0	0	0	0	0	0	0
25–49	-	0	0	0	0	0	90	0
50–99	-	0	0	10	0	0	20	10
100–249	-	0	0	0	30	0	30	20
250–499	-	0	0	10	90	0	10	10
500–999	-	0	0	30	50	30	10	20
1,000–4,999	-	30	30	10	10	20	20	20
5,000–9,999	-	0	10	0	10	10	10	20
10,000–24,999	-	10	10	10	10	10	10	20
25,000 or more	-	10	10	10	10	10	10	20

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	Energy R&D							
		Total				Federally funded			
		Fossil fuels	Geothermal and solar	Nuclear	All other energy sources	Fossil fuels	Geothermal and solar	Nuclear	All other energy sources
All industries	21–23, 31–33, 42, 44–81	10	20	20	10	0	0	0	50
Manufacturing industries	31–33	0	0	0	10	0	0	0	50
Food	311	0	0	0	0	0	0	0	0
Beverage and tobacco products	312	0	0	0	0	0	0	0	0
Textiles, apparel, and leather	313–16	0	0	0	0	0	0	0	0
Wood products	321	0	0	0	0	0	0	0	0
Paper, printing, and support activities	322, 323	0	0	0	40	0	0	0	0
Petroleum and coal products	324	0	0	0	0	0	0	0	0
Chemicals	325	0	0	0	10	0	0	0	0
Basic chemicals	3251	0	0	0	30	0	0	0	0
Resin, synthetic rubber, fibers, and filament	3252	0	0	0	0	0	0	0	0
Pharmaceuticals and medicines	3254	0	0	0	0	0	0	0	0
Other chemicals	other 325	0	0	0	0	0	0	0	0
Plastics and rubber products	326	0	0	0	0	0	0	0	0
Nonmetallic mineral products	327	0	0	0	0	0	0	0	0
Primary metals	331	0	0	0	0	0	0	0	0
Fabricated metal products	332	0	0	0	0	0	0	0	0
Machinery	333	0	0	0	0	0	0	0	0
Computer and electronic products	334	0	0	0	10	0	0	0	90
Computers and peripheral equipment	3341	0	0	0	0	0	0	0	0
Communications equipment	3342	0	0	0	100	0	0	0	100
Semiconductor and other electronic components	3344	0	0	0	0	0	0	0	0
Navigational, measuring, electromedical, and control instruments	3345	0	0	0	0	0	0	0	0
Other computer and electronic products	other 334	0	0	0	0	0	0	0	0
Electrical equipment, appliances, and components	335	0	0	0	0	0	0	0	0
Transportation equipment	336	0	0	0	0	0	0	0	0
Motor vehicles, trailers, and parts	3361–63	0	0	0	0	0	0	0	0
Aerospace products and parts	3364	0	0	0	0	0	0	0	0
Other transportation equipment	other 336	0	0	0	0	0	0	0	0
Furniture and related products	337	0	0	0	0	0	0	0	0
Miscellaneous manufacturing	339	0	0	0	100	0	0	0	0
Medical equipment and supplies	3391	0	0	0	100	0	0	0	0
Other miscellaneous manufacturing	other 339	0	0	0	0	0	0	0	0

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007
(Percent)

Industry and company size	NAICS codes	Energy R&D							
		Total				Federally funded			
		Fossil fuels	Geothermal and solar	Nuclear	All other energy sources	Fossil fuels	Geothermal and solar	Nuclear	All other energy sources
Nonmanufacturing industries	21–23, 42, 44–81	10	50	50	30	0	0	0	0
Mining, extraction, and support activities	21	0	0	0	0	0	0	0	0
Utilities	22	10	0	20	10	0	0	0	0
Construction	23	0	0	0	100	0	0	0	0
Wholesale trade	42	0	0	0	0	0	0	0	0
Retail trade	44, 45	0	0	0	0	0	0	0	0
Transportation and warehousing	48, 49	0	0	0	0	0	0	0	0
Information	51	0	0	0	0	0	0	0	0
Publishing	511	0	0	0	0	0	0	0	0
Newspaper, periodical, book, and directory	5111	0	0	0	0	0	0	0	0
Software	5112	0	0	0	0	0	0	0	0
Telecommunications	517	0	0	0	0	0	0	0	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	0	0	0	0	0	0	0	0
Satellite telecommunications	5174	0	0	0	0	0	0	0	0
Other telecommunications	other 517	0	0	0	0	0	0	0	0
Internet service providers, Web search portals, and data-processing services	518	0	0	0	0	0	0	0	0
Internet service providers and Web search portals	5181	0	0	0	0	0	0	0	0
Data-processing, hosting, and related services	5182	0	0	0	0	0	0	0	0
Other information	other 51	0	0	0	0	0	0	0	0
Finance, insurance, and real estate	52, 53	0	0	0	0	0	0	0	0
Professional, scientific, and technical services	54	70	50	50	40	0	0	0	0
Architectural, engineering, and related services	5413	0	0	0	0	0	0	0	0
Computer systems design and related services	5415	90	80	100	50	0	0	0	0
Scientific R&D services	5417	0	0	0	0	0	0	0	0
Other professional, scientific, and technical services	other 54	0	0	0	0	0	0	0	0
Health care services	621–23	0	0	0	0	0	0	0	0
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	0	0	0	0	0	0	0	0

TABLE A-12. Imputation rates for survey items, by industry and company size: 2007

(Percent)

Industry and company size	NAICS codes	Energy R&D							
		Total				Federally funded			
		Fossil fuels	Geothermal and solar	Nuclear	All other energy sources	Fossil fuels	Geothermal and solar	Nuclear	All other energy sources
Company size (employees)									
All companies	-	10	20	20	10	0	0	0	50
5–24	-	0	0	0	0	0	0	0	0
25–49	-	0	0	0	0	0	0	0	0
50–99	-	0	0	0	0	0	0	0	0
100–249	-	0	0	0	10	0	0	0	0
250–499	-	0	0	0	0	0	0	0	0
500–999	-	0	0	0	90	0	0	0	100
1,000–4,999	-	20	40	30	20	0	0	0	0
5,000–9,999	-	0	0	0	20	0	0	0	0
10,000–24,999	-	10	0	20	10	0	0	0	0
25,000 or more	-	0	0	0	0	0	0	0	0

– = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

NOTES: Method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Percentages in this table are imputation rates that represent the weighted proportion of imputed data to the estimate in a given table cell in the detailed statistical tables. In those tables, cells for which more than 50% of the estimate is imputed are noted with i. In this table, imputation rates greater than 0% and less than 100% are rounded up to the nearest 10%, except rates greater than 90% and less than 100% are rounded to 99% to distinguish these rates from 100%. An imputation rate of 0% indicates that no nonzero imputed data are used in the calculation of the estimate. For definitions and more information about year-to-year comparability of statistics, see "Technical Notes," appendix A.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE A-13. R&D-performing companies that reported nonzero data for major survey items: 2007
(Percent)

Survey item	Form RD-1	Form RD-1A
All R&D	100.0	100.0
Company-funded R&D	96.9	97.3
Federal R&D	15.4	5.0
Basic research	16.5	10.5
Company funded	14.9	9.8
Federally funded	3.5	1.0
Applied research	44.2	37.9
Company funded	41.5	36.3
Federally funded	8.2	2.7
Development	81.5	85.9
Company funded	79.3	84.0
Federally funded	8.3	2.6
Type of R&D expense		
Wages and salaries for R&D personnel[a]	87.1	88.4
Fringe benefits for R&D personnel[a]	78.3	73.3
Materials and supplies[a]	76.8	73.7
R&D depreciation[a]	64.1	38.1
Other costs[a]	74.7	58.6
R&D performed by other organizations	32.8	20.7
Company funded	30.7	19.8
Federally funded	4.9	1.2
Company-funded R&D projected for next year	83.7	94.5
Company funded	81.6	92.1
Federally funded	11.7	4.4
Company-funded R&D performed by other organizations[a]	32.8	-
For-profit companies[a]	28.3	-
Federal agencies or laboratories[a]	1.0	-
State government agencies or laboratories[a]	0.6	-
Universities or colleges[a]	10.5	-
Other nonprofit organizations[a]	2.7	-
Company-funded collaborative R&D[a]	12.1	-
For-profit companies[a]	10.4	-
Federal agencies or laboratories[a]	1.2	-
State government agencies or laboratories[a]	0.3	-
Universities or colleges[a]	2.6	-
Other nonprofit organizations[a]	0.9	-
Sales	97.0	98.2
Domestic employment	99.1	99.1
R&D area		
Biotechnology	15.5	5.7
Software development	33.7	27.6
Materials synthesis and processing	20.5	22.5
Other technology areas	48.4	53.2
Percentage of nanotechnology	6.1	4.1
Scientists and engineers by source of funds	86.4	88.0
Company funded[a]	81.4	0.6
Federally funded[a]	10.7	-

TABLE A-13. R&D-performing companies that reported nonzero data for major survey items: 2007
(Percent)

Survey item	Form RD-1	Form RD-1A
Company-funded R&D performed outside of the 50 United States and DC by organizations more than 50% owned by the company	36.6	8.9
Puerto Rico[a]	1.0	-
Canada[a]	9.9	-
China[a]	9.2	-
France[a]	8.0	-
Germany[a]	10.0	-
India[a]	7.8	-
Ireland[a]	3.0	-
Israel[a]	2.5	-
Italy[a]	4.9	-
Japan[a]	6.0	-
Singapore[a]	3.3	-
Sweden[a]	3.8	-
United Kingdom[a]	12.3	-
Other locations[a]	14.4	-
Energy R&D		
Fossil fuels[a]	2.4	-
Geothermal and solar[a]	1.0	-
Nuclear[a]	0.5	-
All other energy sources[a]	3.0	-
Federally funded		
Fossil fuels[a]	0.5	-
Geothermal and solar[a]	0.4	-
Nuclear[a]	0.1	-
All other energy sources[a]	1.0	-

- = not applicable.

[a] Data not collected on the Form RD-1A.

NOTES: Percentages are based on reported data for companies that reported any R&D expenditures. Imputed data are not included. Companies that reported they were out-of-scope, out-of-business, merged with another company, or had no R&D expenditures for 2006 were excluded from the calculations. For descriptions of the survey forms and more information, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

TABLE A-14. Funds for and number of companies performing industrial basic research, applied research, and development in the United States and funds not distributed, by industry and company size, by source of funds: 2007

(Millions of dollars)

Industry and company size	NAICS codes	All industrial R&D				Basic research			
		Companies	All funds	Federal	Company and other	Companies	All funds	Federal	Company and other
All industries	21–23, 31–33, 42, 44–81	43,419	269,267	26,585	242,682	6,085	9,124	1,573	7,551
Manufacturing industries	31–33	18,872	187,477	18,170	169,307	2,283	7,287	1,138	6,149
Food	311	828	D	D	2,722	58	D	D	D
Beverage and tobacco products	312	39	217	0	217	3	3	0	3
Textiles, apparel, and leather	313–16	379	806	10	796	26	14	D	D
Wood products	321	157	D	D	202	49	D	0	D
Paper, printing, and support activities	322, 323	797	D	D	2,596	36	D	0	D
Petroleum and coal products	324	193	D	D	1,718	15	D	D	D
Chemicals	325	2,445	D	D	55,319	306	D	D	3,708
Basic chemicals	3251	321	3,234	76	3,158	65	243	D	D
Resin, synthetic rubber, fibers, and filament	3252	221	963	12	951	32	87	D	D
Pharmaceuticals and medicines	3254	895	D	D	47,624	84	D	D	3,176
Other chemicals	other 325	1,008	3,601	14	3,587	125	208	4	204
Plastics and rubber products	326	1,255	D	D	2,072	112	D	D	D
Nonmetallic mineral products	327	406	1,125	13	1,112	44	82	D	D
Primary metals	331	306	896	10	886	119	44	*	44
Fabricated metal products	332	1,672	1,709	115 i	1,594	212	D	0	D
Machinery	333	2,711	9,865	69	9,796	322	64	1	63
Computer and electronic products	334	3,236	58,599	8,838	49,760	511	1,445	D	D
Computers and peripheral equipment	3341	229	D	D	6,869	30	D	D	D
Communications equipment	3342	457	11,654	219	11,435	22	187 i	D	D
Semiconductor and other electronic components	3344	637	18,683	368	18,315	64	373 i	17	355 i
Navigational, measuring, electromedical, and control instruments	3345	1,798	20,438	8,176	12,262	377	717	D	D
Other computer and electronic products	other 334	114	D	D	879	18	D	D	D
Electrical equipment, appliances, and components	335	788	2,708	90	2,617	73	48	D	D
Transportation equipment	336	1,265	D	D	30,974	79	D	D	D
Motor vehicles, trailers, and parts	3361–63	819	D	D	16,034	40	D	D	D
Aerospace products and parts	3364	242	18,436	5,040	13,397	14	562	145	417
Other transportation equipment	other 336	203	D	D	1,543	24	D	D	119
Furniture and related products	337	441	582	1	581	33	5	0	5
Miscellaneous manufacturing	339	1,954	6,410	66	6,344	285	186	4	183
Medical equipment and supplies	3391	969	5,176	60	5,116	152	157	D	D
Other miscellaneous manufacturing	other 339	985	1,234	6	1,228	134	30	D	D

TABLE A-14. Funds for and number of companies performing industrial basic research, applied research, and development in the United States and funds not distributed, by industry and company size, by source of funds: 2007

(Millions of dollars)

Industry and company size	NAICS codes	All industrial R&D				Basic research			
		Companies	All funds	Federal	Company and other	Companies	All funds	Federal	Company and other
Nonmanufacturing industries	21–23, 42, 44–81	24,547	81,790	8,415	73,375	3,802	1,837	435	1,402
Mining, extraction, and support activities	21	216	1,445	9	1,436	20	36	0	36
Utilities	22	43	235	35	200	8	4	D	D
Construction	23	538	D	D	386	254	D	D	D
Wholesale Trade	42	3,648	2,294	16	2,277	27	38	D	D
Retail trade	44, 45	1,587	2,530	12	2,517	256	7	0	7
Transportation and warehousing	48, 49	281	D	D	166	5	D	0	D
Information	51	2,423	D	D	28,767	145	D	D	D
Publishing	511	1,408	20,900	22	20,878	75	50	D	D
Newspaper, periodical, book, and directory	5111	104	D	D	1,245	3	D	0	D
Software	5112	1,305	D	D	19,634	72	D	D	46
Telecommunications	517	237	D	D	3,107	5	D	0	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	98	D	D	2,320	2	D	0	D
Satellite telecommunications	5174	4	D	0	D	0	0	0	0
Other telecommunications	other 517	135	D	0	D	3	D	0	D
Internet service providers, Web search portals, and data-processing services	518	562	D	D	4,190	49	D	0	D
Internet service providers and Web search portals	5181	172	2,351	0	2,351	26	D	0	D
Data-processing, hosting, and related services	5182	390	D	D	1,838	23	D	0	D
Other information	other 51	216	593	0	593	16	3	0	3
Finance, insurance, and real estate	52, 53	331	2,021	0	2,021	11	38	0	38
Professional, scientific, and technical services	54	11,146	40,533	7,608	32,924	2,056	1,382	422	960
Architectural, engineering, and related services	5413	1,996	5,882	1,885	3,997	115	123	80	42
Computer systems design and related services	5415	4,252	14,407	804	13,603	612	452	128	324
Scientific R&D services	5417	1,851	16,849	4,831	12,017	217	597	200	397
Other professional, scientific, and technical services	other 54	3,047	3,394	87	3,307	1,112	210	14	197
Health care services	621–23	2,849	1,280	7	1,274	507	132	D	D
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	1,484	1,857	450	1,406	513	13	D	D

TABLE A-14. Funds for and number of companies performing industrial basic research, applied research, and development in the United States and funds not distributed, by industry and company size, by source of funds: 2007

(Millions of dollars)

Industry and company size	NAICS codes	All industrial R&D				Basic research			
		Companies	All funds	Federal	Company and other	Companies	All funds	Federal	Company and other
Company size (employees)									
All companies	-	43,419	269,267	26,585	242,682	6,085	9,124	1,573	7,551
5–24	-	21,701	10,854	1,671	9,183	2,803	418	83	334
25–49	-	6,852	7,884	615	7,269	871	250	69	181
50–99	-	5,960	10,068	760	9,308	1,149	439	115	324
100–249	-	4,309	13,354	1,264	12,090	726	492	171	321
250–499	-	1,809	8,258	556	7,702	141	172	15 i	157
500–999	-	1,275	14,279	662	13,617	109	464	85	379
1,000–4,999	-	1,039	41,103	1,287	39,816	167	948	13	935
5,000–9,999	-	211	22,673	1,516	21,157	42	586 i	19	567 i
10,000–24,999	-	158	45,946	1,930	44,016	45	2,711	373	2,339
25,000 or more	-	106	94,848	16,325	78,523	32	2,644	631	2,014

TABLE A-14. Funds for and number of companies performing industrial basic research, applied research, and development in the United States and funds not distributed, by industry and company size, by source of funds: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Applied research				Development			
		Companies	All funds	Federal	Company and other	Companies	All funds	Federal	Company and other
All industries	21–23, 31–33, 42, 44–81	18,029	49,036	6,887	42,149	34,914	172,319	9,729	162,589
Manufacturing industries	31–33	7,717	32,288	3,187	29,101	15,853	115,415	6,875	108,539
Food	311	289	504	D	D	722	1,835	0	1,835
Beverage and tobacco products	312	21	73	0	73	33	96	0	96
Textiles, apparel, and leather	313–16	105	42	D	D	351	674	D	D
Wood products	321	76	D	0	D	136	D	D	D
Paper, printing, and support activities	322, 323	263	D	0	D	563	795	D	D
Petroleum and coal products	324	42	D	0	D	46	D	0	D
Chemicals	325	1,119	11,887	246	11,641	2,078	36,106	90	36,017
Basic chemicals	3251	260	1,288	D	D	279	1,641	26	1,615
Resin, synthetic rubber, fibers, and filament	3252	81	395	D	D	204	442	10	432
Pharmaceuticals and medicines	3254	269	9,157	193	8,964	725	31,973	46	31,927
Other chemicals	other 325	509	1,048	3	1,045	870	2,050	8	2,043
Plastics and rubber products	326	420	D	D	D	1,152	1,419	D	D
Nonmetallic mineral products	327	171	368	D	D	214	608	D	D
Primary metals	331	204	306	0	306	263	507	10	497
Fabricated metal products	332	464	D	D	D	1,557	1,120	D	D
Machinery	333	1,316	1,408	28	1,380	2,339	7,615	39	7,576
Computer and electronic products	334	1,603	9,570	618	8,952	2,655	31,270	D	D
Computers and peripheral equipment	3341	99	838 i	D	D	189	5,802	D	D
Communications equipment	3342	166	2,020	D	D	384	6,119 i	63	6,056 i
Semiconductor and other electronic components	3344	261	4,194	64	4,130	541	11,543	285	11,258
Navigational, measuring, electromedical, and control instruments	3345	1,027	2,458	411	2,047	1,450	7,403	D	D
Other computer and electronic products	other 334	50	60	D	D	91	403	D	D
Electrical equipment, appliances, and components	335	217	452	D	D	671	1,910	75	1,835
Transportation equipment	336	344	5,150	2,229	2,921	1,057	26,753	D	D
Motor vehicles, trailers, and parts	3361–63	256	D	D	D	643	9,237	D	D
Aerospace products and parts	3364	45	3,616	2,143	1,473	214	13,402	2,029	11,373
Other transportation equipment	other 336	43	D	D	D	199	4,114	D	D
Furniture and related products	337	210	109	*	108	402	437	1	436
Miscellaneous manufacturing	339	854	1,119	42	1,078	1,614	4,047	21	4,027
Medical equipment and supplies	3391	487	973	D	D	751	3,095	18	3,077
Other miscellaneous manufacturing	other 339	367	147	D	D	863	952	2	950

TABLE A-14. Funds for and number of companies performing industrial basic research, applied research, and development in the United States and funds not distributed, by industry and company size, by source of funds: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Applied research				Development			
		Companies	All funds	Federal	Company and other	Companies	All funds	Federal	Company and other
Nonmanufacturing industries	21–23, 42, 44–81	10,312	16,748	3,700	13,048	19,061	56,904	2,854	54,050
Mining, extraction, and support activities	21	94	450	0	450	199	940	7	933
Utilities	22	22	46	D	D	28	156	D	D
Construction	23	263	D	D	D	533	262	0	262
Wholesale Trade	42	1,446	333	D	D	3,079	1,865	D	D
Retail trade	44, 45	777	396	12	383	1,076	2,110	0	2,110
Transportation and warehousing	48, 49	261	D	D	D	277	113	0	113
Information	51	663	D	D	2,738	2,145	23,145	D	D
Publishing	511	333	2,063	D	D	1,254	15,989	D	D
Newspaper, periodical, book, and directory	5111	30	D	D	D	72	D	0	D
Software	5112	303	D	D	2,028	1,182	D	D	14,833
Telecommunications	517	61	144	0	144	232	D	D	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	15	D	0	D	94	D	D	D
Satellite telecommunications	5174	1	D	0	D	4	D	0	D
Other telecommunications	other 517	46	D	0	D	134	729	0	729
Internet service providers, Web search portals, and data-processing services	518	170	D	D	D	471	3,917	D	D
Internet service providers and Web search portals	5181	38	D	0	D	166	2,298	0	2,298
Data-processing, hosting, and related services	5182	132	D	D	D	305	1,620	D	D
Other information	other 51	98	D	0	D	188	D	0	D
Finance, insurance, and real estate	52, 53	24	148	0	148	318	1,740	0	1,740
Professional, scientific, and technical services	54	5,180	11,957	3,645	8,312	9,144	24,272	2,119	22,153
Architectural, engineering, and related services	5413	903	878	152	726	1,605	3,735	613	3,123
Computer systems design and related services	5415	1,088	1,382	278	1,104	3,868	12,000	380	11,619
Scientific R&D services	5417	951	7,988	3,205	4,784	1,141	7,098	1,066	6,032
Other professional, scientific, and technical services	other 54	2,238	1,709	10	1,699	2,530	1,439	60	1,378
Health care services	621–23	1,042	460	D	D	799	576	1	575
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	540	85	D	D	1,463	1,724	D	D

TABLE A-14. Funds for and number of companies performing industrial basic research, applied research, and development in the United States and funds not distributed, by industry and company size, by source of funds: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Applied research				Development			
		Companies	All funds	Federal	Company and other	Companies	All funds	Federal	Company and other
Company size (employees)									
All companies	-	18,029	49,036	6,887	42,149	34,914	172,319	9,729	162,589
5–24	-	9,025	2,839	546	2,293	16,742	6,805	964	5,841
25–49	-	2,536	2,095	263	1,833	5,799	5,241	252	4,989
50–99	-	2,869	3,535	224	3,311	4,819	5,544	234	5,310
100–249	-	1,797	2,815	209	2,607	3,875	9,097	786	8,311
250–499	-	598	1,601	183	1,418	1,423	5,897	357	5,539
500–999	-	561	3,447	235	3,212	1,028	9,181	284	8,897
1,000–4,999	-	431	7,518	593	6,925	849	27,255	448	26,806
5,000–9,999	-	83	4,725	57	4,668	170	15,320	231	15,089
10,000–24,999	-	81	8,108	471	7,637	126	25,592	1,083 i	24,509
25,000 or more	-	49	12,353	4,107	8,246	83	62,387	5,090	57,297

TABLE A-14. Funds for and number of companies performing industrial basic research, applied research, and development in the United States and funds not distributed, by industry and company size, by source of funds: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Expenditures not distributed[b]			
		Companies	All funds	Federal	Company and other
All industries	21–23, 31–33, 42, 44–81	2,633	38,788	8,396	30,392
Manufacturing industries	31–33	1,112	32,488	6,970	25,517
Food	311	77	244	0	244
Beverage and tobacco products	312	4	45	0	45
Textiles, apparel, and leather	313–16	16	76	0	76
Wood products	321	6	6	0	6
Paper, printing, and support activities	322, 323	107	1,646	12	1,633
Petroleum and coal products	324	124	1,004	1	1,003
Chemicals	325	139	3,954	0	3,954
Basic chemicals	3251	3	62	0	62
Resin, synthetic rubber, fibers, and filament	3252	5	39	0	39
Pharmaceuticals and medicines	3254	65	3,557	0	3,557
Other chemicals	other 325	66	295	0	295
Plastics and rubber products	326	32	287	8	279
Nonmetallic mineral products	327	108	67	0	67
Primary metals	331	5	40	0	40
Fabricated metal products	332	17	318	100	217
Machinery	333	64	778	1	777
Computer and electronic products	334	166	16,313	6,090	10,223
Computers and peripheral equipment	3341	8	165	53	113
Communications equipment	3342	23	3,329	3	3,326
Semiconductor and other electronic components	3344	31	2,574	2	2,572
Navigational, measuring, electromedical, and control instruments	3345	96	9,860	6,033	3,827
Other computer and electronic products	other 334	8	385	0	385
Electrical equipment, appliances, and components	335	62	297	10	287
Transportation equipment	336	33	6,327	748	5,579
Motor vehicles, trailers, and parts	3361–63	17	5,467	25	5,442
Aerospace products and parts	3364	15	857	723	134
Other transportation equipment	other 336	1	3	0	3
Furniture and related products	337	30	30	0	30
Miscellaneous manufacturing	339	121	1,057	0	1,057
Medical equipment and supplies	3391	46	951	0	951
Other miscellaneous manufacturing	other 339	75	106	0	106

TABLE A-14. Funds for and number of companies performing industrial basic research, applied research, and development in the United States and funds not distributed, by industry and company size, by source of funds: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Expenditures not distributed[b]			
		Companies	All funds	Federal	Company and other
Nonmanufacturing industries	21–23, 42, 44–81	1,522	6,301	1,426	4,875
Mining, extraction, and support activities	21	7	18	1	17
Utilities	22	6	29	0	29
Construction	23	1	*	0	*
Wholesale Trade	42	22	57	*	57
Retail trade	44, 45	2	16	0	16
Transportation and warehousing	48, 49	3	32	0	32
Information	51	49	2,984	0	2,984
Publishing	511	37	2,798	0	2,798
Newspaper, periodical, book, and directory	5111	4	71	0	71
Software	5112	33	2,727	0	2,727
Telecommunications	517	2	30	0	30
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	1	14	0	14
Satellite telecommunications	5174	0	0	0	0
Other telecommunications	other 517	1	16	0	16
Internet service providers, Web search portals, and data-processing services	518	9	126	0	126
Internet service providers and Web search portals	5181	1	20	0	20
Data-processing, hosting, and related services	5182	8	106	0	106
Other information	other 51	1	30	0	30
Finance, insurance, and real estate	52, 53	9	94	0	94
Professional, scientific, and technical services	54	399	2,922	1,422	1,499
Architectural, engineering, and related services	5413	26	1,146	1,040	106
Computer systems design and related services	5415	132	574	18	556
Scientific R&D services	5417	236	1,165	361	804
Other professional, scientific, and technical services	other 54	6	36	3	33
Health care services	621–23	1,014	113	1	112
Other nonmanufacturing[a]	55, 56, 61, 624, 71, 72, 81	9	36	1	35

TABLE A-14. Funds for and number of companies performing industrial basic research, applied research, and development in the United States and funds not distributed, by industry and company size, by source of funds: 2007

(Millions of dollars)

Industry and company size	NAICS codes	Expenditures not distributed[b]			
		Companies	All funds	Federal	Company and other
Company size (employees)					
All companies	-	2,633	38,788	8,396	30,392
5–24	-	1,454	792	77	715
25–49	-	512	297	31	266
50–99	-	135	550	188	362
100–249	-	125	950	98	852
250–499	-	165	589	1	588
500–999	-	61	1,188	58	1,129
1,000–4,999	-	108	5,382	233	5,150
5,000–9,999	-	25	2,041	1,208	832
10,000–24,999	-	23	9,535	4	9,531
25,000 or more	-	24	17,464	6,498	10,966

* = amount < $500,000; D = suppressed to avoid disclosure of confidential information; i = more than 50% of the value is imputed; - = not applicable.

[a] Estimates for management of companies and enterprises (NAICS 55), formerly shown separately, now are included in other nonmanufacturing.

[b] The amounts of undistributed R&D are distributed among basic research, applied research, and development in table 58.

NOTES: The method used to assign industry classifications has changed; industry-specific estimates are not directly comparable with those for years prior to 2004. Excludes federally funded research and development centers. Some company respondents did not distribute their R&D among the three character of work categories, basic research, applied research, and development. The data from these companies is included in the expenditures not distributed columns of this table. During statistical processing algorithms were used to approximate the distribution and the resulting statistics are in table 58. For definitions and more information about year-to-year comparability of the statistics, see technical notes and survey methodology.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2007.

Appendix B. Survey Documents

Cover Letters

National Science Foundation, 2006
Bureau of the Census, 2006
National Science Foundation, 2007
Bureau of the Census, 2007

Survey Forms: 2006

RD-1
RD-1 Instructions
RD-1A
RD-1A Instructions

Survey Forms: 2007

RD-1
RD-1 Instructions
RD-1A
RD-1A Instructions

NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230

OFFICE OF THE
DIRECTOR

FROM THE DIRECTOR
NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) requests your company's participation in the 2006 Survey of Industrial Research and Development that we conduct jointly with the U.S. Census Bureau. This annual survey is the only source of detailed information on U.S. industry's research and development (R&D) performance.

Your company's participation is vital to the accuracy of the resulting information. Because R&D expenditures are concentrated in relatively few companies, a completed response is needed from each surveyed firm–*there is no substitute for the information that you can provide.* Your company can be assured of complete confidentiality. Survey data will be released only in aggregate form so that responses of individual companies cannot be identified.

If you have questions concerning the operation of this survey, please direct them to the Census Bureau at (301) 763-5162. Survey results are made available in an annual report entitled *Research and Development in Industry*. The most recent report, historical reports, and descriptive information about the survey are available on the NSF website at http://www.nsf.gov/statistics.

Thank you for your assistance in this important effort.

Sincerely,

Arden L. Bement, Jr.
Acting Director

RD-A-CL
(1-2007)

UNITED STATES DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. Census Bureau
Washington, DC 20233-0001
OFFICE OF THE DIRECTOR

FROM THE DIRECTOR
U.S. CENSUS BUREAU

The U.S. Census Bureau is conducting a survey of industrial research and development (R&D). The information developed from the survey serves a number of useful purposes. For example, the survey provides information that can be used to study the effectiveness of tax credits. The data also assists public officials in allocating research funding by state, which may benefit companies like yours.

We have enclosed your company's report form and instructions for the 2006 Survey of Industrial Research and Development. We also have included instructions for completing an electronic questionnaire that you may use in lieu of the paper form. **Please read all instructions before answering the questions.** If you have any questions about installing or using the electronic format, please contact the Electronic Reporting Staff on 1–800–838–2640. Pay special attention to the definition of R&D contained on page 1 of the form and to item 1 (company ownership) as they may have an impact on whether you need to complete the questionnaire.

If your company did not conduct R&D in 2006, please call 1–800–851–2014 to report using our touch-tone data entry system. If your company conducted R&D in 2006, **please complete the paper or electronic form and return it within 30 days.** For this survey year, federal law (Title 13, United States Code, Sections 182 and 225) requires your response to Items 2, 3, and 5, (line D, columns 1 and 3). Responses to all other questions on the survey are voluntary.

Your report should cover the **domestic** operations of your consolidated enterprise for calendar year 2006. If you do not have book figures for any item, you may provide carefully prepared estimates. The same law authorizes the survey (Title 13, United States Code) requires that we keep your report confidential. It may be seen by only persons sworn to uphold the confidentiality of Census Bureau information and may be used only for statistical purposes. Copies of your responses that are retained in your files are immune from legal process.

This survey is a joint project between the U.S. Census Bureau and the National Science Foundation (NSF). We have enclosed a letter from the Director of the NSF encouraging your response to the survey. If you have any questions, please call my staff on 1–800–851–2014, option (0).

Thank you for your cooperation.

Sincerely,

Charles Louis Kincannon

Enclosures

NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230

OFFICE OF THE
DIRECTOR

FROM THE DIRECTOR
NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) requests your company's participation in the 2007 Survey of Industrial Research and Development that we conduct jointly with the U.S. Census Bureau. This annual survey is the only source of detailed information on U.S. industry's research and development (R&D) performance.

Your company's participation is vital to the accuracy of the resulting information. Because R&D expenditures are concentrated in relatively few companies, a completed response is needed from each surveyed firm—*there is no substitute for the information that you can provide.* Your company can be assured of complete confidentiality. Survey data will be released only in aggregate form so that responses of individual companies cannot be identified.

If you have questions concerning the operation of this survey, please direct them to the Census Bureau at (301) 763–5162. Survey results are made available in an annual report entitled *Research and Development in Industry.* The most recent report, historical reports, and descriptive information about the survey are available on the NSF website at http://www.nsf.gov/statistics/industry/.

Thank you for your assistance in this important effort.

Sincerely,

Arden L. Bement, Jr.
Acting Director

RD-1-CL
(1-2008)

UNITED STATES DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. Census Bureau
Washington, DC 20233-0001
OFFICE OF THE DIRECTOR

FROM THE DIRECTOR
U.S. CENSUS BUREAU

The U.S. Census Bureau is conducting a survey of industrial research and development (R&D). The information developed from the survey serve a number of useful purposes. For example, the survey provides information that can be used to study the effectiveness of tax credits. The data also assist public officials in allocating research funding by state, which may benefit companies like yours.

We have enclosed your company's report form and instructions for the 2007 Survey of Industrial Research and Development. We have also included instructions for completing an electronic questionnaire that you may use in lieu of the paper form. **Please read all instructions before answering the questions.** If you have any questions about installing or using the electronic format, please contact the Electronic Reporting Staff on 1–800–838–2640.

The electronic format and Form RD-1 contain information from the previous report for your company. **Please complete the paper or electronic form, and return it within 60 days. For this survey year, data supplied in all items will satisfy the mandatory reporting requirements. Federal law (Title 13, Sections 182 and 225) requires your response.**

Your report should cover the **domestic** operations of your consolidated enterprise for the calendar year 2007. If you do not have book figures for any item, you may provide carefully prepared estimates. The same law that authorizes the survey (Title 13, United States Code) requires that we keep your report confidential. It may be seen by only persons sworn to uphold the confidentiality of Census Bureau information and may be used only for statistical purposes. Copies of your responses that are retained in your files are immune from legal process.

This survey is a joint project between the Census Bureau and the National Science Foundation (NSF). We have enclosed a letter from the Director of the NSF encouraging your response to the survey. If you have any questions, please call my staff on 1–800–851–2014, option (0).

Thank you in advance for your cooperation.

Sincerely,

Steve H. Murdock

Steve H. Murdock
Director

Enclosures

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

FORM
RD-1 (11-06-2006)

2006 SURVEY OF INDUSTRIAL RESEARCH AND DEVELOPMENT

OMB No. 0607-0912: Approval Expires 12/31/2007

Mail your completed form to:
U.S. CENSUS BUREAU
1201 East 10th Street
Jeffersonville, IN 47132-0001

*Please **read*** the accompanying instructions before answering the questions.

Need help or have questions about filling out this form?

Visit our Web site at www.census.gov/econhelp/rd

*To **speak*** with an analyst, call 1-800-851-2014, option "0" between 8:00 a.m. and 5:00 p.m., Eastern time, Monday through Friday.

- OR -

Write to the address above, include your 11-digit Identification Number (ID) printed in the mailing address.

Option to file electronically is located at www.census.gov/econhelp/rd

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(Please correct any errors in this mailing address.)

YOUR RESPONSE IS REQUIRED BY LAW. Title 13, United States Code, requires businesses and other organizations that receive this questionnaire to answer the questions and return the report to the U.S. Census Bureau. By the same law, **YOUR CENSUS REPORT IS CONFIDENTIAL.** It may be seen only by persons sworn to uphold the confidentiality of Census Bureau information and may be used only for statistical purposes. Further, copies retained in respondents' files are immune from legal process. You will satisfy the mandatory requirements for this survey if you answer ❷, ❸, and ❺, line D, columns 1 and 3; and ⓱. Except as noted in specific questions, this report should cover your entire consolidated domestic enterprise, **including all subsidiaries** in the 50 United States and D.C. Reasonable estimates are acceptable.

This survey is conducted jointly with the National Science Foundation.

❶ Was this company owned or controlled by another company on December 31, 2006?

001 ☐ Yes - *See instructions to determine if you should complete this questionnaire.*

☐ No - *Go to* ❷.

Dollar figures should be rounded to thousands of dollars.	2006		
	$ Billions	Millions	Thousands
If a figure is **$1,025,628.79:** ***Report*** →		1	0 2 6

❷ What was the amount of your company's **sales, shipments, operating receipts, or revenues,** net of returns and allowances attributable to domestic operations in the 50 United States or D.C. during 2006? *(EXCLUDE domestic intracompany transfers and sales by foreign subsidiaries. INCLUDE receipts for sales of products and services provided to other companies, individuals, U.S. Government agencies, and foreign countries.)* . . . . . *Mark "X" if None* 0130 ☐

	2006		
	$ Billions	Millions	Thousands
102			
Amount reported for 2005			

❸ How many **employees** worked in the 50 United States or D.C. for your company on March 12, 2006? *(INCLUDE number of full- and part-time employees whose payroll was reported on Internal Revenue Service Form 941, Employer's Quarterly Federal Tax Return.)* . . . . . *Mark "X" if None* 0131 ☐

	Number
112	
Amount reported for 2005	

11000015

CONTINUE ON PAGE 2

4 What was the number of full-time equivalent (FTE) **scientists and engineers** employed by your company as of January 1, 2007 who worked on the following types of R&D in the 50 United States and D.C. during 2006?

(See Instructions for the definition of FTE scientists and engineers.)

			January 1, 2007 Number of FTEs
A. Federally funded R&D . . . . . *Mark "X" if None*	0132	☐	204
Number of FTEs reported as of January 1, 2006			
B. Company and other nonfederally funded R&D. . . . . *Mark "X" if None*	0133	☐	205
Number of FTEs reported as of January 1, 2006			
C. TOTAL *(Add lines A and B.)* . . . . *Mark "X" if None*	0134	☐	206
Number of FTEs reported as of January 1, 2006			

5 What was the cost of R&D performed within your company **in the 50 United States and D.C.** from each of the sources of funding below during 2006?

		2006								
		(1) Federal funds			(2) Company and other nonfederal funds			(3) Total funds Columns 1 + 2		
		$ Billions	Millions	Thousands	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
A. Basic research (Activity toward the advancement of scientific knowledge without specific immediate commercial objectives.)		304			305			306		
Mark "X" if no basic research	0135 ☐									
Amount reported for 2005										
B. Applied research (Activity directed primarily towards a specific commercial or practical objective.)		(1) Federal funds			(2) Company and other nonfederal funds			(3) Total funds Columns 1 + 2		
		$ Billions	Millions	Thousands	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
		314			315			316		
Mark "X" if no applied research. . . .	0136 ☐									
Amount reported for 2005										
C. Development (Activity translating research into new or improved products, services, or processes.)		(1) Federal funds			(2) Company and other nonfederal funds			(3) Total funds Columns 1 + 2		
		$ Billions	Millions	Thousands	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
		324			325			326		
Mark "X" if no development	0137 ☐									
Amount reported for 2005										
D. TOTAL *(Add lines A through C.)*		(1) Federal funds			(2) Company and other nonfederal funds			(3) Total funds Columns 1 + 2		
		$ Billions	Millions	Thousands	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
		344			345			346		
Mark "X" if no R&D	0138 ☐									
Amount reported for 2005										

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CONTINUE ON PAGE 3

If not shown, please enter your 11-digit Identification Number (ID) from the mailing address.

6 If your company plans to perform R&D during 2007, what is the estimated projected cost?

(Comparable to the 2006 figure reported in 5, line D.)

Mark "X" if no R&D is planned for next year . . . 0139 ☐

2007								
(1) Federal funds			(2) Company and other nonfederal funds			(3) Total funds Columns 1 + 2		
$ Billions	Millions	Thousands	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
403			402			401		

7 If **others outside your company performed R&D** funded by your company, what was the cost of the R&D performed in the 50 United States and D.C. during 2006?

*(Include payments made via contracts, grants, or other agreements under which your company pays for **but does not perform** any of the R&D.)*

Mark "X" if no R&D was performed by others . . . . . 0140 ☐

2006								
(1) Federal funds			(2) Company and other nonfederal funds			(3) Total funds Columns 1 + 2		
$ Billions	Millions	Thousands	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
354			3[illegible]			[illegible]		
Amount reported for 2005								

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8 What was the cost of the R&D reported in 7, column 2, performed by each of the following **types of organizations?**

		2006 Company and other nonfederal funds		
		$ Billions	Millions	Thousands
A. For-profit companies . . . *Mark "X" if None* 0141 ☐		811		
	Amount reported for 2005			
B. Federal agencies or laboratories . . . . . *Mark "X" if None* 0142 ☐		812		
	Amount reported for 2005			
C. State government agencies or laboratories . . . . . *Mark "X" if None* 0143 ☐		813		
	Amount reported for 2005			
D. Universities or colleges . . *Mark "X" if None* 0144 ☐		821		
	Amount reported for 2005			
E. Other nonprofit organizations . . . . . *Mark "X" if None* 0145 ☐		831		
	Amount reported for 2005			
F. TOTAL *(Add lines A through E. The sum should equal the total reported in 7, column 2.)* . . . . . *Mark "X" if None* 0146 ☐		841		
	Amount reported for 2005			

11000031

CONTINUE ON PAGE 4

9 What were your company's costs for R&D that your company performed within a joint venture, alliance, partnership, or other collaborative arrangement in the 50 United States and D.C. during 2006? Please report costs separately for each type of partner listed below. *(INCLUDE R&D your company performed in the 50 United States and D.C. regardless of the location of the other parties.)*

(These expenditures should also be included as part of the information reported in **5**, *line D, column 2. Do not include costs reported in* **8**.*)*

			2006 Company and other nonfederal funds		
			$ Billions	Millions	Thousands
A. For-profit companies	*Mark "X" if None* 0186	☐	1101		
Amount reported for 2005					
B. Federal agencies or laboratories	*Mark "X" if None* 0187	☐	1102		
Amount reported for 2005					
C. State government agencies or laboratories	*Mark "X" if None* 0190	☐	1105		
Amount reported for 2005					
D. Universities or colleges. . . .	*Mark "X" if None* 0188	☐	1103		
Amount reported for 2005					
E. Other nonprofit organizations	*Mark "X" if None* 0189	☐	1104		
Amount reported for 2005					
F. **TOTAL** *(Add lines A through E.)*	*Mark "X" if None* 0191	☐	1110		
Amount reported for 2005					

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11000049

CONTINUE ON PAGE 5

If not shown, please enter your 11-digit Identification Number (ID) from the mailing address.

10 If your company funded R&D performed **outside the 50 United States and D.C.** during 2006, what was the cost? *(Please report costs of R&D performed by subsidiaries, affiliates, or others based on your company's percentage of ownership, if any, of the entity that conducted the R&D. Ownership can be based on voting stock or equivalent interest.)*

		2006 Company and other nonfederal funds		
		$ Billions	Millions	Thousands
Mark "X" if None 0147 ☐				
A. More than 50% ownership (This category includes wholly owned subsidiaries and locations.)	366			
Amount reported for 2005				
B. 10% to 50% ownership	365			
Amount reported for 2005				
C. More than 0% but less than 10% ownership	364			
Amount reported for 2005				
D. 0% - No company ownership	363			
Amount reported for 2005				
E. TOTAL *(Add lines A through D.)*	369			
Amount reported for 2005				

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11 What was the cost of the R&D reported in 10, line A, in Puerto Rico and the following countries? *(The total for this item should equal the amount reported in 10, line A.)*

		2006 Company and other nonfederal funds		
		$ Billions	Millions	Thousands
A. Puerto Rico *Mark "X" if None* 0148 ☐	1206			
Amount reported for 2005				
B. Canada *Mark "X" if None* 0149 ☐	1201			
Amount reported for 2005				
C. China *Mark "X" if None* 0150 ☐	1213			
Amount reported for 2005				
D. France *Mark "X" if None* 0151 ☐	1203			
Amount reported for 2005				
E. Germany *Mark "X" if None* 0152 ☐	1202			
Amount reported for 2005				

11000056

CONTINUE ON PAGE 6

11 Continued

		2006 Company and other nonfederal funds		
		$ Billions	Millions	Thousands
F. India . . . . . *Mark "X" if None* 0153 ☐		1214		
Amount reported for 2005				
G. Ireland . . . . . *Mark "X" if None* 0154 ☐		1215		
Amount reported for 2005				
H. Israel . . . . . *Mark "X" if None* 0155 ☐		1216		
Amount reported for 2005				
I. Italy . . . . . *Mark "X" if None* 0156 ☐		1217		
Amount reported for 2005				
J. Japan . . . . . *Mark "X" if None* 0157 ☐		1204		
Amount reported for 2005				
K. Singapore . . . . . *Mark "X" if None* 0158 ☐		1218		
Amount reported for 2005				
L. Sweden . . . . . *Mark "X" if None* 0159 ☐		1219		
Amount reported for 2005				
M. United Kingdom . . . . . *Mark "X" if None* 0160 ☐		1205		
Amount reported for 2005				
N. Other - *Specify*		1207		
1209				
		1211		
1220				
		1212		
1221				
O. TOTAL *(Add lines A through N. The sum should equal the amount reported in* **10***, line A.)* . . . . . *Mark "X" if None* 0192 ☐		1210		
Amount reported for 2005				

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11000064

CONTINUE ON PAGE 7

If not shown, please enter your 11-digit Identification Number (ID) from the mailing address.

12 If you reported Federally funded R&D in ❺, line D, column 1, what was the cost funded by each of the following Federal agencies?

			2006 Federal funds $ Billions	Millions	Thousands
A. Department of Defense (DoD)	*Mark "X" if None* 0161 ☐	511			
Amount reported for 2005					
B. National Aeronautics and Space Administration (NASA)	*Mark "X" if None* 0162 ☐	521			
Amount reported for 2005					
C. Department of Energy (DOE)	*Mark "X" if None* 0163 ☐	531			
Amount reported for 2005					
D. Other Federal agencies	*Mark "X" if None* 0164 ☐	541			
Amount reported for 2005					
E. TOTAL *(Add lines A through D. The sum should equal the total reported in ❺, line D, column 1.)*	*Mark "X" if None* 0165 ☐	551			
Amount reported for 2005					

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11000072

CONTINUE ON PAGE 8

13 For the total R&D you reported in **5**, line D, column 3, what was the cost for each of the following types of expenses?

			2006 Total funds $ Billions	Millions	Thousands
A. Wages and salaries of R&D personnel *(INCLUDE scientists and engineers, technicians, secretaries, and other personnel.)*	*Mark "X" if None* 0166 ☐	611			
	Amount reported for 2005				
B. Fringe benefits of R&D personnel *(INCLUDE taxable and nontaxable benefits, 401K plans, employers' contribution to health plans.)*	*Mark "X" if None* 0167 ☐	621			
	Amount reported for 2005				
C. Materials and supplies consumed *(INCLUDE the cost of all purchased materials consumed.)*	*Mark "X" if None* 0168 ☐	631			
	Amount reported for 2005				
D. Depreciation on R&D property and equipment *(INCLUDE depreciation and amortization costs for property and equipment used for R&D during the year.)*.	*Mark "X" if None* 0169 ☐	641			
	Amount reported for 2005				
E. All other R&D expenses *(INCLUDE R&Ds share of company overhead and other expenses such as utilities, books and periodicals, and property and other taxes.)*	*Mark "X" if None* 0170 ☐	651			
	Amount reported for 2005				
F. TOTAL *(Add lines A through E. The sum should equal the total reported in **5**, line D, column 3.)*	*Mark "X" if None* 0171 ☐	661			
	Amount reported for 2005				

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11000080

CONTINUE ON PAGE 9

If not shown, please enter your 11-digit Identification Number (ID) from the mailing address.

14 For the total R&D you reported in ❺, line D, column 3, what was the cost for each of the following areas?

			2006 Total funds $ Billions	Millions	Thousands
A. Biotechnology (The use of scientific and engineering data and techniques for the study and solution of problems concerning living organisms.)	*Mark "X" if None* 0172 ☐	7111			
	Amount reported for 2005				
B. Software development (The formulation of programs, applications, routines, etc., for computers, excluding those used exclusively for internal company operations.)	*Mark "X" if None* 0173 ☐	7211			
	Amount reported for 2005				
C. Materials synthesis and processing (The use of scientific and engineering data and techniques for the formulation and manipulation of new materials.)	*Mark "X" if None* 0174 ☐	7311			
	Amount reported for 2005				
D. All other areas	*Mark "X" if None* 0175 ☐	7411			
	Amount reported for 2005				
E. TOTAL *(Add lines A through D. The sum should equal the total reported in ❺, line D, column 3.)*	*Mark "X" if None* 0176 ☐	7511			
	Amount reported for 2005				

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CONTINUE ON PAGE 10

15 Did your company perform any R&D using **nanotechnology** during 2006? (Nanotechnology is the creation and utilization of materials, devices, and systems sized at the level of atoms and molecules. This includes R&D in the range of 1 to 100 nanometers.)

7001 ☐ Yes - *Go to* **16**.

7002 ☐ No - *Go to* **17**.

16 For the R&D costs reported in **14**, lines A through D, what percentage involved the use of **nanotechnology** for each of the following areas?

		2006 Whole percents
A. Biotechnology . . . . . *Mark "X" if None* 0177 ☐	7112	%
Amount reported for 2005		%
B. Software development . . . *Mark "X" if None* 0178 ☐	7212	%
Amount reported for 2005		%
C. Materials synthesis and processing . . . . . *Mark "X" if None* 0179 ☐	7312	%
Amount reported for 2005		%
D. All other areas . . . . . *Mark "X" if None* 0180 ☐	7412	%
Amount reported for 2005		%

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CONTINUE ON PAGE 11

If not shown, please enter your 11-digit Identification Number (ID) from the mailing address.

17 For the Federal and total R&D you reported in **5**, line D, columns 1 and 3, what was the cost of the R&D performed in **each of the 50 United States and D.C.?** *(The totals for this item should equal the totals reported in* **5***, line D, columns 1 and 3.)*

	2006					
	(1) Federal funds			(2) Total funds		
	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
Alabama	9011			9012		
Amount reported for 2005						
Alaska	9021			9022		
Amount reported for 2005						
Arizona	9031			9032		
Amount reported for 2005						
Arkansas	9041			9042		
Amount reported for 2005						
California	9051			9052		
Amount reported for 2005						
Colorado	9061			9062		
Amount reported for 2005						
Connecticut	9071			9072		
Amount reported for 2005						
Delaware	9081			9082		
Amount reported for 2005						
District of Columbia	9091			9092		
Amount reported for 2005						
Florida	9101			9102		
Amount reported for 2005						

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CONTINUE ON PAGE 12

17 Continued

	2006					
	(1) Federal funds			(2) Total funds		
	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
Georgia	9111			9112		
Amount reported for 2005						
Hawaii	9121			9122		
Amount reported for 2005						
Idaho	9131			9132		
Amount reported for 2005						
Illinois	9141			9142		
Amount reported for 2005						
Indiana	9151			9152		
Amount reported for 2005						
Iowa	9161			9162		
Amount reported for 2005						
Kansas	9171			9172		
Amount reported for 2005						
Kentucky	9181			9182		
Amount reported for 2005						
Louisiana	9191			9192		
Amount reported for 2005						
Maine	9201			9202		
Amount reported for 2005						
Maryland	9211			9212		
Amount reported for 2005						

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CONTINUE ON PAGE 13

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17 Continued

	2006					
	(1) Federal funds			(2) Total funds		
	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
Massachusetts	9221			9222		
Amount reported for 2005						
Michigan	9231			9232		
Amount reported for 2005						
Minnesota	9241			9242		
Amount reported for 2005						
Mississippi	9251			9252		
Amount reported for 2005						
Missouri	9261			9262		
Amount reported for 2005						
Montana	9271			9272		
Amount reported for 2005						
Nebraska	9281			9282		
Amount reported for 2005						
Nevada	9291			9292		
Amount reported for 2005						
New Hampshire	9301			9302		
Amount reported for 2005						
New Jersey	9311			9312		
Amount reported for 2005						
New Mexico	9321			9322		
Amount reported for 2005						

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CONTINUE ON PAGE 14

17 Continued

	2006					
	(1) Federal funds			(2) Total funds		
	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
New York	9331			9332		
Amount reported for 2005						
North Carolina	9341			9342		
Amount reported for 2005						
North Dakota	9351			9352		
Amount reported for 2005						
Ohio	9361			9362		
Amount reported for 2005						
Oklahoma	9371			9372		
Amount reported for 2005						
Oregon	9381			9382		
Amount reported for 2005						
Pennsylvania	9391			9392		
Amount reported for 2005						
Rhode Island	9401			9402		
Amount reported for 2005						
South Carolina	9411			9412		
Amount reported for 2005						
South Dakota	9421			9422		
Amount reported for 2005						
Tennessee	9431			9432		
Amount reported for 2005						

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CONTINUE ON PAGE 15

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17 Continued

	2006					
	(1) Federal funds			(2) Total funds		
	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
Texas	9441			9442		
Amount reported for 2005						
Utah	9451			9452		
Amount reported for 2005						
Vermont	9461			9462		
Amount reported for 2005						
Virginia	9471			9472		
Amount reported for 2005						
Washington	9481			9482		
Amount reported for 2005						
West Virginia	9491			9492		
Amount reported for 2005						
Wisconsin	9501			9502		
Amount reported for 2005						
Wyoming	9511			9512		
Amount reported for 2005						
TOTAL *(The sums should equal the amounts reported in 5, line D, columns 1 and 3.)*	9541			9542		
Amount reported for 2005						

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CONTINUE ON PAGE 16

18 If your company performed **energy-related R&D** during 2006, what was the cost of the R&D performed in the 50 United States and D.C. for each of the following sources of energy?

(INCLUDE the portion of project cost incurred for the purpose of increasing energy capabilities for each source of funding. These expenditures should also be included as part of the information reported in 5, line D, columns 1 and 3.)

		2006 (1) Federal funds			2006 (2) Total funds		
		$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
A. Fossil fuels . . . . . *Mark "X" if None* 0181 ☐		10211			10212		
Amount reported for 2005							
B. Geothermal and solar . . . *Mark "X" if None* 0182 ☐		10311			10312		
Amount reported for 2005							
C. Nuclear . . . . . *Mark "X" if None* 0183 ☐		10111			10112		
Amount reported for 2005							
D. All other energy sources . *Mark "X" if None* 0184 ☐		10411			10412		
Amount reported for 2005							
E. **TOTAL** *(Add lines A through D.)*. . . . . *Mark "X" if None* 0185 ☐		10511			10512		
Amount reported for 2005							

19 **A.** Does this report cover your entire consolidated domestic enterprise, including all U.S. subsidiaries? *(Mark "X" only ONE box.)*

1301 ☐ Yes

1330 ☐ No - *Please explain in 21.*

B. Was your company publicly or privately owned? *(Mark "X" only ONE box.)*

1302 ☐ Publicly owned

1334 ☐ Privately owned

1319 ☐ Other - *Please describe*

1320

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CONTINUE ON PAGE 17

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19 **C.** Other than the parent company, how many subsidiaries, affiliates, or branches located **in the 50 United States and D.C.** owned or controlled by your company (by means of voting stock or other equivalent interest) are included in this report? *(Mark "X" only ONE box.)*

1303 ☐ None

1304 ☐ 1

1305 ☐ 2-5

1306 ☐ More than 5

1321 ☐ Other - *Please describe*

1322

D. Other than the parent company, how many subsidiaries, affiliates, or branches located **outside the 50 United States and D.C.** owned or controlled by your company (by means of voting stock or other equivalent interest) are included in this report? *(Mark "X" only ONE box.)*

1307 ☐ None

1308 ☐ 1

1309 ☐ 2-5

1310 ☐ More than 5

1323 ☐ Other - *Please describe*

1324

E. What percent of your company was owned or controlled (by means of voting stock or other equivalent interest) by one or more companies located **in the 50 United States and D.C.**? *(Mark "X" only ONE box.)*

1311 ☐ 0% - No ownership

1312 ☐ More than 0% but less than 10% ownership

1313 ☐ 10%-50% ownership

1314 ☐ More than 50% ownership

1325 ☐ Other - *Please describe*

1327

F. What percent of your company was owned or controlled (by means of voting stock or other equivalent interest) by one or more companies located **outside the 50 United States and D.C.**? *(Mark "X" only ONE box.)*

1315 ☐ 0% - No ownership

1316 ☐ More than 0% but less than 10% ownership

1317 ☐ 10%-50% ownership

1318 ☐ More than 50% ownership

1326 ☐ Other - *Please describe*

1328

11000171

CONTINUE ON PAGE 18

20 Reporting period, location of records, and contact information

A. Is the time period covered by this report a calendar year?

0078 ☐ Yes

0079 ☐ No - *Enter time period covered* → FROM

Month	Year
0070	

TO

Month	Year
0071	

B. Are all of your company's R&D records and data in a central location?

0080 ☐ Yes

0081 ☐ No - How many locations? → 0086

0085 ☐ Other - *Please describe* → 0087

C. How many people were involved in the preparation of this report *(INCLUDE those you consulted who provided, collected, or reviewed information, even if you are the only one who filled out the form.)*? 0084

0072 Name of person to contact regarding this report	0073 Title

	Area code	Number			Extension		Area code	Number		
Telephone 0074			-			Fax 0075			-	

		Month	Day	Year
0076 Internet e-mail address	Date completed 0069			

21 REMARKS *(Please use this space for any explanations that may help us in understanding your reported data.)*

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Thank you for completing your 2006 SURVEY OF INDUSTRIAL RESEARCH AND DEVELOPMENT form.

PLEASE PHOTOCOPY THIS FORM FOR YOUR RECORDS AND RETURN THE ORIGINAL.

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

2006 Survey of Industrial Research and Development
Form RD-1
Instructions

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2006 Survey of Industrial Research and Development
Form RD-1
General Instructions

Changes from 2005 to 2006 R&D survey year

1) The wording of some items has been changed for clarification.

2) The mandatory items are now as follows:

- Question 2
- Question 3
- Question 5D, column 1
- Question 5D, column 3
- Question 17

How this information is used

Information about corporate research and development (R&D) activities is important in assessing our nation's scientific and technological resources. Your survey answers help us to provide national data on industrial R&D. This information is not available from any other source. Your participation is appreciated so that we can produce timely and comprehensive data.

Who fills out this survey?

U.S. publicly traded and privately owned, nonfarm business firms

This survey does ***not*** include:
- Operations owned by Federal, state, or local governments
- Nonprofit organizations
- Trust or pension plans performing only investments

If you received this form in error, please explain in the Remarks section on page 18 of the survey form and return the form.

AUTHORITY AND CONFIDENTIALITY – Your response is required by law (Title 13, United States Code). By section 9 of the same law, your report is confidential. It may be seen only by persons sworn to uphold the confidentiality of Census Bureau information, and may be used only for statistical purposes. The law also provides that copies of your report retained in your files are immune from legal process. Response is not required to any information collection form unless it displays a valid approval number from the Office of Management and Budget. This 8-digit number appears in the upper right corner of the form.

Which company operations should you include in your survey answers?

Report all domestic operations of your ***entire consolidated domestic enterprise,*** including all U.S. subsidiaries.

Report all parts of the company located in the 50 United States and the District of Columbia (D.C.), except where indicated differently.

For holding companies, report for all U.S. subsidiaries under the ownership and control of the holding company.

EXCEPTION: If you report separately for a component of this company based upon an arrangement with the Census Bureau, please continue to do so.

Reporting period for your survey answers

Please provide calendar year 2006 information, if possible. If not, please use your fiscal year ending between September 2006 and March 2007

Comparing your 2005 and 2006 responses

If your company reported for 2005, entries from that form are preprinted on this form. (If you would like to correct these figures, please do so.) If your answers for 2006 are substantially higher or lower than your 2005 answers, you may comment on the reasons in the Remarks section on page 18 of the survey form. Such reasons may include new government contracts, a revised accounting method, or an R&D unit that was acquired or disposed of during 2005 or 2006.

How to report tax incentives for R&D

The Federal government and many states offer incentives for research and development activity. For purposes of this survey, please report your total R&D expenditures regardless of any tax incentives.

For further information on the Federal research tax credit please go to:

http://www.irs.gov/businesses/

For further information on state tax incentives, please contact the Comptroller of the Treasury in your state.

To request more time to complete your form or additional copies of the form

Please provide your 11-digit identification number (ID) as printed on the form above your address when you contact us.

For more time, call the Census Touchtone Data Entry System: 1–800–851–2014.

For official copies of the form, call 1–800–528–3049.

OR

Write: U.S. Census Bureau
1201 East 10th Street
Jeffersonville, IN 47132–0001

To obtain a sample copy of the form, please visit the following web site. However, that sample copy **cannot** be used to submit your survey response because it lacks the appropriate labeling.

http://help.econ.census.gov/econhelp/rd/

For answers to your questions regarding this form

Write:
U.S. Census Bureau, Manufacturing and Construction Division
ATTN: Special Studies Branch
Room 2135/4
Washington, DC 20233–6900

Phone:

1–800–851–2014 (option “0”)

Use our web site at **http://help.econ.census.gov/econhelp/rd/**

- Submit e-mail via our secure server to encrypt your message and to keep your survey participation confidential
- See answers to frequently asked questions

Electronic alternative for reporting

An electronic questionnaire may be used to report your responses. This electronic alternative potentially saves time for you and helps us to reduce processing costs. If you use the electronic alternative, please do ***not*** mail in the paper form. For questions about installing or using the electronic questionnaire, please call the Electronic Reporting Staff at 800–838–2640.

The system requirements for the electronic questionnaire are:

1. Microsoft Windows 98 or higher
2. Microsoft Internet Explorer or Netscape Navigator 4.0 or above (128-bit encryption)
3. If you set your screen display for the 16-bit color or higher, the forms will be easier to read. The forms are harder to read with 256-color display.

Have your username (UID) and password (PW) handy. ***The username and password are case sensitive.***

1. Go to the Business Help Site at: **www.census.gov/econhelp/rd**
2. Click on Electronic Reporting
3. Follow the instructions for downloading software.

Transmitting your data

You may transmit you completed data to the Census Bureau electronically via Internet, or by mail.

WARNING CONCERNING ELECTRONIC MAIL: The Internet is not a secure means of transmitting information unless it is encrypted. If you choose to communicate with the Census Bureau via electronic mail, the Census Bureau cannot guarantee the privacy of the information while transmitted, but will safeguard it in accordance with Title 13. Be advised that making inquiries regarding this survey via electronic mail may divulge your participation in this survey.

Burden hour estimate

Public reporting burden for this collection of information is estimated to average 8 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspects of this collection of information, including suggestions for reducing this burden to:

Paperwork Project 0607-0912
U.S. Census Bureau
4700 Silver Hill Road, Stop 1500,
Washington, DC 20233-1500

You may e-mail comments to Paperwork@census.gov; use “Paperwork Project 0607-0912” as the subject.

Survey Definitions of R&D

R&D includes the following:

- the planned, systematic pursuit of new knowledge or understanding toward general application (basic research);
- the acquisition of knowledge or understanding to meet a specific, recognized need (applied research); and
- the application of knowledge or understanding toward the production or improvement of a product, service, process, or method (development).

This survey covers industrial R&D performed by people who are

1) trained—either formally or by experience—in engineering or in the physical, biological, mathematical, statistical, or computer sciences, and

2) employed by a publicly or privately owned firm engaged in for-profit activity in the 50 United States and D.C. (This also includes R&D they may perform ***outside*** of the 50 United States and D.C.)

This survey specifically ***excludes*** quality control, routine product testing, market research, sales promotion, sales service, and other nontechnological activities; routine technical services; and research in the social sciences or psychology.

This survey defines basic research, applied research, and development as follows:

Basic research is the pursuit of new scientific knowledge or understanding that does not have specific immediate commercial objectives, although it may be in fields of present or potential commercial interest.

Applied research applies the findings of basic research or other existing knowledge toward discovering new scientific knowledge that has specific commercial objectives with respect to new products, services, processes, or methods.

Development is the systematic use of the knowledge or understanding gained from research or practical experience directed toward the production or significant improvement of useful products, services, processes, or methods, including the design and development of prototypes, materials, devices, and systems.

Types of R&D activities to consider for this survey

INCLUDE:	EXCLUDE:
• Activities that incorporate: – Basic and applied research in the sciences and engineering – Design and development of new products and processes – Enhancement of existing products and processes • Activities carried on by persons trained, either formally or by experience, in: – Biological sciences (e.g., medicine) – Computer science – Engineering – Mathematical and statistical sciences – Physical sciences (e.g., chemistry and physics) • Activities that take place in: – Separate R&D organizational units of the company – Company laboratories – Technical groups not part of an R&D organization	• R&D from acquired companies prior to acquisition (in-process R&D) • Amortization above the actual cost of property and equipment related to your R&D activities • Testing and evaluation once a prototype becomes a production model • Routine product testing • Geological and geophysical exploration activities • Technical services such as: – Quality and quantity control – Technical plant sanitation control – Troubleshooting in connection with breakdowns in full-scale production • Advertising programs to promote or demonstrate new products or processes • Assistance in preparation of speeches and publications for persons not engaged in R&D • Social science R&D including: – Personnel R&D – Economic R&D – Artificial intelligence and expert systems R&D – Consumer, market, and opinion R&D – Engineering psychology R&D – Management and organization R&D – Actuarial and demographic R&D – Educational processes and applications R&D – R&D in law

Question-by-Question Instructions

Question 1 Was this company owned or controlled by another company on December 31, 2006?

Question 1 asks about your company's ownership as of December 31, 2006.

If "yes," your company was owned or controlled by another company on December 31, 2006, follow the appropriate instructions below:

Your situation	Action to take
Your company was purchased by another company on or prior to March 31, 2006, located in the 50 United States or D.C.	Note the new owner and purchase date under the Remarks section on page 18 of the form and return the form without completing the rest of it.
Your company was purchased by another company after March 31, 2006, located in the 50 United States or D.C.	Note the new owner and purchase date under the Remarks section on page 18 of the form. Complete the rest of the form for the months ***prior*** to the purchase of your company.
Your company was owned or controlled by one or more companies located outside the 50 United States or D.C.	Note the new owner under the Remarks section on page 18 of the form and complete the rest of the form.

If you have questions, please call the R&D Survey staff at 1-800-851-2014 (option "0") to determine whether you are required to complete the form.

Question 2 What was the amount of your company's sales, shipments, operating receipts, or revenues, net of returns and allowances attributable to domestic operations in the 50 United States or D.C. during 2006?

Question 2 covers domestic company sales. Report only the parts of your company located ***within*** the 50 United States or D.C.

INCLUDE:	EXCLUDE:
• Sales, operating receipts, and operations of the company, ***net of returns and allowances***	• Sales and other taxes collected and paid directly to government taxing agencies
• Receipts from sales of products and services provided to other companies, individuals, U.S. Government agencies, and foreign countries	• Domestic intracompany transfers
• Net selling value of shipments, f.o.b. (freight on board) plant, after discounts and allowances minus freight charges and excise taxes	• Receipts from sale of products and services provided by your foreign subsidiaries and affiliates
• Revenue from investments, rents, and royalties only if it is the principal business of the company	• Receipts from sale of products and services provided by your subsidiaries and affiliates in Puerto Rico and other U.S. territories ***outside*** the 50 United States and D.C.
• Interest, dividends, commissions, and rental income as part of revenues only if you are a finance, insurance, or real estate company	• Income from interest, dividends, and commissions (Exception: Companies in the finance, insurance, and real estate industries)
• Value of assets sold under a capital lease agreement	• Other nonoperating income (e.g., royalties)
• Export transfers to your foreign subsidiaries and affiliates	

Question 3 How many employees worked in the 50 United States or D.C. for your company on March 12, 2006?

Question 3 covers domestic company employment. Report only the parts of your company located ***within*** the 50 United States or D.C.

INCLUDE:

- Full- and part-time employees of the company as defined on Treasury Form 941, Employer's Quarterly Federal Tax Return, and Circular E, Employer's Tax Guide, if filed for the entire company
- Number of employees in all activities ***within*** the 50 United States or D.C. during the pay period that includes March 12, 2006
- Persons on paid sick leave, paid holidays, and paid vacations during the pay period that includes March 12, 2006

Question 4 What was the number of full-time equivalent (FTE) scientists and engineers employed by your company as of January 1, 2007 who worked on the following types of R&D in the 50 United States and D.C. during 2006?

Question 4 covers the scientists and engineers who are employees of your company and perform R&D activities. It asks for the number of full-time equivalent (FTE) scientists and engineers who work on your company's R&D ***within*** the 50 United States or D.C.

There are two steps to calculate the number of FTEs for R&D scientists and engineers:

1. For company employees performing only research and development, count the number of scientists and engineers employed in January 2007.

2. For employees whose activities are not solely devoted to R&D, use the proportion of their time that is devoted to R&D to compute the number of fulltime equivalent R&D scientists and engineers. For example, if a company had 60 scientists and engineers in January 2007 and one-fourth of their time was charged to R&D projects, then that company would have 15 full-time equivalent R&D scientists and engineers. Add these full-time equivalents to the count from the previous step.

INCLUDE:

- All persons engaged in scientific or engineering work at a level that requires knowledge of physical or life sciences or engineering or mathematics
- Persons with experience equivalent to completion of a 4-year college course with majors in these fields, regardless of whether they actually hold degrees in the fields

Question 5 What was the cost of R&D performed within your company in the 50 United States and D.C. from each of the sources of funding below during 2006?

Question 5 covers the R&D that is performed both (1) ***within*** your company and (2) ***within*** the 50 United States and D.C.

INCLUDE:	EXCLUDE:
• Wages, salaries, and related costs • Materials and supplies consumed • R&D depreciation • Cost of computer software used in R&D activities • Utilities, such as telephone, telex, electricity, water and gas • Travel costs and profession dues • Property taxes and other taxes (except income taxes) incurred on account of the R&D organization or the facilities they use • Insurance expenses • Maintenance and repair, including maintenance of buildings and grounds • Company overhead including: personnel, accounting, procurement and inventory, and salaries of research executives not on the payroll of the R&D organization	• Expenses of acquired companies for R&D performed prior to acquisition (in-process R&D) • Capital expenditures • Testing and evaluation once a prototype becomes a production model • Patent expenses • Income taxes and interest

Instructions for Question 5

How to decide which category of R&D

1. Basic research	Projects that pursue new scientific knowledge or understanding that does not have specific immediate commercial objectives, although it may be in fields of present or potential commercial interest **Example:** A project looks at the characteristics of silicon that has been impregnated with different elements. This project seeks to improve the company's understanding of semiconductors. Its results may or may not be applicable to the company's existing or planned product lines.
2. Applied research	Projects that apply the findings of basic research or other existing knowledge toward discovering new scientific knowledge that has specific commercial objectives with respect to new products, services, processes, or methods **Example:** A project seeks to discover ways to reduce the power requirements of microchips. Although the outcome of this project is uncertain, positive results would improve the energy efficiency for future products.
3. Development	Projects that are directed toward the systematic use of the knowledge or understanding gained from research or practical experience directed toward the production or significant improvement of useful products, services, processes, or methods, including the design and development of prototypes, materials, devices, and systems **Example:** A project designs and develops a microprocessor for cellular phones. The goal of this project is a new product that would generate revenue for the company.

Development includes:	**Development excludes:**
• Expenditures for designing and conducting clinical trials of drugs, pharmaceuticals, or other products that have not been marketed • Software development – Designing and/or adapting software if the application has commercial value (exclude software development for internal use) – Beta version of software being developed that has potential commercial application • Design and operation of pilot plants and semiwork plants • Engineering activity required to advance the design of a product or process so it meets specific functional and economic requirements • Design, construction, and testing of prototypes and models including test models for defense contracts • Designs for special manufacturing equipment and tools • Preparation of reports, drawings,formulas, specifications, standards practice instructions, or operating manuals	• Software development intended for ***within*** company use only • Routine technical services to customers • Tool making and tool tryout • Production of detailed construction drawings and manufacturing blueprints

Question 5 (continued)

How to decide which category to use for sources of R&D funding

Source of R&D	INCLUDE:	EXCLUDE:
Federal funds	• Federally funded R&D performed ***within*** the company. Include only the amount of work done on Federal R&D contracts or subcontracts in the current year. • R&D portion of procurement contracts or subcontracts	• Federally funded R&D contracted or subcontracted to or otherwise by others ***outside*** of your company. (Report such funds in Question 7.) • Expenditures for independent research and development (IR&D). (Report in column 2, Company and other nonfederal funds.)
Company and other nonfederal funds	• R&D from company and other nonfederal sources that is performed ***within*** the company NOTE that ***"company and other nonfederal funds"*** and ***"company funded"*** are used interchangeably in the Form RD-1. • R&D your company performs under contracts you have with non-Federal sources • Costs for independent research and development (IR&D). We define IR&D funds as R&D performed by the company for which you anticipate reimbursement by the government through indirect charges for the purchase of products or services. Qualified projects usually have potential interest to the Department of Defense. These IR&D funds are excluded from federal funds received for federally-sponsored research and development contracts.	• R&D from nonfederal sources that is contracted to or otherwise performed by others ***outside*** of your company (Report such funds in Question 7.)

Question 6 If your company plans to perform R&D during 2007, what is the estimated projected cost?

Question 6 asks for an estimate or projection of the cost of R&D your company expects to perform in 2007 in the 50 United States and D.C.

Question 7 If others outside your company performed R&D funded by your company, what was the cost of the R&D performed in the 50 United States and D.C. during 2006?

Question 7 covers the R&D that was ***both*** performed for your company (1) by ***others outside your company*** such as contractors, and (2) ***within*** the 50 United States and D.C.

Include payments for R&D projects, contracts, or services performed for your company by contractors, suppliers, grantees, educational institutions, or other organizations.

Question 7 includes amounts for R&D performed by others for your company and does not include amounts for R&D performed by your company.

Question 8 What was the cost of the R&D reported in (7), column 2, performed by each of the following types of organizations?

Question 8 asks for the type of organizations that performed the portion of your answer to question 7 for company and other nonfederal sources of R&D funding.

Definitions for types of organizations	
For-profit companies	A company that is organized to pursue profit
Federal agencies or laboratories	Labs or other facilities owned by the United States government
State government agencies or laboratories	Labs or other facilities owned by any of the governments of the 50 United States or D.C.
Universities and colleges	A degree-granting institution of higher learning, having facilities for teaching and research
Other nonprofit organizations	An organization that is not organized to pursue profit. However, universities and colleges are reported in another category.

Question 9 What were your company's costs for R&D that your company performed within a joint venture, alliance, partnership, or other collaborative arrangement in the 50 United States and D.C. during 2006?

Question 9 covers your share of R&D expenditures funded by company and other nonfederal sources for R&D performed jointly by your company with organizations outside of your company. These joint activities may or may not have been organized as alliances, partnerships, or joint ventures. Only include amounts for R&D performed by your company in the 50 United States and D.C. Do not include amounts for R&D performed by the partner organization.

Do not include projects with other subsidiaries of your parent company. **Exception:** If you are a U.S. subsidiary of a foreign-owned company, you should include collaboration with foreign subsidiaries of your parent company if your company's portion of the R&D was performed in the 50 United States and D.C.

Include collaboration with entities such as Puerto Rico and governments in foreign jurisdictions if your company's portion of the R&D was performed in the 50 United States and D.C.

Question 10 If your company funded R&D performed outside the 50 United States and D.C. during 2006, what was the cost? *(Please report costs of R&D performed by subsidiaries, affiliates, or others based on your company's percentage of ownership, if any, of the entity that conducted the R&D. Ownership can be based on voting stock or equivalent interest.)*

Question 10 covers R&D performed ***outside*** the 50 United States and D.C. including R&D performed in Puerto Rico.

For Question 10, line D, report payments for R&D projects, contracts, or services performed for your company by contractors, suppliers, educational institutions, or other organizations.

Question 11 What was the cost of the R&D reported in (10), line A, in Puerto Rico and the following countries? (The total for this item should equal the amount reported in (10), line A.)

Question 11 provides more detail for your answer to Question 10, line A. If a country is not listed, please include the R&D in the "Other" category.

Question 12 If you reported Federally funded R&D in (5), line D, column 1, what was the cost funded by each of the following Federal agencies?

Question 12 covers federally funded R&D performed in the 50 United States and D.C. by agency.

Question 13 For the total R&D you reported in (5), line D, column 3, what was the cost for each of the following types of expenses?

Question 13 covers R&D by type of expense.

A. Wages and salaries of R&D personnel

INCLUDE:	EXCLUDE:
• Gross earnings paid in calendar year 2006 to employees engaged in R&D (follow the definition of salaries and wages that is used for calculating withholding tax) • Salaries of officers in the research establishment(s) of a corporation	• Payments to proprietor or partners if your company is an unincorporated concern • Employee fringe benefits (Report under "B. Fringe benefits.")

B. Fringe benefits of R&D personnel

A **fringe benefit** is an employment benefit granted by an employer that has monetary value but does not affect basic wage rates. It includes any benefits given in addition to wages.

INCLUDE:
• Disability benefits
• Life and medical insurance
• Paid holidays
• Retirement benefits, pension, and social security contributions
• Stock options
• Time-off benefits
• Vacation, annual, sick, and maternity leave

Question 13 (continued)

C. Materials and supplies consumed

Report the delivered cost for all purchased materials consumed.

INCLUDE:	EXCLUDE:
• Materials and supplies that were: – Received from other companies – Withdrawn from inventory – Received from other establishments of this company • All work done for your laboratories and other technical units by non-company organizations; for Example: Model construction by a non-company model shop	• Purchases from other R&D organizations

D. Depreciation on R&D property and equipment

INCLUDE:
• Depreciation and amortization charged during the year against property and equipment related to your R&D activities • Depreciation and amortization against property and equipment acquired since the beginning of the year that was ***sold or retired*** during the year and not in service at the end of the year • Depreciated amounts no higher than the actual cost of property and equipment

E. All other R&D expenses

INCLUDE:
• Books and periodicals • Company overhead • Property and other taxes • Utilities

Question 14 For the total R&D you reported in (5), line D, column 3, what was the cost for each of the following areas?

Question 14 covers R&D by selected technology area.

A. Biotechnology

Definition of biotechnology for this survey:

Biotechnology is the application of science and technology to living organisms, as well as parts, products, and models thereof, to alter living or nonliving materials for the production of knowledge, goods, and services.

INCLUDE:

- DNA technologies such as:
  - Genomics
  - Pharmacogenetics
  - Gene probes
  - DNA sequencing/synthesis/amplification
  - Genetic engineering
- Protein and molecular technologies such as
  - Protein/peptide sequencing/synthesis
  - Lipid/protein glycoengineering
  - Proteomics
  - Hormones
  - Growth factors
  - Cell receptors/signaling/pheromones
- Cell and tissue culture and engineering including:
  - Cell/tissue culture
  - Tissue engineering
  - Hybridization
  - Cellular fusion
  - Vaccine/immune stimulants
  - Embryo manipulation
- Process biotechnologies such as:
  - Bioreactors
  - Fermentation
  - Bioprocessing
  - Biobleaching
  - Biodesulphurization
  - Bioremediation
  - Biofiltration
- Subcellular organism research including:
  - Gene therapy
  - Viral vectors
- Other biotechnology areas such as:
  - Bioinformatics
  - Nanobiotechnologies

B. Software development

INCLUDE:	EXCLUDE:
• Application development tools and environments • Applications software • Computer-aided design tools and methods • Computer systems software	• Software programming or engineering used exclusively for internal company operations such as financial management or human resources

Question 14 (continued)

C. Materials synthesis and processing

Covers formulation and manipulation of new or improved materials using the data and techniques of science and engineering.

INCLUDE:
• Advanced structural materials in the industrial machinery, medical, building, and construction industries • Higher performance semiconductors and photonic devices in in the semiconductor industry • Ceramics and alloys designed to withstand extreme temperatures and stresses for use in engine and structural parts in the aerospace and automotive industries • Composite materials for use in sporting goods • New and significantly improved synthesis and production techniques for existing materials

D. All other areas

Report the remainder of R&D costs so that the total for this question matches Question 5, line D, column 3.

Question 15 Did your company perform any R&D using nanotechnology during 2006?

Question 15 covers nanotechnology in R&D.

Nanotechnology is the creation and utilization of materials, devices, and systems sized at the level of atoms and molecules in the range of 1 to 100 nanometers.

If you answer "No" to Question 15, continue on to Question 17.

Question 16 For the R&D costs reported in 14, lines A through D, what percentage involved the use of nanotechnology for each of the following areas?

Question 16 asks for the nanotechnology proportion of the R&D expenditures provided in Question 14.

For example, if about a fourth of your biotechnology R&D expenditures was devoted to nanotechnology projects, report 25% in Question 16, line A.

INCLUDE:
• Materials and systems that exhibit novel and significantly improved physical, chemical, and biological properties; phenomena; and processed because of their size

Question 17 For the Federal and total R&D you reported in (5), line D, columns 1 and 3, what was the cost of the R&D performed in each of the 50 United States and D.C.? (The totals for this item should equal the totals reported in (5), line D, columns 1 and 3.)

Question 17 covers R&D for each state location where your company has research and development laboratories or facilities.

It is not necessary to calculate separately individual assignments made outside the home state of a particular research staff.

Question 18 If your company performed energy-related R&D during 2006, what was the cost of the R&D performed in the 50 United States and D.C. for each of the following sources of energy?

Question 18 covers R&D by type of energy source.

INCLUDE:
• R&D to increase energy resources or capabilities • Development of energy equipment • Products and processes for exploration, extraction, transportation, processing, storage, generation (including conversion), distribution,conservation • Present, new, or improved forms of energy

How to estimate if the project is for joint or multiple purposes

Estimate the portion of the cost incurred for energy purposes.

Include the total cost of the R&D energy spending if the primary purpose of the project is energy R&D and costs cannot be apportioned.

Exclude costs if the project is not primarily for energy research and development and the costs cannot be apportioned.

Question 18 (continued)

What is included for each type of energy:

Type of energy	**INCLUDE:**
Fossil fuels	• Oil • Gas • Shale • Coal – Including synthetic fuels designed to convert coal to gaseous and liquid products – Including equipment and techniques to improve the productivity and recovery rates of coal mining
Geothermal and solar	• Geothermal heat pumps • Geothermal power plant generators • Photovoltaic technology • Solar water-heating systems
Nuclear	• Fission and fusion
	• Conservation and utilization R&D to reduce consumption either at the point of energy use or in the transmission, transportation, storage, and conversion of energy including such activities as: – Reduce fuel consumption in manufacturing – Improve the efficiency of transportation of energy products – Produce an end product that is more efficient in energy consumption • Wind, waste, hydroelectric • Other energy R&D that cannot be classified above

Question 19 Company organization and ownership

Question 19 asks for information on your company's ownership and your company's ownership of other entities.

Question 20 Reporting period, location of records, and contact information.

Question 20 covers the reporting period, some reporting characteristics, and provides space for your contact information. Please give the name and telephone number of the person in your company to contact regarding this report.

Question 21 Remarks

The Remarks section provides space for your comments and explanations.

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

FORM
RD-1A (11-06-2006)

2006 SURVEY OF INDUSTRIAL RESEARCH AND DEVELOPMENT

OMB No. 0607-0912: Approval Expires 12/31/2007

Mail your completed form to:
U.S. CENSUS BUREAU
1201 East 10th Street
Jeffersonville, IN 47132-0001

*Please **read*** the accompanying instructions before answering the questions.

Need help or have questions about filling out this form?

Visit our Web site at www.census.gov/econhelp/rd

*To **speak*** with an analyst, call 1-800-851-2014, option "0" between 8:00 a.m. and 5:00 p.m., Eastern time, Monday through Friday.

- OR -

Write to the address above, include your 11-digit Identification Number (ID) printed in the mailing address.

Option to file electronically is located at
www.census.gov/econhelp/rd

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(Please correct any errors in this mailing address.)

YOUR RESPONSE IS REQUIRED BY LAW. Title 13, United States Code, requires businesses and other organizations that receive this questionnaire to answer the questions and return the report to the U.S. Census Bureau. By the same law, **YOUR CENSUS REPORT IS CONFIDENTIAL.** It may be seen only by persons sworn to uphold the confidentiality of Census Bureau information and may be used only for statistical purposes. Further, copies retained in respondents' files are immune from legal process. You will satisfy the mandatory requirements for this survey if you answer ❷, ❸, and ❺, line D, columns 1 and 3. Except as noted in specific questions, this report should cover your entire consolidated domestic enterprise, **including all subsidiaries** in the 50 United States and D.C. Reasonable estimates are acceptable.

This survey is conducted jointly with the National Science Foundation.

RESEARCH AND DEVELOPMENT (R&D)

R&D includes basic and applied research in the sciences and engineering. It also includes design and development of new products and processes and enhancement of existing products and processes.

R&D includes activities carried on by persons trained, either formally or by experience, in the physical sciences such as chemistry and physics, the biological sciences such as medicine, and engineering and computer science. R&D includes these activities if the purpose is to do one or more of the following things:

1. Pursue a planned search for **new scientific knowledge** or understanding that does not have specific immediate commercial objectives, although it may be in fields of present or potential commercial interest. (Basic research)

2. Apply the findings of basic research or other **existing knowledge** toward discovering **new scientific knowledge** that has specific commercial objectives, including work required to evaluate possible uses, with respect to new products, services, processes, or methods. (Applied research)

3. Systematically use the knowledge or understanding gained from research and **practical experience** in the production or **significant improvement** of products, services, processes, or methods, including the design and development of prototypes, materials, devices, and systems. (Development)

Research and development includes the activities described above whether assigned to separate R&D organizational units of the company or carried out by company laboratories and technical groups not part of an R&D organization. Reporting the R&D activities of such latter groups may require the use of estimates for some of your responses.

Activities to be **excluded** from R&D are as follows: research in social sciences or psychology, routine product testing, geological and geophysical exploration activities and technical services.

See instructions for more detail.

11001013

❶ Did your company conduct R&D in 2006? *(Mark "X" only ONE box.)*

201 ☐ Yes - *Complete form, enter zeros where applicable, and return this form.*

203 ☐ No - *Either call TDE to report (1-800-851-2014) OR mark the 203 box and mail the form.*

NOTE - After reviewing ❶ if you need further assistance please call 1-800-851-2014, option "0".

CONTINUE ON PAGE 2

Dollar figures should be rounded to thousands of dollars.

If a figure is **$1,025,628.79:** ***Report*** →

2006		
$ Billions	Millions	Thousands
	1	0 2 6

2 What was the amount of your company's **sales, shipments, operating receipts, or revenues,** net of returns and allowances attributable to domestic operations in the 50 United States or D.C. during 2006? *(EXCLUDE domestic intracompany transfers and sales by foreign subsidiaries. INCLUDE receipts for sales of products and services provided to other companies, individuals, U.S. Government agencies, and foreign countries.)* . . . . . *Mark "X" if None* 0130 ☐

2006		
$ Billions	Millions	Thousands
102		

3 How many **employees** worked in the 50 United States or D.C. for your company on March 12, 2006? *(INCLUDE number of full- and part-time employees whose payroll was reported on Internal Revenue Service Form 941, Employer's Quarterly Federal Tax Return.)* . . . . . *Mark "X" if None* 0131 ☐

Number
112

4 What was the number of full-time equivalent (FTE) **scientists and engineers** employed by your company in the 50 United States and D.C. as of January 1, 2007?

(See Instructions for the definition of FTE scientists and engineers.) . . . . . *Mark "X" if None* 0134 ☐

January 1, 2007
Number of FTEs
206

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5 What was the cost of R&D performed within your company in the **50 United States and D.C.** from each of the sources of funding below during 2006?

	2006 (1) Federal funds			(2) Company and other nonfederal funds			(3) Total funds Columns 1 + 2		
	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
A. Basic research (Activity toward the advancement of scientific knowledge without specific immediate commercial objectives.) *Mark "X" if no basic research* 0135 ☐	304			305			306		
B. Applied research (Activity directed primarily towards a specific commercial or practical objective.) *Mark "X" if no applied research.* . . . 0136 ☐	314			315			316		
C. Development (Activity translating research into new or improved products, services, or processes.) *Mark "X" if no development* 0137 ☐	324			325			326		
D. TOTAL *(Add lines A through C.)* *Mark "X" if no R&D* . . . . . 0138 ☐	344			345			346		

6 If your company plans to perform R&D during 2007, what is the estimated projected cost?

(Comparable to the 2006 figure reported in 5, line D.)

Mark "X" if no R&D is planned for next year . . . 0139 ☐

	2007 (1) Federal funds			(2) Company and other nonfederal funds			(3) Total funds Columns 1 + 2		
	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
	403			402			401		

11001021

CONTINUE ON PAGE 3

If not shown, please enter your 11-digit Identification Number (ID) from the mailing address.

7 If **others outside your company performed R&D** funded by your company, what was the cost of the R&D performed in the 50 United States and D.C. during 2006?

*(Include payments made via contracts, grants, or other agreements under which your company pays for **but does not perform** any of the R&D.)*

Mark "X" if no R&D was performed by others . . . . . 0140 ☐

2006								
(1) Federal funds			(2) Company and other nonfederal funds			(3) Total funds Columns 1 + 2		
$ Billions	Millions	Thousands	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
354			355			356		

8–9 Not Applicable.

10 If your company funded R&D performed **outside the 50 United States and D.C.** during 2006, what was the cost? *(Please report costs of R&D performed by subsidiaries, affiliates, or others based on your company's percentage of ownership, if any, of the entity that conducted the R&D. Ownership can be based on voting stock or equivalent interest.)*

Mark "X" if None 0147 ☐

	2006 Company and other nonfederal funds		
	$ Billions	Millions	Thousands
A. More than 50% ownership (This category includes wholly owned subsidiaries and locations.)	366		
B. 10% to 50% ownership	365		
C. More than 0% but less than 10% ownership	364		
D. 0% - No company ownership	363		
E. **TOTAL** *(Add lines A through D.)*	369		

11–13 Not Applicable.

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11001039

CONTINUE ON PAGE 4

14 For the total R&D you reported in **5**, line D, column 3, what were the costs for the following areas?

			2006 Total funds $ Billions	Millions	Thousands
A. Biotechnology (The use of scientific and engineering data and techniques for the study and solution of problems concerning living organisms.) . . . . . *Mark "X" if None*	0172	☐	7111		
B. Software development (The formulation of programs, applications, routines, etc., for computers, excluding those used exclusively for internal company operations.) . . . . . *Mark "X" if None*	0173	☐	7211		
C. Materials synthesis and processing (The use of scientific and engineering data and techniques for the formulation and manipulation of new materials.) . . . . . *Mark "X" if None*	0174	☐	7311		
D. All other areas . . . . . *Mark "X" if None*	0175	☐	7411		
E. **TOTAL** *(Add lines A through D. The sum should equal the total reported in* **5***, line D, column 3.)* . . . . . *Mark "X" if None*	0176	☐	7511		

15 Did your company perform any R&D using **nanotechnology** during 2006? (Nanotechnology is the creation and utilization of materials, devices, and systems sized at the level of atoms and molecules. This includes R&D in the range of 1 to 100 nanometers.)

7001 ☐ Yes - *Go to* **16**.

7002 ☐ No - *Go to* **19**.

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16 For the R&D costs reported in **14**, lines A through D, what percentage involved the use of **nanotechnology** for each of the following areas?

			2006 Whole percents
A. Biotechnology . . . . . *Mark "X" if None*	0177	☐	7112 %
B. Software development . . . *Mark "X" if None*	0178	☐	7212 %
C. Materials synthesis and processing . . . . . *Mark "X" if None*	0179	☐	7312 %
D. All other areas . . . . . *Mark "X" if None*	0180	☐	7412 %

17–**18** Not Applicable.

11001047

CONTINUE ON PAGE 5

If not shown, please enter your 11-digit Identification Number (ID) from the mailing address.

19 **A.** Does this report cover your entire consolidated domestic enterprise, including all U.S. subsidiaries? *(Mark "X" only ONE box.)*

1301 ☐ Yes

1330 ☐ No - *Please explain in* **21**.

B. Was this company owned or controlled by another company on December 31, 2006?

001 ☐ Yes - *Give date acquired at right AND enter new owner name and mailing address below*

	Month	Year
0018		

6030 Name of new owner or operator

6031 Mailing address (Number and street, P.O. box, etc.)

6032 City, town, village, etc.	6033 State	6034 ZIP Code	
			-

☐ No

CHECK ITEM - Please complete the check list below BEFORE returning this form. By checking these items you will reduce the likelihood of our calling you to resolve an error or inconsistency.

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In 2: Are sales reported in **thousands** of dollars?

☐ Yes

☐ No

In 3: Does your answer describe the number of **employees,** NOT company payroll?

☐ Yes

☐ No

In 5: Does the **Federal funds** (column 1) plus **Company funds** (column 2) equal **Total funds** (column 3) for each of the following rows?
Basic research (5A), applied research (5B), development (5C), total research and development (5D).

☐ Yes

☐ No

If the answer to any of the above checks is "No," please make the necessary corrections in the appropriate item(s) or provide an explanation in **21**.

11001054

CONTINUE ON PAGE 6

20 Reporting period, location of records, and contact information

A. Is the time period covered by this report a calendar year?

0078 ☐ Yes

0079 ☐ No - *Enter time period covered* → FROM

Month	Year
0070	

TO

Month	Year
0071	

B. Are all of your company's R&D records and data in a central location?

0080 ☐ Yes

0081 ☐ No - How many locations? → 0086

0085 ☐ Other - *Please describe* → 0087

C. How many people were involved in the preparation of this report *(INCLUDE those you consulted who provided, collected, or reviewed information, even if you are the only one who filled out the form.)*? 0084

0072 Name of person to contact regarding this report	0073 Title

Telephone 0074	Area code	Number			Extension
			-		

Fax 0075	Area code	Number		
			-	

0076 Internet e-mail address	Date completed 0069	Month	Day	Year

21 REMARKS *(Please use this space for any explanations that may help us in understanding your reported data.)*

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11001062

Thank you for completing your 2006 SURVEY OF INDUSTRIAL RESEARCH AND DEVELOPMENT form.

PLEASE PHOTOCOPY THIS FORM FOR YOUR RECORDS AND RETURN THE ORIGINAL.

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

2006 Survey of Industrial Research and Development
Form RD-1A
Instructions

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2006 Survey of Industrial Research and Development
Form RD-1A
General Instructions

Changes from 2005 to 2006 R&D survey year

1) The wording of some items has been changed for clarification.

2) The mandatory items are now as follows:

- Question 2
- Question 3
- Question 5D, column 1
- Question 5D, column 3

How this information is used

Information about corporate research and development (R&D) activities is important in assessing our nation's scientific and technological resources. Your survey answers help us to provide national data on industrial R&D. This information is not available from any other source. Your participation is appreciated so that we can produce timely and comprehensive data.

Who fills out this survey?

U.S. publicly traded and privately owned, nonfarm business firms

This survey does ***not*** include:
- Operations owned by Federal, state, or local governments
- Nonprofit organizations
- Trust or pension plans performing only investments

If you received this form in error, please explain in the Remarks section on page 6 of the survey form and return the form.

AUTHORITY AND CONFIDENTIALITY – Your response is required by law (Title 13, United States Code). By section 9 of the same law, your report is confidential. It may be seen only by persons sworn to uphold the confidentiality of Census Bureau information, and may be used only for statistical purposes. The law also provides that copies of your report retained in your files are immune from legal process. Response is not required to any information collection form unless it displays a valid approval number from the Office of Management and Budget. This 8-digit number appears in the upper right corner of the form.

Which company operations should you include in your survey answers?

Report all domestic operations of your ***entire consolidated domestic enterprise,*** including all U.S. subsidiaries.

Report all parts of the company located in the 50 United States and the District of Columbia (D.C.), except where indicated differently.

For holding companies, report for all U.S. subsidiaries under the ownership and control of the holding company.

EXCEPTION: If you report separately for a component of this company based upon an arrangement with the Census Bureau, please continue to do so.

Reporting period for your survey answers

Please provide calendar year 2006 information, if possible. If not, please use your fiscal year ending between September 2006 and March 2007

How to report tax incentives for R&D

The Federal government and many states offer incentives for research and development activity. For purposes of this survey, please report your total R&D expenditures regardless of any tax incentives.

For further information on the Federal research tax credit please go to:

http://www.irs.gov/businesses/

For further information on state tax incentives, please contact the Comptroller of the Treasury in your state.

To request more time to complete your form or additional copies of the form

Please provide your 11-digit identification number (ID) as printed on the form above your address when you contact us.

For more time, call the Census Touchtone Data Entry System: 1–800–851–2014.

For official copies of the form, call 1–800–528–3049.

OR

Write: U.S. Census Bureau
1201 East 10th Street
Jeffersonville, IN 47132–0001

To obtain a sample copy of the form, please visit the following web site. However, that sample copy **cannot** be used to submit your survey response because it lacks the appropriate labeling.

http://help.econ.census.gov/econhelp/rd/

For answers to your questions regarding this form

Write:
U.S. Census Bureau, Manufacturing and Construction Division
ATTN: Special Studies Branch
Room 2135/4
Washington, DC 20233–6900

Phone:

1–800–851–2014 (option “0”)

Use our web site at **http://help.econ.census.gov/econhelp/rd/**

- Submit e-mail via our secure server to encrypt your message and to keep your survey participation confidential
- See answers to frequently asked questions

Electronic alternative for reporting

An electronic questionnaire may be used to report your responses. This electronic alternative potentially saves time for you and helps us to reduce processing costs. If you use the electronic alternative, please do ***not*** mail in the paper form. For questions about installing or using the electronic questionnaire, please call the Electronic Reporting Staff at 800–838–2640.

The system requirements for the electronic questionnaire are:

1. Microsoft Windows 98 or higher
2. Microsoft Internet Explorer or Netscape Navigator 4.0 or above (128-bit encryption)
3. If you set your screen display for the 16-bit color or higher, the forms will be easier to read. The forms are harder to read with 256-color display.

Have your username (UID) and password (PW) handy. ***The username and password are case sensitive.***

1. Go to the Business Help Site at: **www.census.gov/econhelp/rd**
2. Click on Electronic Reporting
3. Follow the instructions for downloading software.

Transmitting your data

You may transmit you completed data to the Census Bureau electronically via Internet, or by mail.

WARNING CONCERNING ELECTRONIC MAIL: The Internet is not a secure means of transmitting information unless it is encrypted. If you choose to communicate with the Census Bureau via electronic mail, the Census Bureau cannot guarantee the privacy of the information while transmitted, but will safeguard it in accordance with Title 13. Be advised that making inquiries regarding this survey via electronic mail may divulge your participation in this survey.

Burden hour estimate

Public reporting burden for this collection of information is estimated to average 1 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspects of this collection of information, including suggestions for reducing this burden to:

Paperwork Project 0607-0912
U.S. Census Bureau
4700 Silver Hill Road, Stop 1500,
Washington, DC 20233-1500

You may e-mail comments to Paperwork@census.gov; use “Paperwork Project 0607-0912” as the subject.

Survey Definitions of R&D

R&D includes the following:

- the planned, systematic pursuit of new knowledge or understanding toward general application (basic research);
- the acquisition of knowledge or understanding to meet a specific, recognized need (applied research); and
- the application of knowledge or understanding toward the production or improvement of a product, service, process, or method (development).

This survey covers industrial R&D performed by people who are

1) trained—either formally or by experience—in engineering or in the physical, biological, mathematical, statistical, or computer sciences, and

2) employed by a publicly or privately owned firm engaged in for-profit activity in the 50 United States and D.C. (This also includes R&D they may perform ***outside*** of the 50 United States and D.C.)

This survey specifically ***excludes*** quality control, routine product testing, market research, sales promotion, sales service, and other nontechnological activities; routine technical services; and research in the social sciences or psychology.

This survey defines basic research, applied research, and development as follows:

Basic research is the pursuit of new scientific knowledge or understanding that does not have specific immediate commercial objectives, although it may be in fields of present or potential commercial interest.

Applied research applies the findings of basic research or other existing knowledge toward discovering new scientific knowledge that has specific commercial objectives with respect to new products, services, processes, or methods.

Development is the systematic use of the knowledge or understanding gained from research or practical experience directed toward the production or significant improvement of useful products, services, processes, or methods, including the design and development of prototypes, materials, devices, and systems.

Types of R&D activities to consider for this survey

INCLUDE:	EXCLUDE:
• Activities that incorporate: – Basic and applied research in the sciences and engineering – Design and development of new products and processes – Enhancement of existing products and processes • Activities carried on by persons trained, either formally or by experience, in: – Biological sciences (e.g., medicine) – Computer science – Engineering – Mathematical and statistical sciences – Physical sciences (e.g., chemistry and physics) • Activities that take place in: – Separate R&D organizational units of the company – Company laboratories – Technical groups not part of an R&D organization	• R&D from acquired companies prior to acquisition (in-process R&D) • Amortization above the actual cost of property and equipment related to your R&D activities • Testing and evaluation once a prototype becomes a production model • Routine product testing • Geological and geophysical exploration activities • Technical services such as: – Quality and quantity control – Technical plant sanitation control – Troubleshooting in connection with breakdowns in full-scale production • Advertising programs to promote or demonstrate new products or processes • Assistance in preparation of speeches and publications for persons not engaged in R&D • Social science R&D including: – Personnel R&D – Economic R&D – Artificial intelligence and expert systems R&D – Consumer, market, and opinion R&D – Engineering psychology R&D – Management and organization R&D – Actuarial and demographic R&D – Educational processes and applications R&D – R&D in law

Question-by-Question Instructions

Question 1 Did your company conduct R&D in 2006?

Question 1 asks if your company performed R&D in 2006.

If "Yes," your company conducted R&D in 2006, continue to fill out the rest of the form.

If "No," your company did not conduct R&D in 2006, either call our touchtone service to report this (1–800–851–2014) or mark "No" and mail the form.

If you have questions, please call the R&D Survey staff at 1-800-851-2014 (option "0") to determine whether you are required to complete the form.

Question 2 What was the amount of your company's sales, shipments, operating receipts, or revenues, net of returns and allowances attributable to domestic operations in the 50 United States or D.C. during 2006?

Question 2 covers domestic company sales. Report only the parts of your company located ***within*** the 50 United States or D.C.

INCLUDE:	EXCLUDE:
• Sales, operating receipts, and revenues from all domestic operations of the company, ***net of returns and allowances*** • Receipts from sales of products and services provided to other companies, individuals, U.S. Government agencies, and foreign countries • Net selling value of shipments, f.o.b. (freight on board) plant, after discounts and allowances minus freight charges and excise taxes • Revenue from investments, rents, and royalties only if it is the principal business of the company • Interest, dividends, commissions, and rental income as part of revenues only if you are a finance, insurance, or real estate company • Value of assets sold under a capital lease agreement • Export transfers to your foreign subsidiaries and affiliates	• Sales and other taxes collected and paid directly to government taxing agencies • Domestic intracompany transfers • Receipts from sale of products and services provided by your foreign subsidiaries and affiliates • Receipts from sale of products and services provided by our subsidiaries and affiliates in Puerto Rico and other U.S. territories ***outside*** the 50 United States and D.C. • Income from interest, dividends, and commissions (Exception: Companies in the finance, insurance, and real estate industries) • Other nonoperating income (e.g., royalties)

Question 3 How many employees worked in the 50 United States or D.C. for your company on March 12, 2006?

Question 3 covers domestic company employment. Report only the parts of your company located ***within*** the 50 United States or D.C.

INCLUDE:

- Full- and part-time employees of the company as defined on Treasury Form 941, Employer's Quarterly Federal Tax Return, and Circular E, Employer's Tax Guide, if filed for the entire company
- Number of employees in all activities ***within*** the 50 United States or D.C. during the pay period that includes March 12, 2006
- Persons on paid sick leave, paid holidays, and paid vacations during the pay period that includes March 12, 2006

Question 4 What was the number of full-time equivalent (FTE) scientists and engineers employed by your company in the 50 United States and D.C. as of January 1, 2007?

Question 4 covers the scientists and engineers who are employees of your company and perform R&D activities. It asks for the number of full-time equivalent (FTE) scientists and engineers who work on your company's R&D ***within*** the 50 United States or D.C.

There are two steps to calculate the number of FTEs for R&D scientists and engineers:

1. For company employees performing only research and development, count the number of scientists and engineers employed in January 2007.

2. For employees whose activities are not solely devoted to R&D, use the proportion of their time that is devoted to R&D to compute the number of fulltime equivalent R&D scientists and engineers. For example, if a company had 60 scientists and engineers in January 2007 and one-fourth of their time was charged to R&D projects, then that company would have 15 full-time equivalent R&D scientists and engineers. Add these full-time equivalents to the count from the previous step.

INCLUDE:

- All persons engaged in scientific or engineering work at a level that requires knowledge of physical or life sciences or engineering or mathematics
- Persons with experience equivalent to completion of a 4-year college course with majors in these fields, regardless of whether they actually hold degrees in the fields

Question 5 What was the cost of R&D performed within your company in the 50 United States and D.C. from each of the sources of funding below during 2006?

Question 5 covers the R&D that is performed both (1) ***within*** your company and (2) ***within*** the 50 United States and D.C.

How to decide which expenditures to include as R&D costs

INCLUDE:	EXCLUDE:
• Wages, salaries, and related costs • Materials and supplies consumed • R&D depreciation • Cost of computer software used in R&D activities • Utilities, such as telephone, telex, electricity, water and gas • Travel costs and profession dues • Property taxes and other taxes (except income taxes) incurred on account of the R&D organization or the facilities they use • Insurance expenses • Maintenance and repair, including maintenance of buildings and grounds • Company overhead including: personnel, accounting, procurement and inventory, and salaries of research executives not on the payroll of the R&D organization	• Expenses of acquired companies for R&D performed prior to acquisition (in-process R&D) • Capital expenditures • Testing and evaluation once a prototype becomes a production model • Patent expenses • Income taxes and interest

Instructions for Question 5

How to decide which category of R&D

1. Basic research	Projects that pursue new scientific knowledge or understanding that does not have specific immediate commercial objectives, although it may be in fields of present or potential commercial interest **Example:** A project looks at the characteristics of silicon that has been impregnated with different elements. This project seeks to improve the company's understanding of semiconductors. Its results may or may not be applicable to the company's existing or planned product lines.
2. Applied research	Projects that apply the findings of basic research or other existing knowledge toward discovering new scientific knowledge that has specific commercial objectives with respect to new products, services, processes, or methods **Example:** A project seeks to discover ways to reduce the power requirements of microchips. Although the outcome of this project is uncertain, positive results would improve the energy efficiency for future products.
3. Development	Projects that are directed toward the systematic use of the knowledge or understanding gained from research or practical experience directed toward the production or significant improvement of useful products, services, processes, or methods, including the design and development of prototypes, materials, devices, and systems **Example:** A project designs and develops a microprocessor for cellular phones. The goal of this project is a new product that would generate revenue for the company.

Development includes:	**Development excludes:**
• Expenditures for designing and conducting clinical trials of drugs, pharmaceuticals, or other products that have not been marketed • Software development – Designing and/or adapting software if the application has commercial value (exclude software development for internal use) – Beta version of software being developed that has potential commercial application • Design and operation of pilot plants and semiwork plants • Engineering activity required to advance the design of a product or process so it meets specific functional and economic requirements • Design, construction, and testing of prototypes and models including test models for defense contracts • Designs for special manufacturing equipment and tools • Preparation of reports, drawings,formulas, specifications, standards practice instructions, or operating manuals	• Software development intended for ***within*** company use only • Routine technical services to customers • Tool making and tool tryout • Production of detailed construction drawings and manufacturing blueprints

Question 5 (continued)

How to decide which category to use for sources of R&D funding

Source of R&D	INCLUDE:	EXCLUDE:
Federal funds	• Federally funded R&D performed ***within*** the company. Include only the amount of work done on Federal R&D contracts or subcontracts in the current year. • R&D portion of procurement contracts or subcontracts	• Federally funded R&D contracted or subcontracted to or otherwise by others ***outside*** of your company. (Report such funds in Question 7.) • Expenditures for independent research and development (IR&D). (Report in column 2, Company and other nonfederal funds.)
Company and other nonfederal funds	• R&D from company and other nonfederal sources that is performed ***within*** the company NOTE that ***"company and other nonfederal funds"*** and ***"company funded"*** are used interchangeably in the Form RD-1A. • R&D your company performs under contracts you have with non-Federal sources • Costs for independent research and development (IR&D). We define IR&D funds as R&D performed by the company for which you anticipate reimbursement by the government through indirect charges for the purchase of products or services. Qualified projects usually have potential interest to the Department of Defense These IR&D funds are excluded from federal funds received for federally sponsored research and development contracts.	• R&D from nonfederal sources that is contracted to or otherwise performed by others ***outside*** of your company (Report such funds in Question 7.)

Question 6 If your company plans to perform R&D during 2007, what is the estimated projected cost?

Question 6 asks for an estimate or projection of the cost of R&D your company expects to perform in 2007 in the 50 United States and D.C.

Question 7 If others outside your company performed R&D funded by your company, what was the cost of the R&D performed in the 50 United States and D.C. during 2006?

Question 7 covers the R&D that was ***both*** performed for your company (1) by ***others outside your company*** such as contractors, and (2) ***within*** the 50 United States and D.C.

Include payments for R&D projects, contracts, or services performed for your company by contractors, suppliers, grantees, educational institutions, or other organizations.

Question 7 includes amounts for R&D performed by others for your company and does not include amounts for R&D performed by your company.

Question 8 What was the cost of the R&D reported in (7), column 2, performed by each of the following types of organizations?

Question 8 is not applicable to this form.

Question 9 What were your company's costs for R&D that your company performed within a joint venture, alliance, partnership, or other collaborative arrangement in the 50 United States and D.C. during 2006?

Question 9 is not applicable to this form.

Question 10 If your company funded R&D performed outside the 50 United States and D.C. during 2006, what was the cost? *(Please report costs of R&D performed by subsidiaries, affiliates, or others based on your company's percentage of ownership, if any, of the entity that conducted the R&D. Ownership can be based on voting stock or equivalent interest.)*

Question 10 covers R&D performed ***outside*** the 50 United States and D.C. including R&D performed in Puerto Rico.

For Question 10, line D, report payments for R&D projects, contracts, or services performed for your company by contractors, suppliers, educational institutions, or other organizations.

Question 11 What was the cost of the R&D reported in (10), line A, in Puerto Rico and the following countries?

Question 11 is not applicable to this form.

Question 12 If you reported Federally funded R&D in (5), line D, column 1, what was the cost funded by each of the following Federal agencies?

Question 12 is not applicable to this form

Question 13 For the total R&D you reported in (5), line D, column 3, what was the cost for each of the following types of expenses?

Question 13 is not applicable to this form.

Question 14 For the total R&D you reported in (5), line D, column 3, what were the costs for the following areas?

Question 14 covers R&D by selected technology area.

A. Biotechnology

Definition of biotechnology for this survey:

Biotechnology is the application of science and technology to living organisms, as well as parts, products, and models thereof, to alter living or nonliving materials for the production of knowledge, goods, and services.

INCLUDE:

- DNA technologies such as:
  - Genomics
  - Pharmacogenetics
  - Gene probes
  - DNA sequencing/synthesis/amplification
  - Genetic engineering
- Protein and molecular technologies such as
  - Protein/peptide sequencing/synthesis
  - Lipid/protein glycoengineering
  - Proteomics
  - Hormones
  - Growth factors
  - Cell receptors/signaling/pheromones
- Cell and tissue culture and engineering including:
  - Cell/tissue culture
  - Tissue engineering
  - Hybridization
  - Cellular fusion
  - Vaccine/immune stimulants
  - Embryo manipulation
- Process biotechnologies such as:
  - Bioreactors
  - Fermentation
  - Bioprocessing
  - Bioleaching
  - Biopulping
  - Biobleaching
  - Biodesulphurization
  - Bioremediation
  - Biofiltration
- Subcellular organism research including:
  - Gene therapy
  - Viral vectors
- Other biotechnology areas such as:
  - Bioinformatics
  - Nanobiotechnologies

B. Software development

INCLUDE:	EXCLUDE:
• Application development tools and environments • Applications software • Computer-aided design tools and methods • Computer systems software	• Software programming or engineering used exclusively for internal company operations such as financial management or human resources

Question 14 (continued)

C. Materials synthesis and processing

Covers formulation and manipulation of new or improved materials using the data and techniques of science and engineering.

INCLUDE:

- Advanced structural materials in the industrial machinery, medical, building, and construction industries
- Higher performance semiconductors and photonic devices in in the semiconductor industry
- Ceramics and alloys designed to withstand extreme temperatures and stresses for use in engine and structural parts in the aerospace and automotive industries
- Composite materials for use in sporting goods
- New and significantly improved synthesis and production techniques for existing materials

D. All other areas

Report the remainder of R&D costs so that the total for this question matches Question 5, line D, column 3.

Question 15 Did your company perform any R&D using nanotechnology during 2006?

Question 15 covers nanotechnology in R&D.

Nanotechnology is the creation and utilization of materials, devices, and systems sized at the level of atoms and molecules in the range of 1 to 100 nanometers.

If you answer "No" to Question 15, continue on to Question 19.

Question 16 For the R&D costs reported in 14, lines A through D, what percentage involved the use of nanotechnology for each of the following areas?

Question 16 asks for the nanotechnology proportion of the R&D expenditures provided in Question 14.

For example, if about a fourth of your biotechnology R&D expenditures was devoted to nanotechnology projects, report 25% in Question 16, line A.

INCLUDE:

- Materials and systems that exhibit novel and significantly improved physical, chemical, and biological properties; phenomena; and processed because of their size

Question 17 For the Federal and total R&D you reported in (5), line D, columns 1 and 3, what was the cost of the R&D performed in each of the 50 United States and D.C.?

Question 17 is not applicable to this form.

Question 18 If your company performed energy-related R&D during 2006, what was the cost of the R&D performed in the 50 United States and D.C. for each of the following sources of energy?

Question 18 is not applicable to this form.

Question 19 Company organization and ownership

Question 19 asks for information on your company's ownership and your company's ownership of other entities.

Question 20 Reporting period, location of records, and contact information

Question 20 covers the reporting period, some reporting characteristics, and provides space for your contact information. Please give the name and telephone number of the person in your company to contact this report.

Question 21 Remarks

The Remarks section provides space for your comments and explanations.

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

FORM
RD-1 (01/15/2008)

2007 SURVEY OF INDUSTRIAL RESEARCH AND DEVELOPMENT

OMB No. 0607-0912: Approval Expires 1/31/2011

Mail your completed form to:
U.S. CENSUS BUREAU
1201 East 10th Street
Jeffersonville, IN 47132-0001

*Please **read*** the accompanying instructions before answering the questions.

Need help or have questions about filling out this form?

Visit our Web site at www.census.gov/econhelp/rd

*To **speak*** with an analyst, call 1-800-851-2014, option "0" between 8:00 a.m. and 5:00 p.m., Eastern time, Monday through Friday.

- OR -

Write to the address above, include your 11-digit Identification Number (ID) printed in the mailing address.

Option to file electronically is located at www.census.gov/econhelp/rd

INFORMATION COPY
DO NOT USE TO REPORT

(Please correct any errors in this mailing address.)

YOUR RESPONSE IS REQUIRED BY LAW. Title 13, United States Code, requires businesses and other organizations that receive this questionnaire to answer the questions and return the report to the U.S. Census Bureau. By the same law, **YOUR CENSUS REPORT IS CONFIDENTIAL.** It may be seen only by persons sworn to uphold the confidentiality of Census Bureau information and may be used only for statistical purposes. Further, copies retained in respondents' files are immune from legal process. Data supplied in all items for 2007 on this form will satisfy the mandatory reporting requirements. (Title 13, U.S. Code.) Except as noted in specific questions, this report should cover your entire consolidated domestic enterprise, **including all subsidiaries** in the 50 United States and D.C. Reasonable estimates are acceptable.

This survey is conducted jointly with the National Science Foundation.

1 Was this company owned or controlled by another company on December 31, 2007?

001 ☐ Yes - *See instructions to determine if you should complete this questionnaire.*

☐ No - *Go to* **2**.

Dollar figures should be rounded to thousands of dollars.

If a figure is **$1,025,628.79:** ***Report*** →

2007		
$ Billions	Millions	Thousands
	1	0 2 6

2 What was the amount of your company's **sales, shipments, operating receipts, or revenues,** net of returns and allowances attributable to domestic operations in the 50 United States or D.C. during 2007? *(EXCLUDE domestic intracompany transfers and sales by foreign subsidiaries. INCLUDE receipts for sales of products and services provided to other companies, individuals, U.S. Government agencies, and foreign countries.)* . . . . . *Mark "X" if None* 0130 ☐

2007		
$ Billions	Millions	Thousands
102		

Amount reported for 2006

3 How many **employees** worked in the 50 United States or D.C. for your company on March 12, 2007? *(INCLUDE number of full- and part-time employees whose payroll was reported on Internal Revenue Service Form 941, Employer's Quarterly Federal Tax Return.)* . . . . . *Mark "X" if None* 0131 ☐

Number
112

Amount reported for 2006

11000015

CONTINUE ON PAGE 2

4 What was the number of full-time equivalent (FTE) **scientists and engineers** employed by your company as of January 1, 2008 who worked on the following types of R&D in the 50 United States and D.C. during 2007?

(See Instructions for the definition of FTE scientists and engineers.)

		January 1, 2008 Number of FTEs
A. Federally funded R&D . . . . . *Mark "X" if None* 0132 ☐	204	
Number of FTEs reported as of January 1, 2007		
B. Company and other nonfederally funded R&D. . . . . *Mark "X" if None* 0133 ☐	205	
Number of FTEs reported as of January 1, 2007		
C. TOTAL *(Add lines A and B.)* . . . . *Mark "X" if None* 0134 ☐	206	
Number of FTEs reported as of January 1, 2007		

5 What was the cost of R&D performed within your company **in the 50 United States and D.C.** from each of the sources of funding below during 2007?

	2007								
	(1) Federal funds			(2) Company and other nonfederal funds			(3) Total funds Columns 1 + 2		
	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
A. Basic research (Activity toward the advancement of scientific knowledge without specific immediate commercial objectives.) *Mark "X" if no basic research* 0135 ☐	304			305			306		
Amount reported for 2006									
B. Applied research (Activity directed primarily towards a specific commercial or practical objective.) *Mark "X" if no applied research.* . . . 0136 ☐	314			315			316		
Amount reported for 2006									
C. Development (Activity translating research into new or improved products, services, or processes.) *Mark "X" if no development* 0137 ☐	324			325			326		
Amount reported for 2006									
D. TOTAL *(Add lines A through C.)* *Mark "X" if no R&D* . . . . . 0138 ☐	344			345			346		
Amount reported for 2006									

11000023

CONTINUE ON PAGE 3

If not shown, please enter your 11-digit Identification Number (ID) from the mailing address.

6 If your company plans to perform R&D during 2008, what is the projected cost?

(Comparable to the 2007 figure reported in ❺, line D.)

Mark "X" if no R&D is planned for next year . . . 0139 ☐

2008								
(1) Federal funds			(2) Company and other nonfederal funds			(3) Total funds Columns 1 + 2		
$ Billions	Millions	Thousands	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
403			402			401		

7 If **others outside your company performed R&D** funded by your company, what was the cost of the R&D performed in the 50 United States and D.C. during 2007?

*(Include payments made via contracts, grants, or other agreements under which your company pays for **but does not perform** any of the R&D.)*

Mark "X" if no R&D was performed by others . . . . . 0140 ☐

2007								
(1) Federal funds			(2) Company and other nonfederal funds			(3) Total funds Columns 1 + 2		
$ Billions	Millions	Thousands	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
354			355			356		
Amount reported for 2006								

8 What was the cost of the R&D reported in ❼, column 2, performed by each of the following **types of organizations?**

	2007 Company and other nonfederal funds		
	$ Billions	Millions	Thousands
A. For-profit companies . . . *Mark "X" if None* 0141 ☐	811		
Amount reported for 2006			
B. Federal agencies or laboratories . . . . . *Mark "X" if None* 0142 ☐	812		
Amount reported for 2006			
C. State government agencies or laboratories . . . . . *Mark "X" if None* 0143 ☐	813		
Amount reported for 2006			
D. Universities or colleges . . *Mark "X" if None* 0144 ☐	821		
Amount reported for 2006			
E. Other nonprofit organizations . . . . . *Mark "X" if None* 0145 ☐	831		
Amount reported for 2006			
F. TOTAL *(Add lines A through E. The sum should equal the total reported in ❼, column 2.)* . . . . . *Mark "X" if None* 0146 ☐	841		
Amount reported for 2006			

11000031

CONTINUE ON PAGE 4

9 What were your company's costs for R&D that your company performed within a joint venture, alliance, partnership, or other collaborative arrangement in the 50 United States and D.C. during 2007? Please report costs separately for each type of partner listed below. *(INCLUDE R&D your company performed in the 50 United States and D.C. regardless of the location of the other parties.)*

(These expenditures should also be included as part of the information reported in **5**, *line D, column 2. Do not include costs reported in* **8**.*)*

			2007 Company and other nonfederal funds		
			$ Billions	Millions	Thousands
A. For-profit companies	*Mark "X" if None* 0186 ☐	1101			
	Amount reported for 2006				
B. Federal agencies or laboratories	*Mark "X" if None* 0187 ☐	1102			
	Amount reported for 2006				
C. State government agencies or laboratories	*Mark "X" if None* 0190 ☐	1105			
	Amount reported for 2006				
D. Universities or colleges. . . .	*Mark "X" if None* 0188 ☐	1103			
	Amount reported for 2006				
E. Other nonprofit organizations	*Mark "X" if None* 0189 ☐	1104			
	Amount reported for 2006				
F. **TOTAL** *(Add lines A through E.)*	*Mark "X" if None* 0191 ☐	1110			
	Amount reported for 2006				

11000049

CONTINUE ON PAGE 5

If not shown, please enter your 11-digit Identification Number (ID) from the mailing address.

10 If your company funded R&D performed **outside the 50 United States and D.C.** during 2007, what was the cost? *(Please report costs of R&D performed by subsidiaries, affiliates, or others based on your company's percentage of ownership, if any, of the entity that conducted the R&D. Ownership can be based on voting stock or equivalent interest.)*

		2007 Company and other nonfederal funds		
		$ Billions	Millions	Thousands
Mark "X" if None 0147 ☐				
A. More than 50% ownership (This category includes wholly owned subsidiaries and locations.)	366			
Amount reported for 2006				
B. 10% to 50% ownership	365			
Amount reported for 2006				
C. More than 0% but less than 10% ownership	364			
Amount reported for 2006				
D. 0% - No company ownership	363			
Amount reported for 2006				
E. TOTAL *(Add lines A through D.)*	369			
Amount reported for 2006				

11 What was the cost of the R&D reported in 10, line A, in Puerto Rico and the following countries? *(The total for this item should equal the amount reported in 10, line A.)*

		2007 Company and other nonfederal funds		
		$ Billions	Millions	Thousands
A. Puerto Rico *Mark "X" if None* 0148 ☐	1206			
Amount reported for 2006				
B. Canada *Mark "X" if None* 0149 ☐	1201			
Amount reported for 2006				
C. China *Mark "X" if None* 0150 ☐	1213			
Amount reported for 2006				
D. France *Mark "X" if None* 0151 ☐	1203			
Amount reported for 2006				
E. Germany *Mark "X" if None* 0152 ☐	1202			
Amount reported for 2006				

11000056

CONTINUE ON PAGE 6

11 Continued

		2007 Company and other nonfederal funds		
		$ Billions	Millions	Thousands
F. India . . . . . *Mark "X" if None* 0153 ☐		1214		
Amount reported for 2006				
G. Ireland . . . . . *Mark "X" if None* 0154 ☐		1215		
Amount reported for 2006				
H. Israel . . . . . *Mark "X" if None* 0155 ☐		1216		
Amount reported for 2006				
I. Italy . . . . . *Mark "X" if None* 0156 ☐		1217		
Amount reported for 2006				
J. Japan . . . . . *Mark "X" if None* 0157 ☐		1204		
Amount reported for 2006				
K. Singapore . . . . . *Mark "X" if None* 0158 ☐		1218		
Amount reported for 2006				
L. Sweden . . . . . *Mark "X" if None* 0159 ☐		1219		
Amount reported for 2006				
M. United Kingdom . . . . . *Mark "X" if None* 0160 ☐		1205		
Amount reported for 2006				
N. Other - *Specify*		1207		
1209		1211		
1220		1212		
1221				
O. TOTAL *(Add lines A through N. The sum should equal the amount reported in* **10***, line A.)* . . . . . *Mark "X" if None* 0192 ☐		1210		
Amount reported for 2006				

11000064

CONTINUE ON PAGE 7

If not shown, please enter your 11-digit Identification Number (ID) from the mailing address.

12 If you reported Federally funded R&D in **5**, line D, column 1, what was the cost funded by each of the following Federal agencies?

			2007 Federal funds $ Billions	Millions	Thousands
A. Department of Defense (DoD)	*Mark "X" if None* 0161 ☐	511			
	Amount reported for 2006				
B. National Aeronautics and Space Administration (NASA)	*Mark "X" if None* 0162 ☐	521			
	Amount reported for 2006				
C. Department of Energy (DOE)	*Mark "X" if None* 0163 ☐	531			
	Amount reported for 2006				
D. Other Federal agencies	*Mark "X" if None* 0164 ☐	541			
	Amount reported for 2006				
E. TOTAL *(Add lines A through D. The sum should equal the total reported in* **5***, line D, column 1.)*	*Mark "X" if None* 0165 ☐	551			
	Amount reported for 2006				

11000072

CONTINUE ON PAGE 8

13 For the total R&D you reported in **5**, line D, column 3, what was the cost for each of the following types of expenses?

			2007 Total funds		
			$ Billions	Millions	Thousands
A. Wages and salaries of R&D personnel *(INCLUDE scientists and engineers, technicians, secretaries, and other personnel.)* . . . . . *Mark "X" if None* 0166 ☐	611				
Amount reported for 2006					
B. Fringe benefits of R&D personnel *(INCLUDE taxable and nontaxable benefits, 401K plans, employers' contribution to health plans.)* *Mark "X" if None* 0167 ☐	621				
Amount reported for 2006					
C. Materials and supplies consumed *(INCLUDE the cost of all purchased materials consumed.)* . . . . . *Mark "X" if None* 0168 ☐	631				
Amount reported for 2006					
D. Depreciation on R&D property and equipment *(INCLUDE depreciation and amortization costs for property and equipment used for R&D during the year.)*. . . . . *Mark "X" if None* 0169 ☐	641				
Amount reported for 2006					
E. All other R&D expenses *(INCLUDE R&Ds share of company overhead and other expenses such as utilities, books and periodicals, and property and other taxes.)* . . . . . *Mark "X" if None* 0170 ☐	651				
Amount reported for 2006					
F. TOTAL *(Add lines A through E. The sum should equal the total reported in **5**, line D, column 3.)* . . . . . *Mark "X" if None* 0171 ☐	661				
Amount reported for 2006					

11000080

CONTINUE ON PAGE 9

If not shown, please enter your 11-digit Identification Number (ID) from the mailing address.

14 For the total R&D you reported in ❺, line D, column 3, what was the cost for each of the following areas?

			2007 Total funds $ Billions	Millions	Thousands
A. Biotechnology (The use of scientific and engineering data and techniques for the study and solution of problems concerning living organisms.)	*Mark "X" if None* 0172 ☐	7111			
	Amount reported for 2006				
B. Software development (The formulation of programs, applications, routines, etc., for computers, excluding those used exclusively for internal company operations.)	*Mark "X" if None* 0173 ☐	7211			
	Amount reported for 2006				
C. Materials synthesis and processing (The use of scientific and engineering data and techniques for the formulation and manipulation of new materials.)	*Mark "X" if None* 0174 ☐	7311			
	Amount reported for 2006				
D. All other areas	*Mark "X" if None* 0175 ☐	7411			
	Amount reported for 2006				
E. TOTAL *(Add lines A through D. The sum should equal the total reported in ❺, line D, column 3.)*	*Mark "X" if None* 0176 ☐	7511			
	Amount reported for 2006				

11000098

CONTINUE ON PAGE 10

15 Did your company perform any R&D using **nanotechnology** during 2007? (Nanotechnology is the creation and utilization of materials, devices, and systems sized at the level of atoms and molecules. This includes R&D in the range of 1 to 100 nanometers.)

7001 ☐ Yes - *Go to* **16**.

7002 ☐ No - *Go to* **17**.

16 For the R&D costs reported in **14**, lines A through D, what percentage involved the use of **nanotechnology** for each of the following areas?

		2007 Whole percents	
A. Biotechnology . . . . . *Mark "X" if None* 0177 ☐		7112	%
Amount reported for 2006			%
B. Software development . . . *Mark "X" if None* 0178 ☐		7212	%
Amount reported for 2006			%
C. Materials synthesis and processing . . . . . *Mark "X" if None* 0179 ☐		7312	%
Amount reported for 2006			%
D. All other areas . . . . . *Mark "X" if None* 0180 ☐		7412	%
Amount reported for 2006			%

11000106

CONTINUE ON PAGE 11

If not shown, please enter your 11-digit Identification Number (ID) from the mailing address.

17 For the Federal and total R&D you reported in **5**, line D, columns 1 and 3, what was the cost of the R&D performed in **each of the 50 United States and D.C.?** *(The totals for this item should equal the totals reported in* **5***, line D, columns 1 and 3.)*

	2007					
	(1) Federal funds			(2) Total funds		
	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
Alabama	9011			9012		
Amount reported for 2006						
Alaska	9021			9022		
Amount reported for 2006						
Arizona	9031			9032		
Amount reported for 2006						
Arkansas	9041			9042		
Amount reported for 2006						
California	9051			9052		
Amount reported for 2006						
Colorado	9061			9062		
Amount reported for 2006						
Connecticut	9071			9072		
Amount reported for 2006						
Delaware	9081			9082		
Amount reported for 2006						
District of Columbia	9091			9092		
Amount reported for 2006						
Florida	9101			9102		
Amount reported for 2006						

11000114

CONTINUE ON PAGE 12

17 Continued

	2007					
	(1) Federal funds			(2) Total funds		
	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
Georgia	9111			9112		
Amount reported for 2006						
Hawaii	9121			9122		
Amount reported for 2006						
Idaho	9131			9132		
Amount reported for 2006						
Illinois	9141			9142		
Amount reported for 2006						
Indiana	9151			9152		
Amount reported for 2006						
Iowa	9161			9162		
Amount reported for 2006						
Kansas	9171			9172		
Amount reported for 2006						
Kentucky	9181			9182		
Amount reported for 2006						
Louisiana	9191			9192		
Amount reported for 2006						
Maine	9201			9202		
Amount reported for 2006						
Maryland	9211			9212		
Amount reported for 2006						

11000122

CONTINUE ON PAGE 13

If not shown, please enter your 11-digit Identification Number (ID) from the mailing address.

17 Continued

	2007					
	(1) Federal funds			(2) Total funds		
	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
Massachusetts	9221			9222		
Amount reported for 2006						
Michigan	9231			9232		
Amount reported for 2006						
Minnesota	9241			9242		
Amount reported for 2006						
Mississippi	9251			9252		
Amount reported for 2006						
Missouri	9261			9262		
Amount reported for 2006						
Montana	9271			9272		
Amount reported for 2006						
Nebraska	9281			9282		
Amount reported for 2006						
Nevada	9291			9292		
Amount reported for 2006						
New Hampshire	9301			9302		
Amount reported for 2006						
New Jersey	9311			9312		
Amount reported for 2006						
New Mexico	9321			9322		
Amount reported for 2006						

11000130

CONTINUE ON PAGE 14

17 Continued

	2007					
	(1) Federal funds			(2) Total funds		
	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
New York	9331			9332		
Amount reported for 2006						
North Carolina	9341			9342		
Amount reported for 2006						
North Dakota	9351			9352		
Amount reported for 2006						
Ohio	9361			9362		
Amount reported for 2006						
Oklahoma	9371			9372		
Amount reported for 2006						
Oregon	9381			9382		
Amount reported for 2006						
Pennsylvania	9391			9392		
Amount reported for 2006						
Rhode Island	9401			9402		
Amount reported for 2006						
South Carolina	9411			9412		
Amount reported for 2006						
South Dakota	9421			9422		
Amount reported for 2006						
Tennessee	9431			9432		
Amount reported for 2006						

11000148

CONTINUE ON PAGE 15

If not shown, please enter your 11-digit Identification Number (ID) from the mailing address.

17 Continued

	2007					
	(1) Federal funds			(2) Total funds		
	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
Texas	9441			9442		
Amount reported for 2006						
Utah	9451			9452		
Amount reported for 2006						
Vermont	9461			9462		
Amount reported for 2006						
Virginia	9471			9472		
Amount reported for 2006						
Washington	9481			9482		
Amount reported for 2006						
West Virginia	9491			9492		
Amount reported for 2006						
Wisconsin	9501			9502		
Amount reported for 2006						
Wyoming	9511			9512		
Amount reported for 2006						
TOTAL *(The sums should equal the amounts reported in* **5***, line D, columns 1 and 3.)*	9541			9542		
Amount reported for 2006						

11000155

CONTINUE ON PAGE 16

18 If your company performed **energy-related R&D** during 2007, what was the cost of the R&D performed in the 50 United States and D.C. for each of the following sources of energy?

(INCLUDE the portion of project cost incurred for the purpose of increasing energy capabilities for each source of funding. These expenditures should also be included as part of the information reported in 5, line D, columns 1 and 3.)

		2007 (1) Federal funds			2007 (2) Total funds		
		$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
A. Fossil fuels . . . . . *Mark "X" if None* 0181 ☐		10211			10212		
	Amount reported for 2006						
B. Geothermal and solar. . . *Mark "X" if None* 0182 ☐		10311			10312		
	Amount reported for 2006						
C. Nuclear . . . . . *Mark "X" if None* 0183 ☐		10111			10112		
	Amount reported for 2006						
D. All other energy sources . *Mark "X" if None* 0184 ☐		10411			10412		
	Amount reported for 2006						
E. TOTAL *(Add lines A through D.)*. . . . . *Mark "X" if None* 0185 ☐		10511			10512		
	Amount reported for 2006						

19 **A.** Does this report cover your entire consolidated domestic enterprise, including all U.S. subsidiaries? *(Mark "X" only ONE box.)*

1301 ☐ Yes

1330 ☐ No - *Please explain in 21.*

B. Was your company publicly or privately owned? *(Mark "X" only ONE box.)*

1302 ☐ Publicly owned

1334 ☐ Privately owned

1319 ☐ Other - *Please describe*

1320 _____

11000163

CONTINUE ON PAGE 17

If not shown, please enter your 11-digit Identification Number (ID) from the mailing address.

19 **C.** Other than the parent company, how many subsidiaries, affiliates, or branches located **in the 50 United States and D.C.** owned or controlled by your company (by means of voting stock or other equivalent interest) are included in this report? *(Mark "X" only ONE box.)*

1303 ☐ None

1304 ☐ 1

1305 ☐ 2-5

1306 ☐ More than 5

1321 ☐ Other - *Please describe*

1322

D. Other than the parent company, how many subsidiaries, affiliates, or branches located **outside the 50 United States and D.C.** owned or controlled by your company (by means of voting stock or other equivalent interest) are included in this report? *(Mark "X" only ONE box.)*

1307 ☐ None

1308 ☐ 1

1309 ☐ 2-5

1310 ☐ More than 5

1323 ☐ Other - *Please describe*

1324

E. What percent of your company was owned or controlled (by means of voting stock or other equivalent interest) by one or more companies located **in the 50 United States and D.C.**? *(Mark "X" only ONE box.)*

1311 ☐ 0% - No ownership

1312 ☐ More than 0% but less than 10% ownership

1313 ☐ 10%-50% ownership

1314 ☐ More than 50% ownership

1325 ☐ Other - *Please describe*

1327

F. What percent of your company was owned or controlled (by means of voting stock or other equivalent interest) by one or more companies located **outside the 50 United States and D.C.**? *(Mark "X" only ONE box.)*

1315 ☐ 0% - No ownership

1316 ☐ More than 0% but less than 10% ownership

1317 ☐ 10%-50% ownership

1318 ☐ More than 50% ownership

1326 ☐ Other - *Please describe*

1328

11000171

CONTINUE ON PAGE 18

20 Reporting period, location of records, and contact information

A. Is the time period covered by this report a calendar year?

0078 ☐ Yes

0079 ☐ No - *Enter time period covered* → FROM

Month	Year
0070	

TO

Month	Year
0071	

B. Are all of your company's R&D records and data in a central location?

0080 ☐ Yes

0081 ☐ No - How many locations? → 0086

0085 ☐ Other - *Please describe* → 0087

C. How many people were involved in the preparation of this report *(INCLUDE those you consulted who provided, collected, or reviewed information, even if you are the only one who filled out the form.)?* 0084

0072 Name of person to contact regarding this report	0073 Title

	Area code	Number			Extension		Area code	Number		
Telephone 0074			-			Fax 0075			-	

		Month	Day	Year
0076 Internet e-mail address	Date completed 0069			

21 REMARKS *(Please use this space for any explanations that may help us in understanding your reported data.)*

11000189

Thank you for completing your 2007 SURVEY OF INDUSTRIAL RESEARCH AND DEVELOPMENT form.

PLEASE PHOTOCOPY THIS FORM FOR YOUR RECORDS AND RETURN THE ORIGINAL.

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

2007 Survey of Industrial Research and Development
Form RD-1
Instructions

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2007 Survey of Industrial Research and Development
Form RD-1
General Instructions

Changes from 2006 to 2007 R&D survey year

Data supplied in all items for 2007 on this form will satisfy the mandatory reporting requirements. (Title 13, U.S. Code)

How this information is used

Information about corporate research and development (R&D) activities is important in assessing our nation's scientific and technological resources. Your survey answers help us to provide national data on industrial R&D. This information is not available from any other source. Your participation is appreciated so that we can produce timely and comprehensive data.

Who fills out this survey?

U.S. publicly traded and privately owned, nonfarm business firms

This survey does ***not*** include:

- Operations owned by Federal, state, or local governments
- Nonprofit organizations
- Trust or pension plans performing only investments

If you received this form in error, please explain in the Remarks section on page 18 of the survey form and return the form.

AUTHORITY AND CONFIDENTIALITY – Your response is required by law (Title 13, United States Code). By section 9 of the same law, your report is confidential. It may be seen only by persons sworn to uphold the confidentiality of Census Bureau information, and may be used only for statistical purposes. The law also provides that copies of your report retained in your files are immune from legal process. Response is not required to any information collection form unless it displays a valid approval number from the Office of Management and Budget. This 8-digit number appears in the upper right corner of the form.

Which company operations should you include in your survey answers?

Report all domestic operations of your ***entire consolidated domestic enterprise,*** including all U.S. subsidiaries.

Report all parts of the company located in the 50 United States and the District of Columbia (D.C.), except where indicated differently.

For holding companies, report for all U.S. subsidiaries under the ownership and control of the holding company.

EXCEPTION: If you report separately for a component of this company based upon an arrangement with the Census Bureau, please continue to do so.

Reporting period for your survey answers

Please provide calendar year 2007 information, if possible. If not, please use your fiscal year ending between September 2007 and March 2008

Comparing your 2006 and 2007 responses

If your company reported for 2006, entries from that form are preprinted on this form. (If you would like to correct these figures, please do so.) If your answers for 2007 are substantially higher or lower than your 2006 answers, you may comment on the reasons in the Remarks section on page 18 of the survey form. Such reasons may include new government contracts, a revised accounting method, or an R&D unit that was acquired or disposed of during 2006 or 2007.

How to report tax incentives for R&D

The Federal government and many states offer incentives for research and development activity. For purposes of this survey, please report your total R&D expenditures regardless of any tax incentives.

For further information on the Federal research tax credit please go to:

http://www.irs.gov/businesses/

For further information on state tax incentives, please contact the Comptroller of the Treasury in your state.

To request more time to complete your form or additional copies of the form

Please provide your 11-digit identification number (ID) as printed on the form above your address when you contact us.

For more time, call the Census Touchtone Data Entry System: 1–800–851–2014.

For official copies of the form, call 1–800–528–3049.

OR

Write: U.S. Census Bureau
1201 East 10th Street
Jeffersonville, IN 47132–0001

To obtain a sample copy of the form, please visit the following web site. However, that sample copy **cannot** be used to submit your survey response because it lacks the appropriate labeling.

http://www.census.gov/econhelp/rd

For answers to your questions regarding this form

Write:
U.S. Census Bureau, Manufacturing and Construction Division
ATTN: Special Studies Branch
Room 7K146
Washington, DC 20233–6900

Phone:

1–800–851–2014 (option “0”)

Use our web site at **http://www.census.gov/econhelp/rd**

- Submit e-mail via our secure server to encrypt your message and to keep your survey participation confidential
- See answers to frequently asked questions

Electronic alternative for reporting

An electronic questionnaire may be used to report your responses. This electronic alternative potentially saves time for you and helps us to reduce processing costs. If you use the electronic alternative, please do ***not*** mail in the paper form. For questions about installing or using the electronic questionnaire, please call the Electronic Reporting Staff at 800–838–2640.

The system requirements for the electronic questionnaire are:

1. Microsoft Windows 98 or higher
2. Microsoft Internet Explorer or Netscape Navigator 4.0 or above (128-bit encryption)
3. If you set your screen display for the 16-bit color or higher, the forms will be easier to read. The forms are harder to read with 256-color display.

Have your username (UID) and password (PW) handy. ***The username and password are case sensitive.***

1. Go to the Business Help Site at: **www.census.gov/econhelp/rd**
2. Click on Electronic Reporting
3. Follow the instructions for downloading software.

Transmitting your data

You may transmit you completed data to the Census Bureau electronically via Internet, or by mail.

WARNING CONCERNING ELECTRONIC MAIL: The Internet is not a secure means of transmitting information unless it is encrypted. If you choose to communicate with the Census Bureau via electronic mail, the Census Bureau cannot guarantee the privacy of the information while transmitted, but will safeguard it in accordance with Title 13. Be advised that making inquiries regarding this survey via electronic mail may divulge your participation in this survey.

Burden hour estimate

Public reporting burden for this collection of information is estimated to average 8 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspects of this collection of information, including suggestions for reducing this burden to:

Paperwork Project 0607-0912
U.S. Census Bureau
4600 Silver Hill Road
Washington, DC 20233

You may e-mail comments to Paperwork@census.gov; use “Paperwork Project 0607-0912” as the subject.

Survey Definitions of R&D

R&D includes the following:

- the planned, systematic pursuit of new knowledge or understanding toward general application (basic research);
- the acquisition of knowledge or understanding to meet a specific, recognized need (applied research); and
- the application of knowledge or understanding toward the production or improvement of a product, service, process, or method (development).

This survey covers industrial R&D performed by people who are

1) trained—either formally or by experience—in engineering or in the physical, biological, mathematical, statistical, or computer sciences, and

2) employed by a publicly or privately owned firm engaged in for-profit activity in the 50 United States and D.C. (This also includes R&D they may perform ***outside*** of the 50 United States and D.C.)

This survey specifically ***excludes*** quality control, routine product testing, market research, sales promotion, sales service, and other nontechnological activities; routine technical services; and research in the social sciences or psychology.

This survey defines basic research, applied research, and development as follows:

Basic research is the pursuit of new scientific knowledge or understanding that does not have specific immediate commercial objectives, although it may be in fields of present or potential commercial interest.

Applied research applies the findings of basic research or other existing knowledge toward discovering new scientific knowledge that has specific commercial objectives with respect to new products, services, processes, or methods.

Development is the systematic use of the knowledge or understanding gained from research or practical experience directed toward the production or significant improvement of useful products, services, processes, or methods, including the design and development of prototypes, materials, devices, and systems.

Types of R&D activities to consider for this survey

INCLUDE:	EXCLUDE:
• Activities that incorporate: – Basic and applied research in the sciences and engineering – Design and development of new products and processes – Enhancement of existing products and processes • Activities carried on by persons trained, either formally or by experience, in: – Biological sciences (e.g., medicine) – Computer science – Engineering – Mathematical and statistical sciences – Physical sciences (e.g., chemistry and physics) • Activities that take place in: – Separate R&D organizational units of the company – Company laboratories – Technical groups not part of an R&D organization	• R&D from acquired companies prior to acquisition (in-process R&D) • Amortization above the actual cost of property and equipment related to your R&D activities • Testing and evaluation once a prototype becomes a production model • Routine product testing • Geological and geophysical exploration activities • Technical services such as: – Quality and quantity control – Technical plant sanitation control – Troubleshooting in connection with breakdowns in full-scale production • Advertising programs to promote or demonstrate new products or processes • Assistance in preparation of speeches and publications for persons not engaged in R&D • Social science R&D including: – Personnel R&D – Economic R&D – Artificial intelligence and expert systems R&D – Consumer, market, and opinion R&D – Engineering psychology R&D – Management and organization R&D – Actuarial and demographic R&D – Educational processes and applications R&D – R&D in law

Question-by-Question Instructions

Question 1 Was this company owned or controlled by another company on December 31, 2007?

Question 1 asks about your company's ownership as of December 31, 2007.

If "yes," your company was owned or controlled by another company on December 31, 2007, follow the appropriate instructions below:

Your situation	Action to take
Your company was purchased by another company on or prior to March 31, 2007, located in the 50 United States or D.C.	Note the new owner and purchase date under the Remarks section on page 18 of the form and return the form without completing the rest of it.
Your company was purchased by another company after March 31, 2007, located in the 50 United States or D.C.	Note the new owner and purchase date under the Remarks section on page 18 of the form. Complete the rest of the form for the months ***prior*** to the purchase of your company.
Your company was owned or controlled by one or more companies located outside the 50 United States or D.C.	Note the new owner under the Remarks section on page 18 of the form and complete the rest of the form.

If you have questions, please call the R&D Survey staff at 1-800-851-2014 (option "0") to determine whether you are required to complete the form.

Question 2 What was the amount of your company's sales, shipments, operating receipts, or revenues, net of returns and allowances attributable to domestic operations in the 50 United States or D.C. during 2007?

Question 2 covers domestic company sales. Report only the parts of your company located ***within*** the 50 United States or D.C.

INCLUDE:	EXCLUDE:
• Sales, operating receipts, and operations of the company, ***net of returns and allowances***	• Sales and other taxes collected and paid directly to government taxing agencies
• Receipts from sales of products and services provided to other companies, individuals, U.S. Government agencies, and foreign countries	• Domestic intracompany transfers
• Net selling value of shipments, f.o.b. (freight on board) plant, after discounts and allowances minus freight charges and excise taxes	• Receipts from sale of products and services provided by your foreign subsidiaries and affiliates
• Revenue from investments, rents, and royalties only if it is the principal business of the company	• Receipts from sale of products and services provided by your subsidiaries and affiliates in Puerto Rico and other U.S. territories ***outside*** the 50 United States and D.C.
• Interest, dividends, commissions, and rental income as part of revenues only if you are a finance, insurance, or real estate company	• Income from interest, dividends, and commissions (Exception: Companies in the finance, insurance, and real estate industries)
• Value of assets sold under a capital lease agreement	• Other nonoperating income (e.g., royalties)
• Export transfers to your foreign subsidiaries and affiliates	

Question 3 How many employees worked in the 50 United States or D.C. for your company on March 12, 2007?

Question 3 covers domestic company employment. Report only the parts of your company located ***within*** the 50 United States or D.C.

INCLUDE:

- Full- and part-time employees of the company as defined on Treasury Form 941, Employer's Quarterly Federal Tax Return, and Circular E, Employer's Tax Guide, if filed for the entire company
- Number of employees in all activities ***within*** the 50 United States or D.C. during the pay period that includes March 12, 2007
- Persons on paid sick leave, paid holidays, and paid vacations during the pay period that includes March 12, 2007

Question 4 What was the number of full-time equivalent (FTE) scientists and engineers employed by your company as of January 1, 2008 who worked on the following types of R&D in the 50 United States and D.C. during 2007?

Question 4 covers the scientists and engineers who are employees of your company and perform R&D activities. It asks for the number of full-time equivalent (FTE) scientists and engineers who work on your company's R&D ***within*** the 50 United States or D.C.

There are two steps to calculate the number of FTEs for R&D scientists and engineers:

1. For company employees performing only research and development, count the number of scientists and engineers employed in January 2008.

2. For employees whose activities are not solely devoted to R&D, use the proportion of their time that is devoted to R&D to compute the number of fulltime equivalent R&D scientists and engineers. For example, if a company had 60 scientists and engineers in January 2008 and one-fourth of their time was charged to R&D projects, then that company would have 15 full-time equivalent R&D scientists and engineers. Add these full-time equivalents to the count from the previous step.

INCLUDE:

- All persons engaged in scientific or engineering work at a level that requires knowledge of physical or life sciences or engineering or mathematics
- Persons with experience equivalent to completion of a 4-year college course with majors in these fields, regardless of whether they actually hold degrees in the fields

Question 5 What was the cost of R&D performed within your company in the 50 United States and D.C. from each of the sources of funding below during 2007?

Question 5 covers the R&D that is performed both (1) ***within*** your company and (2) ***within*** the 50 United States and D.C.

INCLUDE:	EXCLUDE:
• Wages, salaries, and related costs • Materials and supplies consumed • R&D depreciation • Cost of computer software used in R&D activities • Utilities, such as telephone, telex, electricity, water and gas • Travel costs and profession dues • Property taxes and other taxes (except income taxes) incurred on account of the R&D organization or the facilities they use • Insurance expenses • Maintenance and repair, including maintenance of buildings and grounds • Company overhead including: personnel, accounting, procurement and inventory, and salaries of research executives not on the payroll of the R&D organization	• Expenses of acquired companies for R&D performed prior to acquisition (in-process R&D) • Capital expenditures • Testing and evaluation once a prototype becomes a production model • Patent expenses • Income taxes and interest

Instructions for Question 5

How to decide which category of R&D

1. Basic research	Projects that pursue new scientific knowledge or understanding that does not have specific immediate commercial objectives, although it may be in fields of present or potential commercial interest **Example:** A project looks at the characteristics of silicon that has been impregnated with different elements. This project seeks to improve the company's understanding of semiconductors. Its results may or may not be applicable to the company's existing or planned product lines.
2. Applied research	Projects that apply the findings of basic research or other existing knowledge toward discovering new scientific knowledge that has specific commercial objectives with respect to new products, services, processes, or methods **Example:** A project seeks to discover ways to reduce the power requirements of microchips. Although the outcome of this project is uncertain, positive results would improve the energy efficiency for future products.
3. Development	Projects that are directed toward the systematic use of the knowledge or understanding gained from research or practical experience directed toward the production or significant improvement of useful products, services, processes, or methods, including the design and development of prototypes, materials, devices, and systems **Example:** A project designs and develops a microprocessor for cellular phones. The goal of this project is a new product that would generate revenue for the company.

Development includes:	**Development excludes:**
• Expenditures for designing and conducting clinical trials of drugs, pharmaceuticals, or other products that have not been marketed • Software development – Designing and/or adapting software if the application has commercial value (exclude software development for internal use) – Beta version of software being developed that has potential commercial application • Design and operation of pilot plants and semiwork plants • Engineering activity required to advance the design of a product or process so it meets specific functional and economic requirements • Design, construction, and testing of prototypes and models including test models for defense contracts • Designs for special manufacturing equipment and tools • Preparation of reports, drawings,formulas, specifications, standards practice instructions, or operating manuals	• Software development intended for ***within*** company use only • Routine technical services to customers • Tool making and tool tryout • Production of detailed construction drawings and manufacturing blueprints

Question 5 (continued)

How to decide which category to use for sources of R&D funding

Source of R&D	INCLUDE:	EXCLUDE:
Federal funds	• Federally funded R&D performed ***within*** the company. Include only the amount of work done on Federal R&D contracts or subcontracts in the current year. • R&D portion of procurement contracts or subcontracts	• Federally funded R&D contracted or subcontracted to or otherwise by others ***outside*** of your company. (Report such funds in Question 7.) • Expenditures for independent research and development (IR&D). (Report in column 2, Company and other nonfederal funds.)
Company and other nonfederal funds	• R&D from company and other nonfederal sources that is performed ***within*** the company NOTE that ***"company and other nonfederal funds"*** and ***"company funded"*** are used interchangeably in the Form RD-1. • R&D your company performs under contracts you have with non-Federal sources • Costs for independent research and development (IR&D). We define IR&D funds as R&D performed by the company for which you anticipate reimbursement by the government through indirect charges for the purchase of products or services. Qualified projects usually have potential interest to the Department of Defense. These IR&D funds are excluded from federal funds received for federally-sponsored research and development contracts.	• R&D from nonfederal sources that is contracted to or otherwise performed by others ***outside*** of your company (Report such funds in Question 7.)

Question 6 If your company plans to perform R&D during 2008, what is the estimated projected cost?

Question 6 asks for an estimate or projection of the cost of R&D your company expects to perform in 2008 in the 50 United States and D.C.

Question 7 If others outside your company performed R&D funded by your company, what was the cost of the R&D performed in the 50 United States and D.C. during 2007?

Question 7 covers the R&D that was ***both*** performed for your company (1) by ***others outside your company*** such as contractors, and (2) ***within*** the 50 United States and D.C.

Include payments for R&D projects, contracts, or services performed for your company by contractors, suppliers, grantees, educational institutions, or other organizations.

Question 7 includes amounts for R&D performed by others for your company and does not include amounts for R&D performed by your company.

Question 8 What was the cost of the R&D reported in (7), column 2, performed by each of the following types of organizations?

Question 8 asks for the type of organizations that performed the portion of your answer to question 7 for company and other nonfederal sources of R&D funding.

Definitions for types of organizations	
For-profit companies	A company that is organized to pursue profit
Federal agencies or laboratories	Labs or other facilities owned by the United States government
State government agencies or laboratories	Labs or other facilities owned by any of the governments of the 50 United States or D.C.
Universities and colleges	A degree-granting institution of higher learning, having facilities for teaching and research
Other nonprofit organizations	An organization that is not organized to pursue profit. However, universities and colleges are reported in another category.

Question 9 What were your company's costs for R&D that your company performed within a joint venture, alliance, partnership, or other collaborative arrangement in the 50 United States and D.C. during 2007?

Question 9 covers your share of R&D expenditures funded by company and other nonfederal sources for R&D performed jointly by your company with organizations outside of your company. These joint activities may or may not have been organized as alliances, partnerships, or joint ventures. Only include amounts for R&D performed by your company in the 50 United States and D.C. Do not include amounts for R&D performed by the partner organization.

Do not include projects with other subsidiaries of your parent company. **Exception:** If you are a U.S. subsidiary of a foreign-owned company, you should include collaboration with foreign subsidiaries of your parent company if your company's portion of the R&D was performed in the 50 United States and D.C.

Include collaboration with entities such as Puerto Rico and governments in foreign jurisdictions if your company's portion of the R&D was performed in the 50 United States and D.C.

Question 10 If your company funded R&D performed outside the 50 United States and D.C. during 2007, what was the cost? *(Please report costs of R&D performed by subsidiaries, affiliates, or others based on your company's percentage of ownership, if any, of the entity that conducted the R&D. Ownership can be based on voting stock or equivalent interest.)*

Question 10 covers R&D performed ***outside*** the 50 United States and D.C. including R&D performed in Puerto Rico.

For Question 10, line D, report payments for R&D projects, contracts, or services performed for your company by contractors, suppliers, educational institutions, or other organizations.

Question 11 What was the cost of the R&D reported in (10), line A, in Puerto Rico and the following countries? (The total for this item should equal the amount reported in (10), line A.)

Question 11 provides more detail for your answer to Question 10, line A. If a country is not listed, please include the R&D in the "Other" category.

Question 12 If you reported Federally funded R&D in (5), line D, column 1, what was the cost funded by each of the following Federal agencies?

Question 12 covers federally funded R&D performed in the 50 United States and D.C. by agency.

Question 13 For the total R&D you reported in (5), line D, column 3, what was the cost for each of the following types of expenses?

Question 13 covers R&D by type of expense.

A. Wages and salaries of R&D personnel

INCLUDE:	EXCLUDE:
• Gross earnings paid in calendar year 2007 to employees engaged in R&D (follow the definition of salaries and wages that is used for calculating withholding tax) • Salaries of officers in the research establishment(s) of a corporation	• Payments to proprietor or partners if your company is an unincorporated concern • Employee fringe benefits (Report under "B. Fringe benefits.")

B. Fringe benefits of R&D personnel

A **fringe benefit** is an employment benefit granted by an employer that has monetary value but does not affect basic wage rates. It includes any benefits given in addition to wages.

INCLUDE:
• Disability benefits
• Life and medical insurance
• Paid holidays
• Retirement benefits, pension, and social security contributions
• Stock options
• Time-off benefits
• Vacation, annual, sick, and maternity leave

Question 13 (continued)

C. Materials and supplies consumed

Report the delivered cost for all purchased materials consumed.

INCLUDE:	EXCLUDE:
• Materials and supplies that were: – Received from other companies – Withdrawn from inventory – Received from other establishments of this company • All work done for your laboratories and other technical units by non-company organizations; for Example: Model construction by a non-company model shop	• Purchases from other R&D organizations

D. Depreciation on R&D property and equipment

INCLUDE:
• Depreciation and amortization charged during the year against property and equipment related to your R&D activities • Depreciation and amortization against property and equipment acquired since the beginning of the year that was ***sold or retired*** during the year and not in service at the end of the year • Depreciated amounts no higher than the actual cost of property and equipment

E. All other R&D expenses

INCLUDE:
• Books and periodicals • Company overhead • Property and other taxes • Utilities

Question 14 For the total R&D you reported in (5), line D, column 3, what was the cost for each of the following areas?

Question 14 covers R&D by selected technology area.

A. Biotechnology

Definition of biotechnology for this survey:

Biotechnology is the application of science and technology to living organisms, as well as parts, products, and models thereof, to alter living or nonliving materials for the production of knowledge, goods, and services.

INCLUDE:

- DNA technologies such as:
  - Genomics
  - Pharmacogenetics
  - Gene probes
  - DNA sequencing/synthesis/amplification
  - Genetic engineering
- Protein and molecular technologies such as
  - Protein/peptide sequencing/synthesis
  - Lipid/protein glycoengineering
  - Proteomics
  - Hormones
  - Growth factors
  - Cell receptors/signaling/pheromones
- Cell and tissue culture and engineering including:
  - Cell/tissue culture
  - Tissue engineering
  - Hybridization
  - Cellular fusion
  - Vaccine/immune stimulants
  - Embryo manipulation
- Process biotechnologies such as:
  - Bioreactors
  - Fermentation
  - Bioprocessing
  - Biobleaching
  - Biodesulphurization
  - Bioremediation
  - Biofiltration
- Subcellular organism research including:
  - Gene therapy
  - Viral vectors
- Other biotechnology areas such as:
  - Bioinformatics
  - Nanobiotechnologies

B. Software development

INCLUDE:	EXCLUDE:
• Application development tools and environments • Applications software • Computer-aided design tools and methods • Computer systems software	• Software programming or engineering used exclusively for internal company operations such as financial management or human resources

Question 14 (continued)

C. Materials synthesis and processing

Covers formulation and manipulation of new or improved materials using the data and techniques of science and engineering.

INCLUDE:
• Advanced structural materials in the industrial machinery, medical, building, and construction industries • Higher performance semiconductors and photonic devices in in the semiconductor industry • Ceramics and alloys designed to withstand extreme temperatures and stresses for use in engine and structural parts in the aerospace and automotive industries • Composite materials for use in sporting goods • New and significantly improved synthesis and production techniques for existing materials

D. All other areas

Report the remainder of R&D costs so that the total for this question matches Question 5, line D, column 3.

Question 15 Did your company perform any R&D using nanotechnology during 2007?

Question 15 covers nanotechnology in R&D.

Nanotechnology is the creation and utilization of materials, devices, and systems sized at the level of atoms and molecules in the range of 1 to 100 nanometers.

If you answer "No" to Question 15, continue on to Question 17.

Question 16 For the R&D costs reported in 14, lines A through D, what percentage involved the use of nanotechnology for each of the following areas?

Question 16 asks for the nanotechnology proportion of the R&D expenditures provided in Question 14.

For example, if about a fourth of your biotechnology R&D expenditures was devoted to nanotechnology projects, report 25% in Question 16, line A.

INCLUDE:
• Materials and systems that exhibit novel and significantly improved physical, chemical, and biological properties; phenomena; and processed because of their size

Question 17 For the Federal and total R&D you reported in (5), line D, columns 1 and 3, what was the cost of the R&D performed in each of the 50 United States and D.C.? (The totals for this item should equal the totals reported in (5), line D, columns 1 and 3.)

Question 17 covers R&D for each state location where your company has research and development laboratories or facilities.

It is not necessary to calculate separately individual assignments made outside the home state of a particular research staff.

Question 18 If your company performed energy-related R&D during 2007, what was the cost of the R&D performed in the 50 United States and D.C. for each of the following sources of energy?

Question 18 covers R&D by type of energy source.

INCLUDE:

- R&D to increase energy resources or capabilities
- Development of energy equipment
- Products and processes for exploration, extraction, transportation, processing, storage, generation (including conversion), distribution,conservation
- Present, new, or improved forms of energy

How to estimate if the project is for joint or multiple purposes

Estimate the portion of the cost incurred for energy purposes.

Include the total cost of the R&D energy spending if the primary purpose of the project is energy R&D and costs cannot be apportioned.

Exclude costs if the project is not primarily for energy research and development and the costs cannot be apportioned.

Question 18 (continued)

What is included for each type of energy:

Type of energy	**INCLUDE:**
Fossil fuels	• Oil • Gas • Shale • Coal – Including synthetic fuels designed to convert coal to gaseous and liquid products – Including equipment and techniques to improve the productivity and recovery rates of coal mining
Geothermal and solar	• Geothermal heat pumps • Geothermal power plant generators • Photovoltaic technology • Solar water-heating systems
Nuclear	• Fission and fusion
	• Conservation and utilization R&D to reduce consumption either at the point of energy use or in the transmission, transportation, storage, and conversion of energy including such activities as: – Reduce fuel consumption in manufacturing – Improve the efficiency of transportation of energy products – Produce an end product that is more efficient in energy consumption • Wind, waste, hydroelectric • Other energy R&D that cannot be classified above

Question 19 Company organization and ownership

Question 19 asks for information on your company's ownership and your company's ownership of other entities.

Question 20 Reporting period, location of records, and contact information.

Question 20 covers the reporting period, some reporting characteristics, and provides space for your contact information. Please give the name and telephone number of the person in your company to contact regarding this report.

Question 21 Remarks

The Remarks section provides space for your comments and explanations.

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

FORM
RD-1A (01/15/2008)

2007 SURVEY OF INDUSTRIAL RESEARCH AND DEVELOPMENT

OMB No. 0607-0912: Approval Expires 1/31/2011

Mail your completed form to:
U.S. CENSUS BUREAU
1201 East 10th Street
Jeffersonville, IN 47132-0001

*Please **read*** the accompanying instructions before answering the questions.

Need help or have questions about filling out this form?

Visit our Web site at www.census.gov/econhelp/rd

*To **speak*** with an analyst, call 1-800-851-2014, option "0" between 8:00 a.m. and 5:00 p.m., Eastern time, Monday through Friday.

- OR -

Write to the address above, include your 11-digit Identification Number (ID) printed in the mailing address.

Option to file electronically is located at www.census.gov/econhelp/rd

INFORMATION COPY
DO NOT USE TO REPORT

(Please correct any errors in this mailing address.)

YOUR RESPONSE IS REQUIRED BY LAW. Title 13, United States Code, requires businesses and other organizations that receive this questionnaire to answer the questions and return the report to the U.S. Census Bureau. By the same law, **YOUR CENSUS REPORT IS CONFIDENTIAL.** It may be seen only by persons sworn to uphold the confidentiality of Census Bureau information and may be used only for statistical purposes. Further, copies retained in respondents' files are immune from legal process. Data supplied in all items for 2007 on this form will satisfy the mandatory reporting requirements. (Title 13, U.S. Code.) Except as noted in specific questions, this report should cover your entire consolidated domestic enterprise, **including all subsidiaries** in the 50 United States and D.C. Reasonable estimates are acceptable.

This survey is conducted jointly with the National Science Foundation.

RESEARCH AND DEVELOPMENT (R&D)

R&D includes basic and applied research in the sciences and engineering. It also includes design and development of new products and processes and enhancement of existing products and processes.

R&D includes activities carried on by persons trained, either formally or by experience, in the physical sciences such as chemistry and physics, the biological sciences such as medicine, and engineering and computer science. R&D includes these activities if the purpose is to do one or more of the following things:

1. Pursue a planned search for **new scientific knowledge** or understanding that does not have specific immediate commercial objectives, although it may be in fields of present or potential commercial interest. (Basic research)

2. Apply the findings of basic research or other **existing knowledge** toward discovering **new scientific knowledge** that has specific commercial objectives, including work required to evaluate possible uses, with respect to new products, services, processes, or methods. (Applied research)

3. Systematically use the knowledge or understanding gained from research and **practical experience** in the production or **significant improvement** of products, services, processes, or methods, including the design and development of prototypes, materials, devices, and systems. (Development)

Research and development includes the activities described above whether assigned to separate R&D organizational units of the company or carried out by company laboratories and technical groups not part of an R&D organization. Reporting the R&D activities of such latter groups may require the use of estimates for some of your responses.

Activities to be **excluded** from R&D are as follows: research in social sciences or psychology, routine product testing, geological and geophysical exploration activities and technical services.

See instructions for more detail.

1 Did your company conduct R&D in 2007? *(Mark "X" only ONE box.)*

201 ☐ Yes - *Complete form, enter zeros where applicable, and return this form.*

203 ☐ No - *Either call TDE to report (1-800-851-2014) OR mark the 203 box and mail the form.*

NOTE - After reviewing **1** if you need further assistance please call 1-800-851-2014, option "0".

11001013

CONTINUE ON PAGE 2

Dollar figures should be rounded to thousands of dollars.

If a figure is **$1,025,628.79:** ***Report*** →

2007		
$ Billions	Millions	Thousands
	1	0 2 6

2 What was the amount of your company's **sales, shipments, operating receipts, or revenues,** net of returns and allowances attributable to domestic operations in the 50 United States or D.C. during 2007? *(EXCLUDE domestic intracompany transfers and sales by foreign subsidiaries. INCLUDE receipts for sales of products and services provided to other companies, individuals, U.S. Government agencies, and foreign countries.)* . . . . . *Mark "X" if None* 0130 ☐

2007		
$ Billions	Millions	Thousands
102		

3 How many **employees** worked in the 50 United States or D.C. for your company on March 12, 2007? *(INCLUDE number of full- and part-time employees whose payroll was reported on Internal Revenue Service Form 941, Employer's Quarterly Federal Tax Return.)* . . . . . *Mark "X" if None* 0131 ☐

Number
112

4 What was the number of full-time equivalent (FTE) **scientists and engineers** employed by your company as of January 1, 2008 who worked on R&D in the 50 United States and D.C. during 2007?

(See Instructions for the definition of FTE scientists and engineers.) . . . . . *Mark "X" if None* 0134 ☐

January 1, 2008
Number of FTEs
206

5 What was the cost of R&D performed within your company **in the 50 United States and D.C.** from each of the sources of funding below during 2007?

	2007								
	(1) Federal funds			(2) Company and other nonfederal funds			(3) Total funds Columns 1 + 2		
	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
A. Basic research (Activity toward the advancement of scientific knowledge without specific immediate commercial objectives.) *Mark "X" if no basic research* 0135 ☐	304			305			306		
B. Applied research (Activity directed primarily towards a specific commercial or practical objective.) *Mark "X" if no applied research.* . . . 0136 ☐	314			315			316		
C. Development (Activity translating research into new or improved products, services, or processes.) *Mark "X" if no development* 0137 ☐	324			325			326		
D. TOTAL *(Add lines A through C.)* *Mark "X" if no R&D* . . . . . 0138 ☐	344			345			346		

6 If your company plans to perform R&D during 2008, what is the projected cost?

(Comparable to the 2007 figure reported in **5***, line D.)*

Mark "X" if no R&D is planned for next year . . . 0139 ☐

	2008								
	(1) Federal funds			(2) Company and other nonfederal funds			(3) Total funds Columns 1 + 2		
	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
	403			402			401		

11001021

CONTINUE ON PAGE 3

If not shown, please enter your 11-digit Identification Number (ID) from the mailing address.

7 If **others outside your company performed R&D** funded by your company, what was the cost of the R&D performed in the 50 United States and D.C. during 2007?

*(Include payments made via contracts, grants, or other agreements under which your company pays for **but does not perform** any of the R&D.)*

Mark "X" if no R&D was performed by others . . . . . 0140 ☐

2007								
(1) Federal funds			(2) Company and other nonfederal funds			(3) Total funds Columns 1 + 2		
$ Billions	Millions	Thousands	$ Billions	Millions	Thousands	$ Billions	Millions	Thousands
354			355			356		

8 **and** **9** Not Applicable.

10 If your company funded R&D performed **outside the 50 United States and D.C.** during 2007, what was the cost? *(Please report costs of R&D performed by subsidiaries, affiliates, or others based on your company's percentage of ownership, if any, of the entity that conducted the R&D. Ownership can be based on voting stock or equivalent interest.)*

Mark "X" if None 0147 ☐

	2007 Company and other nonfederal funds		
	$ Billions	Millions	Thousands
A. More than 50% ownership (This category includes wholly owned subsidiaries and locations.)	366		
B. 10% to 50% ownership	365		
C. More than 0% but less than 10% ownership	364		
D. 0% - No company ownership	363		
E. **TOTAL** *(Add lines A through D.)*	369		

11 **and** **12** Not Applicable.

11001039

CONTINUE ON PAGE 4

13 For the total R&D you reported in **5**, line D, column 3, what was the cost for each of the following types of expenses?

			2007 Total funds $ Billions	Millions	Thousands
A. Wages and salaries of R&D personnel *(INCLUDE scientists and engineers, technicians, secretaries, and other personnel.)* . . . . . *Mark "X" if None*	0166	☐	611		
B. Fringe benefits of R&D personnel *(INCLUDE taxable and nontaxable benefits, 401K plans, employers' contribution to health plans.)* *Mark "X" if None*	0167	☐	621		
C. Materials and supplies consumed *(INCLUDE the cost of all purchased materials consumed.)* . . . . . *Mark "X" if None*	0168	☐	631		
D. Depreciation on R&D property and equipment *(INCLUDE depreciation and amortization costs for property and equipment used for R&D during the year.)* . . . . . *Mark "X" if None*	0169	☐	641		
E. All other R&D expenses *(INCLUDE R&Ds share of company overhead and other expenses such as utilities, books and periodicals, and property and other taxes.)* . . . . . *Mark "X" if None*	0170	☐	651		
F. TOTAL *(Add lines A through E. The sum should equal the total reported in* **5**, *line D, column 3.)* . . . . . *Mark "X" if None*	0171	☐	661		

11001047

CONTINUE ON PAGE 5

If not shown, please enter your 11-digit Identification Number (ID) from the mailing address.

14 For the total R&D you reported in **5**, line D, column 3, what were the costs for the following areas?

			2007 Total funds $ Billions	Millions	Thousands
A. Biotechnology (The use of scientific and engineering data and techniques for the study and solution of problems concerning living organisms.) . . . . . *Mark "X" if None*	0172	☐	7111		
B. Software development (The formulation of programs, applications, routines, etc., for computers, excluding those used exclusively for internal company operations.) . . . . . *Mark "X" if None*	0173	☐	7211		
C. Materials synthesis and processing (The use of scientific and engineering data and techniques for the formulation and manipulation of new materials.) . . . . . *Mark "X" if None*	0174	☐	7311		
D. All other areas . . . . . *Mark "X" if None*	0175	☐	7411		
E. **TOTAL***(Add lines A through D. The sum should equal the total reported in* **5***, line D, column 3.)* . . . . . *Mark "X" if None*	0176	☐	7511		

15 Did your company perform any R&D using **nanotechnology** during 2007? (Nanotechnology is the creation and utilization of materials, devices, and systems sized at the level of atoms and molecules. This includes R&D in the range of 1 to 100 nanometers.)

7001 ☐ Yes - *Go to* **16**.

7002 ☐ No - *Go to* **19**.

16 For the R&D costs reported in **14**, lines A through D, what percentage involved the use of **nanotechnology** for each of the following areas?

			2007 Whole percents
A. Biotechnology . . . . . *Mark "X" if None*	0177	☐	7112 %
B. Software development . . . *Mark "X" if None*	0178	☐	7212 %
C. Materials synthesis and processing . . . . . *Mark "X" if None*	0179	☐	7312 %
D. All other areas . . . . . *Mark "X" if None*	0180	☐	7412 %

17 **and** **18** Not Applicable.

11001054

CONTINUE ON PAGE 6

19 **A.** Does this report cover your entire consolidated domestic enterprise, including all U.S. subsidiaries? *(Mark "X" only ONE box.)*

1301 ☐ Yes

1330 ☐ No - *Please explain in* **21**.

B. Was this company owned or controlled by another company on December 31, 2007?

001 ☐ Yes - *Give date acquired at right AND enter new owner name and mailing address below*

Month	Year

6030 Name of new owner or operator
6031 Mailing address (Number and street, P.O. box, etc.)

6032 City, town, village, etc.	6033 State	6034 ZIP Code	
			-

☐ No

CHECK ITEM - Please complete the check list below BEFORE returning this form. By checking these items you will reduce the likelihood of our calling you to resolve an error or inconsistency.

In 2: Are sales reported in **thousands** of dollars?

☐ Yes

☐ No

In 3: Does your answer describe the number of **employees,** NOT company payroll?

☐ Yes

☐ No

In 5: Does the **Federal funds** (column 1) plus **Company funds** (column 2) equal **Total funds** (column 3) for each of the following rows?

Basic research (5A), applied research (5B), development (5C), total research and development (5D).

☐ Yes

☐ No

If the answer to any of the above checks is "No," please make the necessary corrections in the appropriate item(s) or provide an explanation in **21**.

11001062

CONTINUE ON PAGE 7

If not shown, please enter your 11-digit Identification Number (ID) from the mailing address.

20 Reporting period, location of records, and contact information

A. Is the time period covered by this report a calendar year?

0078 ☐ Yes

0079 ☐ No - *Enter time period covered* → FROM

Month	Year
0070	

TO

Month	Year
0071	

B. Are all of your company's R&D records and data in a central location?

0080 ☐ Yes

0081 ☐ No - How many locations? → 0086

0085 ☐ Other - *Please describe* → 0087

C. How many people were involved in the preparation of this report *(INCLUDE those you consulted who provided, collected, or reviewed information, even if you are the only one who filled out the form.)*? 0084

0072 Name of person to contact regarding this report	0073 Title

	Area code	Number			Extension		Area code	Number		
Telephone 0074			-			Fax 0075			-	

0076 Internet e-mail address		Date completed 0069	Month	Day	Year

21 REMARKS *(Please use this space for any explanations that may help us in understanding your reported data.)*

11001070

Thank you for completing your 2007 SURVEY OF INDUSTRIAL RESEARCH AND DEVELOPMENT form.

PLEASE PHOTOCOPY THIS FORM FOR YOUR RECORDS AND RETURN THE ORIGINAL.

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

2007 Survey of Industrial Research and Development
Form RD-1A
Instructions

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Question 1 – R&D Performance 6

Question 2 – Sales 6

Question 3 – Employment 7

Question 4 – Scientists and Engineers 7

Question 5 – Cost of R&D 8

Question 6 – Projected cost of R&D 10

Question 7 – R&D performed by others 11

Question 8 – *Not applicable to this form*

Question 9 – *Not applicable to this form*

Question 10 – R&D performed outside the U.S. 11

Question 11 – *Not applicable to this form*

Question 12 – *Not applicable to this form*

Question 13 – R&D by type of expense 11

Question 14 – R&D by technology area 14

Question 15 – Nanotechnology in R&D 15

Question 16 – Percentage of Nanotechnology in R&D 15

Question 17 – *Not applicable to this form*

Question 18 – *Not applicable to this form*

Question 19 – Company organization and ownership 16

Question 20 – Reporting period, location of records, and contact 16

Question 21 – Remarks 16

2007 Survey of Industrial Research and Development
Form RD-1A
General Instructions

Changes from 2006 to 2007 R&D survey year

Data supplied in all items for 2007 on this form will satisfy the mandatory reporting requirements. (Title 13, U.S. Code)

How this information is used

Information about corporate research and development (R&D) activities is important in assessing our nation's scientific and technological resources. Your survey answers help us to provide national data on industrial R&D. This information is not available from any other source. Your participation is appreciated so that we can produce timely and comprehensive data.

Who fills out this survey?

U.S. publicly traded and privately owned, nonfarm business firms

This survey does ***not*** include:

- Operations owned by Federal, state, or local governments
- Nonprofit organizations
- Trust or pension plans performing only investments

If you received this form in error, please explain in the Remarks section on page 7 of the survey form and return the form.

AUTHORITY AND CONFIDENTIALITY – Your response is required by law (Title 13, United States Code). By section 9 of the same law, your report is confidential. It may be seen only by persons sworn to uphold the confidentiality of Census Bureau information, and may be used only for statistical purposes. The law also provides that copies of your report retained in your files are immune from legal process. Response is not required to any information collection form unless it displays a valid approval number from the Office of Management and Budget. This 8-digit number appears in the upper right corner of the form.

Which company operations should you include in your survey answers?

Report all domestic operations of your ***entire consolidated domestic enterprise,*** including all U.S. subsidiaries.

Report all parts of the company located in the 50 United States and the District of Columbia (D.C.), except where indicated differently.

For holding companies, report for all U.S. subsidiaries under the ownership and control of the holding company.

EXCEPTION: If you report separately for a component of this company based upon an arrangement with the Census Bureau, please continue to do so.

Reporting period for your survey answers

Please provide calendar year 2007 information, if possible. If not, please use your fiscal year ending between September 2007 and March 2008

How to report tax incentives for R&D

The Federal government and many states offer incentives for research and development activity. For purposes of this survey, please report your total R&D expenditures regardless of any tax incentives.

For further information on the Federal research tax credit please go to:

http://www.irs.gov/businesses/

For further information on state tax incentives, please contact the Comptroller of the Treasury in your state.

To request more time to complete your form or additional copies of the form

Please provide your 11-digit identification number (ID) as printed on the form above your address when you contact us.

For more time, call the Census Touchtone Data Entry System: 1–800–851–2014.

For official copies of the form, call 1–800–528–3049.

OR

Write: U.S. Census Bureau
1201 East 10th Street
Jeffersonville, IN 47132–0001

To obtain a sample copy of the form, please visit the following web site. However, that sample copy **cannot** be used to submit your survey response because it lacks the appropriate labeling.

http://www.census.gov/econhelp/rd

For answers to your questions regarding this form

Write:
U.S. Census Bureau, Manufacturing and Construction Division
ATTN: Special Studies Branch
Room 7K146
Washington, DC 20233–6900

Phone:

1–800–851–2014 (option “0”)

Use our web site at **http://www.census.gov/econhelp/rd**

- Submit e-mail via our secure server to encrypt your message and to keep your survey participation confidential
- See answers to frequently asked questions

Electronic alternative for reporting

An electronic questionnaire may be used to report your responses. This electronic alternative potentially saves time for you and helps us to reduce processing costs. If you use the electronic alternative, please do ***not*** mail in the paper form. For questions about installing or using the electronic questionnaire, please call the Electronic Reporting Staff at 800–838–2640.

The system requirements for the electronic questionnaire are:

1. Microsoft Windows 98 or higher
2. Microsoft Internet Explorer or Netscape Navigator 4.0 or above (128-bit encryption)
3. If you set your screen display for the 16-bit color or higher, the forms will be easier to read. The forms are harder to read with 256-color display.

Have your username (UID) and password (PW) handy. ***The username and password are case sensitive.***

1. Go to the Business Help Site at: **www.census.gov/econhelp/rd**
2. Click on Electronic Reporting
3. Follow the instructions for downloading software.

Transmitting your data

You may transmit you completed data to the Census Bureau electronically via Internet, or by mail.

WARNING CONCERNING ELECTRONIC MAIL: The Internet is not a secure means of transmitting information unless it is encrypted. If you choose to communicate with the Census Bureau via electronic mail, the Census Bureau cannot guarantee the privacy of the information while transmitted, but will safeguard it in accordance with Title 13. Be advised that making inquiries regarding this survey via electronic mail may divulge your participation in this survey.

Burden hour estimate

Public reporting burden for this collection of information is estimated to average 1.5 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspects of this collection of information, including suggestions for reducing this burden to:

Paperwork Project 0607-0912
U.S. Census Bureau
4600 Silver Hill Road
Washington, DC 20233-1500

You may e-mail comments to Paperwork@census.gov; use “Paperwork Project 0607-0912” as the subject.

Survey Definitions of R&D

R&D includes the following:

- the planned, systematic pursuit of new knowledge or understanding toward general application (basic research);
- the acquisition of knowledge or understanding to meet a specific, recognized need (applied research); and
- the application of knowledge or understanding toward the production or improvement of a product, service, process, or method (development).

This survey covers industrial R&D performed by people who are

1) trained—either formally or by experience—in engineering or in the physical, biological, mathematical, statistical, or computer sciences, and

2) employed by a publicly or privately owned firm engaged in for-profit activity in the 50 United States and D.C. (This also includes R&D they may perform ***outside*** of the 50 United States and D.C.)

This survey specifically ***excludes*** quality control, routine product testing, market research, sales promotion, sales service, and other nontechnological activities; routine technical services; and research in the social sciences or psychology.

This survey defines basic research, applied research, and development as follows:

Basic research is the pursuit of new scientific knowledge or understanding that does not have specific immediate commercial objectives, although it may be in fields of present or potential commercial interest.

Applied research applies the findings of basic research or other existing knowledge toward discovering new scientific knowledge that has specific commercial objectives with respect to new products, services, processes, or methods.

Development is the systematic use of the knowledge or understanding gained from research or practical experience directed toward the production or significant improvement of useful products, services, processes, or methods, including the design and development of prototypes, materials, devices, and systems.

Types of R&D activities to consider for this survey

INCLUDE:	EXCLUDE:
• Activities that incorporate: – Basic and applied research in the sciences and engineering – Design and development of new products and processes – Enhancement of existing products and processes • Activities carried on by persons trained, either formally or by experience, in: – Biological sciences (e.g., medicine) – Computer science – Engineering – Mathematical and statistical sciences – Physical sciences (e.g., chemistry and physics) • Activities that take place in: – Separate R&D organizational units of the company – Company laboratories – Technical groups not part of an R&D organization	• R&D from acquired companies prior to acquisition (in-process R&D) • Amortization above the actual cost of property and equipment related to your R&D activities • Testing and evaluation once a prototype becomes a production model • Routine product testing • Geological and geophysical exploration activities • Technical services such as: – Quality and quantity control – Technical plant sanitation control – Troubleshooting in connection with breakdowns in full-scale production • Advertising programs to promote or demonstrate new products or processes • Assistance in preparation of speeches and publications for persons not engaged in R&D • Social science R&D including: – Personnel R&D – Economic R&D – Artificial intelligence and expert systems R&D – Consumer, market, and opinion R&D – Engineering psychology R&D – Management and organization R&D – Actuarial and demographic R&D – Educational processes and applications R&D – R&D in law

Question-by-Question Instructions

Question 1 Did your company conduct R&D in 2007?

Question 1 asks if your company performed R&D in 2007.

If "Yes," your company conducted R&D in 2007, continue to fill out the rest of the form.

If "No," your company did not conduct R&D in 2007, either call our touchtone service to report this (1–800–851–2014) or mark "No" and mail the form.

If you have questions, please call the R&D Survey staff at 1-800-851-2014 (option "0") to determine whether you are required to complete the form.

Question 2 What was the amount of your company's sales, shipments, operating receipts, or revenues, net of returns and allowances attributable to domestic operations in the 50 United States or D.C. during 2007?

Question 2 covers domestic company sales. Report only the parts of your company located ***within*** the 50 United States or D.C.

INCLUDE:	EXCLUDE:
• Sales, operating receipts, and revenues from all domestic operations of the company, ***net of returns and allowances*** • Receipts from sales of products and services provided to other companies, individuals, U.S. Government agencies, and foreign countries • Net selling value of shipments, f.o.b. (freight on board) plant, after discounts and allowances minus freight charges and excise taxes • Revenue from investments, rents, and royalties only if it is the principal business of the company • Interest, dividends, commissions, and rental income as part of revenues only if you are a finance, insurance, or real estate company • Value of assets sold under a capital lease agreement • Export transfers to your foreign subsidiaries and affiliates	• Sales and other taxes collected and paid directly to government taxing agencies • Domestic intracompany transfers • Receipts from sale of products and services provided by your foreign subsidiaries and affiliates • Receipts from sale of products and services provided by our subsidiaries and affiliates in Puerto Rico and other U.S. territories ***outside*** the 50 United States and D.C. • Income from interest, dividends, and commissions (Exception: Companies in the finance, insurance, and real estate industries) • Other nonoperating income (e.g., royalties)

Question 3 How many employees worked in the 50 United States or D.C. for your company on March 12, 2007?

Question 3 covers domestic company employment. Report only the parts of your company located ***within*** the 50 United States or D.C.

INCLUDE:

- Full- and part-time employees of the company as defined on Treasury Form 941, Employer's Quarterly Federal Tax Return, and Circular E, Employer's Tax Guide, if filed for the entire company
- Number of employees in all activities ***within*** the 50 United States or D.C. during the pay period that includes March 12, 2007
- Persons on paid sick leave, paid holidays, and paid vacations during the pay period that includes March 12, 2007

Question 4 What was the number of full-time equivalent (FTE) scientists and engineers employed by your company as of January 1, 2008 who worked on R&D in the 50 United States and D.C. during 2007?

Question 4 covers the scientists and engineers who are employees of your company and perform R&D activities. It asks for the number of full-time equivalent (FTE) scientists and engineers who work on your company's R&D ***within*** the 50 United States or D.C.

There are two steps to calculate the number of FTEs for R&D scientists and engineers:

1. For company employees performing only research and development, count the number of scientists and engineers employed in January 2008.

2. For employees whose activities are not solely devoted to R&D, use the proportion of their time that is devoted to R&D to compute the number of fulltime equivalent R&D scientists and engineers. For example, if a company had 60 scientists and engineers in January 2008 and one-fourth of their time was charged to R&D projects, then that company would have 15 full-time equivalent R&D scientists and engineers. Add these full-time equivalents to the count from the previous step.

INCLUDE:

- All persons engaged in scientific or engineering work at a level that requires knowledge of physical or life sciences or engineering or mathematics
- Persons with experience equivalent to completion of a 4-year college course with majors in these fields, regardless of whether they actually hold degrees in the fields

Question 5 What was the cost of R&D performed within your company in the 50 United States and D.C. from each of the sources of funding below during 2007?

Question 5 covers the R&D that is performed both (1) ***within*** your company and (2) ***within*** the 50 United States and D.C.

How to decide which expenditures to include as R&D costs

INCLUDE:	EXCLUDE:
• Wages, salaries, and related costs • Materials and supplies consumed • R&D depreciation • Cost of computer software used in R&D activities • Utilities, such as telephone, telex, electricity, water and gas • Travel costs and profession dues • Property taxes and other taxes (except income taxes) incurred on account of the R&D organization or the facilities they use • Insurance expenses • Maintenance and repair, including maintenance of buildings and grounds • Company overhead including: personnel, accounting, procurement and inventory, and salaries of research executives not on the payroll of the R&D organization	• Expenses of acquired companies for R&D performed prior to acquisition (in-process R&D) • Capital expenditures • Testing and evaluation once a prototype becomes a production model • Patent expenses • Income taxes and interest

Instructions for Question 5

How to decide which category of R&D

1. Basic research	Projects that pursue new scientific knowledge or understanding that does not have specific immediate commercial objectives, although it may be in fields of present or potential commercial interest **Example:** A project looks at the characteristics of silicon that has been impregnated with different elements. This project seeks to improve the company's understanding of semiconductors. Its results may or may not be applicable to the company's existing or planned product lines.
2. Applied research	Projects that apply the findings of basic research or other existing knowledge toward discovering new scientific knowledge that has specific commercial objectives with respect to new products, services, processes, or methods **Example:** A project seeks to discover ways to reduce the power requirements of microchips. Although the outcome of this project is uncertain, positive results would improve the energy efficiency for future products.
3. Development	Projects that are directed toward the systematic use of the knowledge or understanding gained from research or practical experience directed toward the production or significant improvement of useful products, services, processes, or methods, including the design and development of prototypes, materials, devices, and systems **Example:** A project designs and develops a microprocessor for cellular phones. The goal of this project is a new product that would generate revenue for the company.

Development includes:	**Development excludes:**
• Expenditures for designing and conducting clinical trials of drugs, pharmaceuticals, or other products that have not been marketed • Software development – Designing and/or adapting software if the application has commercial value (exclude software development for internal use) – Beta version of software being developed that has potential commercial application • Design and operation of pilot plants and semiwork plants • Engineering activity required to advance the design of a product or process so it meets specific functional and economic requirements • Design, construction, and testing of prototypes and models including test models for defense contracts • Designs for special manufacturing equipment and tools • Preparation of reports, drawings,formulas, specifications, standards practice instructions, or operating manuals	• Software development intended for ***within*** company use only • Routine technical services to customers • Tool making and tool tryout • Production of detailed construction drawings and manufacturing blueprints

Question 5 (continued)

How to decide which category to use for sources of R&D funding

Source of R&D	INCLUDE:	EXCLUDE:
Federal funds	• Federally funded R&D performed ***within*** the company. Include only the amount of work done on Federal R&D contracts or subcontracts in the current year. • R&D portion of procurement contracts or subcontracts	• Federally funded R&D contracted or subcontracted to or otherwise by others ***outside*** of your company. (Report such funds in Question 7.) • Expenditures for independent research and development (IR&D). (Report in column 2, Company and other nonfederal funds.)
Company and other nonfederal funds	• R&D from company and other nonfederal sources that is performed ***within*** the company NOTE that ***"company and other nonfederal funds"*** and ***"company funded"*** are used interchangeably in the Form RD-1A. • R&D your company performs under contracts you have with non-Federal sources • Costs for independent research and development (IR&D). We define IR&D funds as R&D performed by the company for which you anticipate reimbursement by the government through indirect charges for the purchase of products or services. Qualified projects usually have potential interest to the Department of Defense These IR&D funds are excluded from federal funds received for federally sponsored research and development contracts.	• R&D from nonfederal sources that is contracted to or otherwise performed by others ***outside*** of your company (Report such funds in Question 7.)

Question 6 If your company plans to perform R&D during 2008, what is the estimated projected cost?

Question 6 asks for an estimate or projection of the cost of R&D your company expects to perform in 2008 in the 50 United States and D.C.

Question 7 If others outside your company performed R&D funded by your company, what was the cost of the R&D performed in the 50 United States and D.C. during 2007?

Question 7 covers the R&D that was ***both*** performed for your company (1) by ***others outside your company*** such as contractors, and (2) ***within*** the 50 United States and D.C.

Include payments for R&D projects, contracts, or services performed for your company by contractors, suppliers, grantees, educational institutions, or other organizations.

Question 7 includes amounts for R&D performed by others for your company and does not include amounts for R&D performed by your company.

Question 8 What was the cost of the R&D reported in (7), column 2, performed by each of the following types of organizations?

Question 8 is not applicable to this form.

Question 9 What were your company's costs for R&D that your company performed within a joint venture, alliance, partnership, or other collaborative arrangement in the 50 United States and D.C. during 2007?

Question 9 is not applicable to this form.

Question 10 If your company funded R&D performed outside the 50 United States and D.C. during 2007, what was the cost? *(Please report costs of R&D performed by subsidiaries, affiliates, or others based on your company's percentage of ownership, if any, of the entity that conducted the R&D. Ownership can be based on voting stock or equivalent interest.)*

Question 10 covers R&D performed ***outside*** the 50 United States and D.C. including R&D performed in Puerto Rico.

For Question 10, line D, report payments for R&D projects, contracts, or services performed for your company by contractors, suppliers, educational institutions, or other organizations.

Question 11 What was the cost of the R&D reported in (10), line A, in Puerto Rico and the following countries?

Question 11 is not applicable to this form.

Question 12 If you reported Federally funded R&D in (5), line D, column 1, what was the cost funded by each of the following Federal agencies?

Question 12 is not applicable to this form

Question 13 For the total R&D you reported in (5), line D, column 3, what was the cost for each of the following types of expenses?

Question 13 covers R&D by type of expense.

A. Wages and salaries of R&D personnel

INCLUDE:	EXCLUDE:
• Gross earnings paid in calendar year 2007 to employees engaged in R&D (follow the definition of salaries and wages that is used for calculating withholding tax) • Salaries of officers in the research establishment(s) of a corporation	• Payments to proprietor or partners if your company is an unincorporated concern • Employee fringe benefits (Report under "B. Fringe benefits.")

A. Wages and salaries of R&D personnel

INCLUDE:	EXCLUDE:
• Gross earnings paid in calendar year 2007 to employees engaged in R&D (follow the definition of salaries and wages that is used for calculating withholding tax) • Salaries of officers in the research establishment(s) of a corporation	• Payments to proprietor or partners if your company is an unincorporated concern • Employee fringe benefits (Report under "B. Fringe benefits.")

B. Fringe benefits of R&D personnel

A **fringe benefit** is an employment benefit granted by an employer that has monetary value but does not affect basic wage rates. It includes any benefits given in addition to wages.

INCLUDE:
• Disability benefits
• Life and medical insurance
• Paid holidays
• Retirement benefits, pension, and social security contributions
• Stock options
• Time-off benefits
• Vacation, annual, sick, and maternity leave

Question 13 (continued)

C. Materials and supplies consumed

Report the delivered cost for all purchased materials consumed.

INCLUDE:	EXCLUDE:
• Materials and supplies that were: – Received from other companies – Withdrawn from inventory – Received from other establishments of this company • All work done for your laboratories and other technical units by non-company organizations; for Example: Model construction by a non-company model shop	• Purchases from other R&D organizations

D. Depreciation on R&D property and equipment

INCLUDE:
• Depreciation and amortization charged during the year against property and equipment related to your R&D activities • Depreciation and amortization against property and equipment acquired since the beginning of the year that was ***sold or retired*** during the year and not in service at the end of the year • Depreciated amounts no higher than the actual cost of property and equipment

E. All other R&D expenses

INCLUDE:
• Books and periodicals • Company overhead • Property and other taxes • Utilities

Question 14 For the total R&D you reported in (5), line D, column 3, what were the costs for the following areas?

Question 14 covers R&D by selected technology area.

A. Biotechnology

Definition of biotechnology for this survey:

Biotechnology is the application of science and technology to living organisms, as well as parts, products, and models thereof, to alter living or nonliving materials for the production of knowledge, goods, and services.

INCLUDE:

- DNA technologies such as:
  - Genomics
  - Pharmacogenetics
  - Gene probes
  - DNA sequencing/synthesis/amplification
  - Genetic engineering
- Protein and molecular technologies such as
  - Protein/peptide sequencing/synthesis
  - Lipid/protein glycoengineering
  - Proteomics
  - Hormones
  - Growth factors
  - Cell receptors/signaling/pheromones
- Cell and tissue culture and engineering including:
  - Cell/tissue culture
  - Tissue engineering
  - Hybridization
  - Cellular fusion
  - Vaccine/immune stimulants
  - Embryo manipulation
- Process biotechnologies such as:
  - Bioreactors
  - Fermentation
  - Bioprocessing
  - Bioleaching
  - Biopulping
  - Biobleaching
  - Biodesulphurization
  - Bioremediation
  - Biofiltration
- Subcellular organism research including:
  - Gene therapy
  - Viral vectors
- Other biotechnology areas such as:
  - Bioinformatics
  - Nanobiotechnologies

B. Software development

INCLUDE:	EXCLUDE:
• Application development tools and environments • Applications software • Computer-aided design tools and methods • Computer systems software	• Software programming or engineering used exclusively for internal company operations such as financial management or human resources

Question 14 (continued)

C. Materials synthesis and processing

Covers formulation and manipulation of new or improved materials using the data and techniques of science and engineering.

INCLUDE:

- Advanced structural materials in the industrial machinery, medical, building, and construction industries
- Higher performance semiconductors and photonic devices in in the semiconductor industry
- Ceramics and alloys designed to withstand extreme temperatures and stresses for use in engine and structural parts in the aerospace and automotive industries
- Composite materials for use in sporting goods
- New and significantly improved synthesis and production techniques for existing materials

D. All other areas

Report the remainder of R&D costs so that the total for this question matches Question 5, line D, column 3.

Question 15 Did your company perform any R&D using nanotechnology during 2007?

Question 15 covers nanotechnology in R&D.

Nanotechnology is the creation and utilization of materials, devices, and systems sized at the level of atoms and molecules in the range of 1 to 100 nanometers.

If you answer "No" to Question 15, continue on to Question 19.

Question 16 For the R&D costs reported in 14, lines A through D, what percentage involved the use of nanotechnology for each of the following areas?

Question 16 asks for the nanotechnology proportion of the R&D expenditures provided in Question 14.

For example, if about a fourth of your biotechnology R&D expenditures was devoted to nanotechnology projects, report 25% in Question 16, line A.

INCLUDE:

- Materials and systems that exhibit novel and significantly improved physical, chemical, and biological properties; phenomena; and processed because of their size

Question 17 For the Federal and total R&D you reported in (5), line D, columns 1 and 3, what was the cost of the R&D performed in each of the 50 United States and D.C.?

Question 17 is not applicable to this form.

Question 18 If your company performed energy-related R&D during 2007, what was the cost of the R&D performed in the 50 United States and D.C. for each of the following sources of energy?

Question 18 is not applicable to this form.

Question 19 Company organization and ownership

Question 19 asks for information on your company's ownership and your company's ownership of other entities.

Question 20 Reporting period, location of records, and contact information

Question 20 covers the reporting period, some reporting characteristics, and provides space for your contact information. Please give the name and telephone number of the person in your company to contact this report.

Question 21 Remarks

The Remarks section provides space for your comments and explanations.

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