

TABLE 24. Domestic R&D paid for by the company and others and performed by the company, by business activity: 2013  
(Millions of U.S. dollars)

Business activity <sup>a</sup>	Business code <sup>b</sup>	Total	Paid for by the company	Paid for by others
All business activities	21100-81000	322,528	264,913	57,615
Oil and gas extraction	21100	D	1,041	D
Mining	21200	80	80	* i
Support activities for mining, including oil and gas	21300	1,869	1,583	286
Utilities	22100	340	290	50
Construction	23000	248	247	1
Food manufacturing	31100	5,163	4,956	207
Beverage manufacturing	31210	628	533	95 i
Tobacco manufacturing	31220	163	157	6
Textile, apparel, and leather products manufacturing	31990	688	667	21 i
Wood products manufacturing	32100	234	224	10
Paper manufacturing	32200	1,169	1,156	13
Printing and related support activities	32300	390	362	28 i
Petroleum refineries	32401	438	434	4
Asphalt paving, roofing, and saturated materials manufacturing	32402	117 i	117 i	0
Other petroleum and coal products manufacturing, including motor oil, hydraulic fluid, and charcoal	32403	256	254	2 i
Basic chemicals manufacturing	32510	2,976	2,796	180
Resin, synthetic rubber, and artificial synthetic fibers and filaments manufacturing	32520	928	832	96
Pesticide, fertilizer, and other agricultural chemicals manufacturing	32530	2,108 i	1,726 i	382 i
Pharmaceutical, medicinal, botanical, and biological products (except diagnostic) manufacturing <sup>c</sup>	32541	41,812	36,676	5,136
In-vitro diagnostic substances manufacturing <sup>c</sup>	32542	834	769	65
Biotechnology-based pharmaceutical and biological products (except diagnostics)	32543	7,694	6,756	938
Soap, cleaning compound, and toilet preparations manufacturing	32591	2,322	2,296	26
Paint, adhesive, and other chemical manufacturing	32592	1,471	1,450	22 i
Plastics and rubber products manufacturing	32600	3,013	2,857	156 i
Clay and glass products manufacturing	32710	974 i	950 i	24 i
Cement, concrete, lime, gypsum, and other nonmetallic mineral product manufacturing	32790	461 i	456 i	5
Primary metal manufacturing	33100	621	611	11 i
Fabricated metal products manufacturing	33200	2,553 i	2,152 i	401 i
Agricultural machinery and equipment manufacturing	33311	1,193	1,161	32
Construction machinery manufacturing	33312	1,353	1,340	12
Mining, oil, and gas field machinery and equipment manufacturing	33319	1,445 i	1,436 i	9
Semiconductor machinery manufacturing	33321	3,146	3,051	95
Industrial machinery manufacturing (except semiconductor machinery)	33322	882	828	53 i
Photographic and photocopying equipment manufacturing	33331	459	105	354
Commercial, service industry, temperature control, and air-flow control machinery manufacturing	33332	1,379	1,208	171 i
Engine, turbine, and power transmission equipment manufacturing	33360	2,368	2,154	214
Metalworking and other general purpose machinery manufacturing	33390	1,889	1,751	138 i
Computers and peripheral equipment manufacturing and magnetic and optical media	33412	10,449	10,229	220
Telephone apparatus manufacturing, including routers, modems, and gateways	33421	5,534	5,530	4 i
Radio, television, and wireless communication equipment manufacturing	33422	7,657	5,074	2,583 i
Other communication equipment manufacturing (except radio, television, and wireless communication equipment)	33429	1,730	1,649	81 i
Audio and video equipment manufacturing	33430	884	879	5 i
Semiconductor and other electronic components manufacturing	33440	31,111	29,214	1,898
Electromedical, electrotherapeutic, and irradiation apparatus manufacturing	33451	3,195 i	3,032 i	163
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing	33452	6,550	2,187	4,363
Measuring and control instruments manufacturing (not listed elsewhere)	33459	3,586	3,344	242
Electrical equipment, appliances, and components manufacturing	33500	4,207	3,784	423 i

TABLE 24. Domestic R&D paid for by the company and others and performed by the company, by business activity: 2013  
(Millions of U.S. dollars)

Business activity <sup>a</sup>	Business code <sup>b</sup>	Total	Paid for by the company	Paid for by others
Motor vehicles manufacturing	33610	11,692	10,071	1,621
Motor vehicle body and trailer manufacturing	33620	98 i	97 i	2
Motor vehicle parts manufacturing	33630	4,554	3,618	936 i
Aircraft manufacturing	33641	16,517 i	4,081	12,436 i
Aircraft engine and engine parts manufacturing	33642	1,578	890	688
Other aircraft parts and auxiliary equipment manufacturing	33643	3,431	2,263	1,169
Guided missiles, space vehicles, and related parts manufacturing	33644	2,703	446	2,257
Railroad rolling stock manufacturing	33651	175	175	*
Ship and boat building	33660	1,107	190	916
Motorcycle, bicycle, and parts manufacturing	33691	210	204	6 i
Military armored vehicle, tank, and tank components manufacturing	33692	215	79 i	136
All other transportation equipment manufacturing	33699	358	339	19
Furniture and related products manufacturing	33700	384	383	1 i
Medical equipment and supplies manufacturing	33910	11,500	11,176	324
Miscellaneous manufacturing not listed elsewhere (games, office supplies, slot machines, etc.)	33990	2,541	2,468	72 i
Merchant wholesalers, durable goods	42300	438 i	411 i	27
Merchant wholesalers, nondurable goods	42400	275 i	249 i	27
Wholesale electronic markets and agents and brokers (business to business)	42500	D	13 i	D
Retail trade (except electronic shopping and electronic auctions)	44000	105 i	99 i	6 i
Electronic shopping and electronic auctions	45411	994	993	1 i
Transportation	48000	D	358	D
Couriers, messengers, and express delivery services	49200	80	80	0
Warehousing and storage	49300	17	6	11
Newspaper, periodical, book, and directory publishers (except Internet)	51110	316 i	315 i	1 i
Software publishers (except Internet) <sup>d</sup>	51120	28,602	27,987	615
Motion picture and sound recording (except Internet)	51200	93	37 i	57
Broadcasting (except Internet)	51500	53	53	0
Wired telecommunications carriers	51710	1,061 i	1,060 i	1 i
Wireless telecommunications carriers (except satellite)	51720	1,649 i	1,590 i	60
Satellite telecommunications	51740	106	105	1 i
Other telecommunications (not listed elsewhere)	51790	322	314	8
Data processing, hosting, and related services <sup>d</sup>	51800	4,008	3,940	68 i
Cloud computing applications and Internet-based software services	51801	2,279	2,250	30
Other information services, including Internet publishing, broadcasting, and Web search portals <sup>d</sup>	51910	13,483	13,469	14
Finance: banking and credit intermediation	52200	1,836	1,834	2
Securities, commodity contracts, and other financial investments and related activities, including funds and trusts	52310	1,159	1,150	9
Insurance carriers and related activities	52400	1,458	1,449	9
Real estate	53100	59	59	0
Rental and leasing services	53200	69	66	4
Lessors of nonfinancial intangible assets, including patent licensing	53300	74	74	*
Legal, accounting, tax preparation, bookkeeping, and payroll services	54111	492 i	492 i	0
Architectural, engineering, and related services	54130	3,398	1,390	2,008
Specialized design services	54140	98	32 i	66
Computer systems design and related services <sup>d</sup>	54150	11,283 i	9,919 i	1,364 i
Management, scientific, and technical consulting services	54160	1,993	1,300	693
Research and development services in social sciences and humanities	54172	792	36 i	756
Research and development services in biotechnology <sup>f</sup>	54173	4,141	1,354	2,787 i
Research and development services in physical, engineering, and life sciences (except biotechnology)	54174	9,467	2,031	7,436
Advertising and related services	54180	444 i	375 i	69 i
Professional, scientific, and technical services (not listed elsewhere)	54190	1,958	1,309	649 i
Management of companies and enterprises	55100	55	47	8
Administrative and support services	56100	599 i	566 i	33
Waste management and remediation services	56200	39 i	23 i	16

TABLE 24. Domestic R&D paid for by the company and others and performed by the company, by business activity: 2013  
(Millions of U.S. dollars)

Business activity <sup>a</sup>	Business code <sup>b</sup>	Total	Paid for by the company	Paid for by others
Offices of physicians	62110	74 i	43 i	32 i
Medical and diagnostic laboratories	62150	957	342	616
Other ambulatory health care services (ambulance, dental, home health care)	62199	51 i	49 i	3
Hospitals and nursing care facilities	62200	2	2	0
Social assistance services	62400	38	38	0
Arts, entertainment, and recreation	71000	31	29	3
Accommodation and food services	72000	123 i	123 i	0
Other services (not listed elsewhere)	81000	367	329	37
Undistributed	–	401 i	261 i	141 i

\* = amount < \$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.

<sup>a</sup> Data tabulated independent 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.

<sup>b</sup> Business codes and descriptions based on industry definitions in the 2007 North American Industry Classification System.

<sup>c</sup> Estimates for this business code may not be comparable to those from prior years due to the introduction of a related business code for survey year 2013: 32543, Biotechnology-based pharmaceutical and biological products (except diagnostics).

<sup>d</sup> Estimates for this business code may not be comparable to those from prior years due to the introduction of a related business code for survey year 2013: 51801, Cloud computing applications and Internet-based software services.

NOTES: Detail may not add to total because of rounding. Statistics are representative of companies located in the United States that performed or funded R&D. For companies that did not report business codes, classification used for sampling was assigned.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, and U.S. Census Bureau, Business R&D and Innovation Survey, 2013.