

TABLE 9. Worldwide R&D paid for by the company and performed by the company and others, by business activity: 2013

(Millions of U.S. dollars)

Business activity ^a	Business code ^b	Amount
All business activities	21100–81000	376,151
Oil and gas extraction	21100	1,487
Mining	21200	114
Support activities for mining, including oil and gas	21300	1,748
Utilities	22100	608
Construction	23000	307
Food manufacturing	31100	7,036
Beverage manufacturing	31210	772
Tobacco manufacturing	31220	668
Textile, apparel, and leather products manufacturing	31990	787
Wood products manufacturing	32100	244
Paper manufacturing	32200	1,593
Printing and related support activities	32300	392
Petroleum refineries	32401	558
Asphalt paving, roofing, and saturated materials manufacturing	32402	123
Other petroleum and coal products manufacturing, including motor oil, hydraulic fluid, and charcoal	32403	455
Basic chemicals manufacturing	32510	4,167
Resin, synthetic rubber, and artificial synthetic fibers and filaments manufacturing	32520	1,259
Pesticide, fertilizer, and other agricultural chemicals manufacturing	32530	2,365 i
Pharmaceutical, medicinal, botanical, and biological products (except diagnostic) manufacturing ^c	32541	68,136
In-vitro diagnostic substances manufacturing ^c	32542	1,070
Biotechnology-based pharmaceutical and biological products (except diagnostics)	32543	10,958
Soap, cleaning compound, and toilet preparations manufacturing	32591	3,446
Paint, adhesive, and other chemical manufacturing	32592	1,929
Plastics and rubber products manufacturing	32600	3,592
Clay and glass products manufacturing	32710	1,078
Cement, concrete, lime, gypsum, and other nonmetallic mineral product manufacturing	32790	623 i
Primary metal manufacturing	33100	740
Fabricated metal products manufacturing	33200	2,482
Agricultural machinery and equipment manufacturing	33311	2,055
Construction machinery manufacturing	33312	1,708
Mining, oil, and gas field machinery and equipment manufacturing	33319	1,948 i
Semiconductor machinery manufacturing	33321	3,500
Industrial machinery manufacturing (except semiconductor machinery)	33322	1,011
Photographic and photocopying equipment manufacturing	33331	108
Commercial, service industry, temperature control, and air-flow control machinery manufacturing	33332	1,676
Engine, turbine, and power transmission equipment manufacturing	33360	3,808
Metalworking and other general purpose machinery manufacturing	33390	2,261
Computers and peripheral equipment manufacturing and magnetic and optical media	33412	12,871
Telephone apparatus manufacturing, including routers, modems, and gateways	33421	9,588
Radio, television, and wireless communication equipment manufacturing	33422	5,960
Other communication equipment manufacturing (except radio, television, and wireless communication equipment)	33429	1,826
Audio and video equipment manufacturing	33430	1,119
Semiconductor and other electronic components manufacturing	33440	39,998
Electromedical, electrotherapeutic, and irradiation apparatus manufacturing	33451	3,839

TABLE 9. Worldwide R&D paid for by the company and performed by the company and others, by business activity: 2013

(Millions of U.S. dollars)

Business activity ^a	Business code ^b	Amount
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing	33452	2,566
Measuring and control instruments manufacturing (not listed elsewhere)	33459	4,670
Electrical equipment, appliances, and components manufacturing	33500	5,268
Motor vehicles manufacturing	33610	17,743
Motor vehicle body and trailer manufacturing	33620	107 i
Motor vehicle parts manufacturing	33630	5,600
Aircraft manufacturing	33641	4,301
Aircraft engine and engine parts manufacturing	33642	1,506
Other aircraft parts and auxiliary equipment manufacturing	33643	3,263
Guided missiles, space vehicles, and related parts manufacturing	33644	499
Railroad rolling stock manufacturing	33651	214
Ship and boat building	33660	192
Motorcycle, bicycle, and parts manufacturing	33691	231
Military armored vehicle, tank, and tank components manufacturing	33692	90
All other transportation equipment manufacturing	33699	421
Furniture and related products manufacturing	33700	435
Medical equipment and supplies manufacturing	33910	15,155
Miscellaneous manufacturing not listed elsewhere (games, office supplies, slot machines, etc.)	33990	2,972
Merchant wholesalers, durable goods	42300	543
Merchant wholesalers, nondurable goods	42400	325
Wholesale electronic markets and agents and brokers (business to business)	42500	18
Retail trade (except electronic shopping and electronic auctions)	44000	128
Electronic shopping and electronic auctions	45411	1,285
Transportation	48000	380
Couriers, messengers, and express delivery services	49200	90
Warehousing and storage	49300	11
Newspaper, periodical, book, and directory publishers (except Internet)	51110	339 i
Software publishers (except Internet) ^d	51120	39,002
Motion picture and sound recording (except Internet)	51200	53
Broadcasting (except Internet)	51500	179
Wired telecommunications carriers	51710	1,131 i
Wireless telecommunications carriers (except satellite)	51720	1,614 i
Satellite telecommunications	51740	176
Other telecommunications (not listed elsewhere)	51790	377
Data processing, hosting, and related services ^d	51800	4,381
Cloud computing applications and Internet-based software services	51801	2,581
Other information services, including Internet publishing, broadcasting, and Web search portals ^d	51910	15,430
Finance: banking and credit intermediation	52200	3,240
Securities, commodity contracts, and other financial investments and related activities, including funds and trusts	52310	1,329
Insurance carriers and related activities	52400	1,772
Real estate	53100	64
Rental and leasing services	53200	94
Lessors of nonfinancial intangible assets, including patent licensing	53300	100
Legal, accounting, tax preparation, bookkeeping, and payroll services	54111	665
Architectural, engineering, and related services	54130	1,493
Specialized design services	54140	78
Computer systems design and related services ^d	54150	11,849
Management, scientific, and technical consulting services	54160	1,430

TABLE 9. Worldwide R&D paid for by the company and performed by the company and others, by business activity: 2013

(Millions of U.S. dollars)

Business activity ^a	Business code ^b	Amount
Research and development services in social sciences and humanities	54172	36
Research and development services in biotechnology ^c	54173	1,711
Research and development services in physical, engineering, and life sciences (except biotechnology)	54174	2,412
Advertising and related services	54180	384
Professional, scientific, and technical services (not listed elsewhere)	54190	1,972
Management of companies and enterprises	55100	65
Administrative and support services	56100	633
Waste management and remediation services	56200	23
Offices of physicians	62110	43
Medical and diagnostic laboratories	62150	345
Other ambulatory health care services (ambulance, dental, home health care)	62199	52
Hospitals and nursing care facilities	62200	2
Social assistance services	62400	47
Arts, entertainment, and recreation	71000	30
Accommodation and food services	72000	163
Other services (not listed elsewhere)	81000	406
Undistributed	–	425 ⁱ

ⁱ = > 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

^a 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.

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

^c 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).

^d 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.