

Appendix table 4-20

Domestic R&D paid for by the company and others and performed by the company, by business activity: 2011

(Millions of U.S. dollars)

Business activity ^a	Business code ^b	Paid for by the company	Paid for by others
All business activities	21100-81000	238,768	55,324
Oil and gas extraction	21100	871	D
Mining	21200	207	*
Support activities for mining, including oil and gas	21300	1,223	D
Utilities	22100	280	42
Construction	23000	270	505
Food manufacturing	31100	3,631	142
Beverage manufacturing	31210	455	D
Tobacco manufacturing	31220	138	D
Textiles, apparel, and leather products manufacturing	31990	597	16
Wood products manufacturing	32100	197	5
Paper manufacturing	32200	732	2
Printing and related support activities	32300	237	0
Petroleum refineries	32401	449	D
Asphalt paving, roofing, and saturated materials manufacturing	32402	36	0
Other petroleum and coal products manufacturing, including motor oil, hydraulic fluid, and charcoal	32403	284	*
Basic chemicals manufacturing	32510	2,606	118
Resin, synthetic rubber, and artificial synthetic fibers and filaments manufacturing	32520	807	8
Pesticide, fertilizer, and other agricultural chemical manufacturing	32530	970	D
Pharmaceutical, medicinal, botanical, and biological products (except diagnostic) manufacturing	32541	37,470	4,577
In vitro diagnostic substances manufacturing	32542	1,064	19
Soap, cleaning compound, and toilet preparations manufacturing	32591	2,295	14
Paint, adhesive, and other chemical manufacturing	32592	1,540	7
Plastics and rubber products manufacturing	32600	2,652	19
Clay and glass products manufacturing	32710	774	22
Cement, concrete, lime, gypsum, and other nonmetallic mineral product manufacturing	32790	299	3
Primary metal manufacturing	33100	526	9
Fabricated metal products manufacturing	33200	1,944	D
Agricultural machinery and equipment manufacturing	33311	972	17
Construction machinery manufacturing	33312	656	3
Mining, oil, and gas field machinery and equipment manufacturing	33319	1,732	6
Semiconductor machinery manufacturing	33321	2,188	28
Industrial machinery manufacturing (except semiconductor machinery)	33322	890	32
Photographic and photocopying equipment manufacturing	33331	628	30
Commercial, service industry, temperature control, and air-flow control machinery manufacturing	33332	756	D
Engine, turbine, and power transmission equipment manufacturing	33360	2,867	272
Metalworking and other general purpose machinery manufacturing	33390	1,650	104
Computers and peripheral equipment manufacturing and magnetic and optical media	33412	9,802	501
Telephone apparatus manufacturing, including routers, modems, and gateways	33421	7,662	6
Radio, TV, and wireless communication equipment manufacturing	33422	2,879	722
Other communication equipment manufacturing (except radio, TV, and wireless communication equipment)	33429	854	51
Audio and video equipment manufacturing	33430	774	24

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Semiconductor and other electronic components manufacturing	33440	23,313	1,110
Electromedical, electrotherapeutic, and irradiation apparatus manufacturing	33451	2,482	82
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments manufacturing	33452	1,853	3,706
Measuring and control instruments manufacturing (not listed elsewhere)	33459	3,044	38
Electrical equipment, appliances, and components manufacturing	33500	2,873	87
Motor vehicles manufacturing	33610	8,606	703
Motor vehicle body and trailer manufacturing	33620	69	0
Motor vehicle parts manufacturing	33630	2,760	243
Aircraft manufacturing	33641	4,290	1,563
Aircraft engine and engine parts manufacturing	33642	1,060	576
Other aircraft parts and auxiliary equipment manufacturing	33643	1,262	600
Guided missiles, space vehicles, and parts manufacturing	33644	953	2,572
Railroad rolling stock manufacturing	33651	130	0
Ship and boat building	33660	90 i	D
Motorcycle, bicycle, and parts manufacturing	33691	210	0
Military armored vehicle, tank, and tank components manufacturing	33692	99	D
All other transportation equipment manufacturing	33699	263	144
Furniture and related products manufacturing	33700	300	*
Medical equipment and supplies manufacturing	33910	9,682	358
Miscellaneous manufacturing not listed elsewhere (games, office supplies, slot machines, etc.)	33990	2,219	394
Merchant wholesalers, durable goods	42300	484	10 i
Merchant wholesalers, nondurable goods	42400	416	3
Wholesale electronic markets and agents and brokers (business to business)	42500	52	0
Retail trade (except electronic shopping and electronic auctions)	44000	52	0
Electronic shopping and electronic auctions	45411	940 i	0
Transportation	48000	109	14
Couriers, messengers, and express delivery services	49200	1	0
Warehousing and storage	49300	12	3
Newspaper, periodical, book, and directory publishers (except Internet)	51110	430 i	0
Software publishers (except Internet)	51120	21,891	320
Motion picture and sound recording (except Internet)	51200	61	0
Broadcasting (except Internet)	51500	94	0
Wired telecommunications carriers	51710	571	0
Wireless telecommunications carriers (except satellite)	51720	138	0
Satellite telecommunications	51740	92	D
Other telecommunications (not listed elsewhere)	51790	373	104
Data processing, hosting, and related services	51800	4,069	6
Other information services, including Internet publishing, broadcasting, and Web search portals	51910	7,979	D
Finance, banking and credit intermediation	52200	1,365	0
Securities, commodity contracts, and other financial investments and related activities, including funds and trusts	52310	1,119	3
Insurance carriers and related activities	52400	735	D
Real estate	53100	10	0
Rental and leasing services	53200	83	0
Lessors of nonfinancial intangible assets, including patent licensing	53300	301	0

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Legal, accounting, tax preparation, bookkeeping, and payroll services	54111	306	0
Architectural, engineering, and related services	54130	1,345	576
Specialized design services	54140	228	40
Computer systems design and related services	54150	12,511	794
Management, scientific, and technical consulting services	54160	1,197	532
Research and development services in social sciences and humanities	54172	17 i	D
Research and development services in biotechnology	54173	4,357	1,863
Research and development services in physical, engineering, and life sciences (except biotechnology)	54174	2,089	4,645
Advertising and related services	54180	1,398	1
Professional, scientific, and technical services (not listed elsewhere)	54190	618	532
Management of companies and enterprises	55100	31	0
Administrative and support services	56100	311	21
Waste management and remediation services	56200	19 i	0
Offices of physicians	62110	23	1
Medical and diagnostic laboratories	62150	418	482
Other ambulatory health care services (ambulance, dental, home health care)	62199	64	1
Hospitals and nursing care facilities	62200	4	0
Social assistance services	62400	7	0
Arts, entertainment, and recreation	71000	71	41
Accommodation and food services	72000	74	0
Other services (not listed elsewhere)	81000	358	70
Undistributed	–	9,522 i	23,555 i

* = < \$500,000; D = data withheld to avoid disclosing operations of individual companies; i = > 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

^a Data were tabulated independently of the industry classification of the company. Companies were asked to report their sales and R&D activity in one or more business activity codes.

^b Business codes and descriptions are based on 2007 North American Industry Classification System industry definitions.

NOTES: Detail may not add to total due to rounding. Statistics pertain to companies located in the 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 (2011).