

TABLE 4. Worldwide R&D paid for by the company and performed by the company and others, by industry and company size: 2008

(Millions of U.S. dollars)

Industry and company size	NAICS code	Worldwide	Own performance	Paid to others
All industries	21–23, 31–33, 42–81	328,040	289,403	38,636
Manufacturing industries	31–33	239,162	209,660	29,502
Food	311	2,860	2,659	200
Beverage and tobacco products	312	1,057	900	157
Textiles, apparel, and leather products	313–316	1,197	1,169	27
Wood products	321	291	274	17
Paper	322	1,541	1,430	111
Printing and related support activities	323	327	321	6
Petroleum and coal products	324	1,505	D	D
Chemicals	325	88,141	68,592	19,550
Basic chemicals	3251	5,386	5,206	180
Resin, synthetic rubber, fibers, and filaments	3252	963	950	13
Pesticide, fertilizer, and other agricultural chemical	3253	1,488	1,312	176
Pharmaceuticals and medicines	3254	74,356	55,648	18,708
Soap, cleaning compound, and toilet preparation	3256	3,486	3,064	422
Paint, coating, adhesive, and other chemical	3255, 3259	2,463	2,412	51
Plastics and rubber products	326	2,187	2,053	135
Nonmetallic mineral products	327	1,817	1,615	202
Primary metals	331	845	768	77
Fabricated metal products	332	2,631	2,550	81
Machinery	333	12,250	11,764	486
Agricultural implement	33311	1,771	1,580	191
Semiconductor machinery	333295	2,518	2,476	42
Engine, turbine, and power transmission equipment	3336	1,461	1,372	89
Other machinery	other 333	6,501	6,337	164
Computer and electronic products	334	70,815	68,331	2,484
Communications equipment	3342	15,130	14,423	707
Semiconductor and other electronic components	3344	29,329	28,490	839
Navigational, measuring, electromedical, and control instruments	3345	13,307	12,666	641
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	6,127	5,731	396
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	3,498	D	D
Other measuring and controlling instruments	other 3345	3,682	D	D
Computer and peripheral equipment and other computer and electronic products	3341, 3343, 3346	13,048	12,752	297
Electrical equipment, appliances, and components	335	4,275	4,099	176
Transportation equipment	336	37,668	32,835	4,833
Automobiles, bodies, trailers, and parts	3361–3363	24,314	20,547	3,767
Aerospace products and parts	3364	12,875	11,850	1,025
Aircraft, aircraft engine, and aircraft parts	336411–336413	12,054	D	D
Guided missile, space vehicle, and related parts	336414, 336415, 336419	821	D	D
Military armored vehicle, tank, and tank components	336992	25	25	1
Other transportation	other 336	454	413	41
Furniture and related products	337	541	504	37
Miscellaneous manufacturing	339	9,217	D	D
Medical equipment and supplies	3391	6,669	5,940	729
Other miscellaneous manufacturing	3399	2,548	D	D
Nonmanufacturing industries	21–23, 42–81	88,877	79,743	9,134
Mining, extraction, and support activities	21	2,215	1,676	539
Utilities	22	430	197	233
Construction	23	1,450	D	D
Wholesale trade	42	2,849	2,442	407
Retail trade	44, 45	1,195	D	D
Electronic shopping and mail-order houses	4541	818	D	D
Other retail trade	other 44, 45	377	354	22
Transportation and warehousing	48, 49	182	136	46
Information	51	47,064	44,524	2,540
Publishing	511	35,802	34,126	1,676
Newspaper, periodical, book, and directory publishers	5111	240	233	7
Software publishers	5112	35,562	33,893	1,669

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Telecommunications	517	D	1,776	D
Internet service providers, Web search portals, and data processing services	518	7,770	7,572	198
Other information	other 51	D	1,050	D
Finance and insurance	52	1,241	1,156	84
Real estate and rental and leasing	53	330	311	19
Professional, scientific, and technical services	54	28,351	23,493	4,858
Architectural, engineering, and related services	5413	1,841	1,495	346
Computer systems design and related services	5415	11,112	10,645	467
Scientific R&D services	5417	13,095	9,273	3,823
Other professional, scientific, and technical services	other 54	2,303	2,080	223
Health care services	621–623	1,196	1,033	163
Other nonmanufacturing	55, 56, 61, 624, 71, 72, 81	2,375	D	D
All companies	21–23, 31–33, 42–81	328,040	289,403	38,636
Small companies (number of employees) ^a				
5–499	–	59,255	50,922	8,333
5–99	–	31,792	26,682	5,109
5–49	–	22,187	18,479	3,708
5–24	–	12,983	10,571	2,412
25–49	–	9,203	7,907	1,296
50–99	–	9,605	8,204	1,401
100–249	–	16,489	14,555	1,933
250–499	–	10,975	9,684	1,291
Medium and large companies (number of employees)				
500–999	–	12,928	11,353	1,575
1,000–4,999	–	55,156	49,638	5,518
5,000–9,999	–	28,379	24,923	3,456
10,000–24,999	–	62,814	54,272	8,543
25,000 or more	–	109,507	98,297	11,211

* = amount < \$500,000; D = data withheld to avoid disclosing operations of individual companies.

NAICS = 2002 North American Industry Classification System.

^a Upper bound based on U.S. Small Business Administration's definition of small business; Business R&D and Innovation Survey (BRDIS) does not include companies with fewer than five domestic employees. After 2008 BRDIS sample was selected and surveyed, an error was identified that resulted in excluding 226,884 single-establishment companies with five paid employees from sample frame. Most excluded establishments were classified in industries with low R&D intensities, such as construction, retail trade, and service sectors. Based on available information for these small single-establishment companies, their contribution to 2008 R&D estimates is estimated to be negligible.

NOTES: Detail may not add to total because of rounding. Industry classification based on dominant business code for domestic R&D performance where available. For companies that did not report business codes, classification used for sampling was assigned. Statistics are representative of companies located in United States that performed or funded R&D.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics and U.S. Census Bureau, Business R&D and Innovation Survey, 2008.