

TABLE 6

Worldwide R&D paid for by the company and performed by the company and others, by business activity: 2017

(Millions of U.S. dollars)

Business activity^a	Business code^b	Amount
All business activities	21100–81000	471,321
Oil and gas extraction	21100	986
Mining	21200	164
Support activities for mining, including oil and gas	21300	1,474
Utilities	22100	487
Construction	23000	580
Food manufacturing	31100	5,941
Beverage manufacturing	31210	839
Tobacco manufacturing	31220	847
Textile, apparel, and leather products manufacturing	31990	1,046
Wood products manufacturing	32100	265
Paper manufacturing	32200	1,705
Printing and related support activities	32300	283
Petroleum refineries	32401	567
Asphalt paving, roofing, and saturated materials manufacturing	32402	139
Other petroleum and coal products manufacturing, including motor oil, hydraulic fluid, and charcoal	32403	378
Basic chemicals manufacturing	32510	3,726
Resin, synthetic rubber, and artificial synthetic fibers and filaments manufacturing	32520	1,257
Pesticide, fertilizer, and other agricultural chemicals manufacturing	32530	2,469
Pharmaceutical, medicinal, botanical, and biological products (except diagnostic substances) manufacturing	32541	71,788
In vitro diagnostic substances manufacturing	32542	1,587
Biotechnology-based pharmaceutical and biological products (except diagnostic substances)	32543	30,008
Soap, cleaning compound, and toilet preparation manufacturing	32591	3,056
Paint, adhesive, and other chemicals manufacturing	32592	2,228
Plastics and rubber products manufacturing	32600	3,918
Clay and glass products manufacturing	32710	1,383
Cement, concrete, lime, gypsum, and other nonmetallic mineral products manufacturing	32790	449
Primary metal manufacturing	33100	699
Fabricated metal products manufacturing	33200	2,651
Agricultural machinery and equipment manufacturing	33311	1,875
Construction machinery manufacturing	33312	1,569
Mining, oil, and gas field machinery and equipment manufacturing	33319	1,550
Semiconductor machinery manufacturing	33321	3,950
Industrial machinery manufacturing (except semiconductor machinery)	33322	1,185
Photographic and photocopying equipment manufacturing	33331	54
Commercial, service industry, temperature control, and air-flow control machinery manufacturing	33332	2,311
Digital cameras manufacturing	33333	511
Engine, turbine, and power transmission equipment manufacturing	33360	3,120
Metalworking and other general purpose machinery manufacturing	33390	2,623
Computers and peripheral equipment manufacturing and magnetic and optical media	33412	26,759
Telephone apparatus manufacturing, including routers, modems, and gateways	33421	10,575
Radio, television, and wireless communication equipment manufacturing	33422	2,517
Other communication equipment manufacturing (except radio, television, and wireless communication equipment)	33429	2,002
Audio and video equipment manufacturing	33430	1,146
Semiconductor and other electronic components manufacturing	33440	40,730
Electromedical, electrotherapeutic, and irradiation apparatus manufacturing	33451	3,926
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing	33452	2,300
Measuring and control instruments manufacturing (not listed elsewhere)	33459	5,664
Electrical equipment, appliances, and components manufacturing	33500	6,238
Motor vehicles manufacturing	33610	22,807
Motor vehicle body and trailer manufacturing	33620	46

TABLE 6

Worldwide R&D paid for by the company and performed by the company and others, by business activity: 2017

(Millions of U.S. dollars)

Business activity ^a	Business code ^b	Amount
Motor vehicle parts manufacturing	33630	7,811
Aircraft manufacturing	33641	4,644
Aircraft engine and engine parts manufacturing	33642	1,448
Other aircraft parts and auxiliary equipment manufacturing	33643	3,176
Guided missile, space vehicle, and related parts manufacturing	33644	1,132
Railroad rolling stock manufacturing	33651	251
Ship and boat building	33660	156
Motorcycle, bicycle, and parts manufacturing	33691	358
Military armored vehicle, tank, and tank component manufacturing	33692	367
All other transportation equipment manufacturing	33699	507
Furniture and related products manufacturing	33700	471
Medical equipment and supplies manufacturing	33910	16,683
Miscellaneous manufacturing not listed elsewhere (games, office supplies, slot machines, etc.)	33990	2,720
Merchant wholesalers, durable goods	42300	588
Merchant wholesalers, nondurable goods	42400	329
Wholesale electronic markets and agents and brokers (business to business)	42500	24 - 188
Retail trade (except electronic shopping and electronic auctions)	44000	131
Electronic shopping and electronic auctions	45411	12,193
Transportation	48000	808
Couriers, messengers, and express delivery services	49200	268
Warehousing and storage	49300	89
Newspaper, periodical, book, and directory publishers (except Internet)	51110	108
Software publishers (except Internet)	51120	32,186
Motion picture and sound recording (except Internet)	51200	24 - 188
Broadcasting (except Internet)	51500	466
Wired telecommunications carriers	51710	1,017
Wireless telecommunications carriers (except satellite)	51720	1,953
Satellite telecommunications	51740	621
Other telecommunications (not listed elsewhere)	51790	370
Data processing, hosting, and related services	51800	6,778
Cloud computing applications and Internet-based software services	51801	19,237
Other information services, including Internet publishing, broadcasting, and Web search portals	51910	32,696
Finance: banking and credit intermediation	52200	5,640
Securities, commodity contracts, and other financial investments and related activities, including funds and trusts	52310	1,799
Insurance carriers and related activities	52400	1,428
Real estate	53100	390
Rental and leasing services	53200	213
Lessors of nonfinancial intangible assets, including patent licensing	53300	330
Legal, accounting, tax preparation, bookkeeping, and payroll services	54111	1,047
Architectural, engineering, and related services	54130	1,893
Specialized design services	54140	132
Computer systems design and related services	54150	14,040
Management, scientific, and technical consulting services	54160	1,611
Research and development services in social sciences and humanities	54172	0 - 430
Research and development services in biotechnology	54173	918
Research and development services in physical, engineering, and life sciences (except biotechnology)	54174	2,393
Advertising and related services	54180	383
Professional, scientific, and technical services (not listed elsewhere)	54190	660
Management of companies and enterprises	55100	93
Administrative and support services	56100	1,730
Waste management and remediation services	56200	0 - 187

TABLE 6

Worldwide R&D paid for by the company and performed by the company and others, by business activity: 2017

(Millions of U.S. dollars)

Business activity ^a	Business code ^b	Amount	
Offices of physicians	62110	107	i
Medical and diagnostic laboratories	62150	1,022	
Other ambulatory health care services (ambulance, dental, home health care)	62199	87	
Hospitals and nursing care facilities	62200	18	
Social assistance services	62400	0 - 430	
Arts, entertainment, and recreation	71000	53	
Accommodation and food services	72000	77	
Other services (not listed elsewhere)	81000	891	
Undistributed	-	0	

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

NAICS = 2012 North American Industry Classification System.

^a Data are 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 are based on 2012 NAICS industry definitions.

Note(s)

Detail may not add to total because of rounding. For companies that did not report business codes, the classification used for sampling was assigned. Statistics are representative of companies located in the United States that performed or funded R&D. An estimate range may be displayed in place of a single estimate to avoid disclosing operations of individual companies.

Source(s)

National Center for Science and Engineering Statistics and U.S. Census Bureau, Business Research and Development Survey, 2017.