

TABLE 6

Worldwide R&D paid for by the company and performed by the company and others, by business activity: 2018

(Millions of U.S. dollars)

Business activity ^a	Business code ^b	Amount
All business activities	21100–81000	521,611
Oil and gas extraction	21100	964
Mining	21200	114
Support activities for mining, including oil and gas	21300	951
Utilities	22100	443
Construction	23000	656
Food manufacturing	31100	5,864
Beverage manufacturing	31210	762
Tobacco manufacturing	31220	722
Textile, apparel, and leather products manufacturing	31990	1,137
Wood products manufacturing	32100	297
Paper manufacturing	32200	1,594
Printing and related support activities	32300	359
Petroleum refineries	32401	640
Asphalt paving, roofing, and saturated materials manufacturing	32402	134
Other petroleum and coal products manufacturing, including motor oil, hydraulic fluid, and charcoal	32403	258
Basic chemicals manufacturing	32510	3,588
Resin, synthetic rubber, and artificial synthetic fibers and filaments manufacturing	32520	1,745
Pesticide, fertilizer, and other agricultural chemicals manufacturing	32530	3,196
Pharmaceutical, medicinal, botanical, and biological products (except diagnostic substances) manufacturing	32541	77,646
In vitro diagnostic substances manufacturing	32542	1,381
Biotechnology-based pharmaceutical and biological products (except diagnostic substances)	32543	35,688
Soap, cleaning compound, and toilet preparations manufacturing	32591	3,370
Paint, adhesive, and other chemical manufacturing	32592	1,668
Plastics and rubber products manufacturing	32600	3,653
Clay and glass products manufacturing	32710	1,521
Cement, concrete, lime, gypsum, and other nonmetallic mineral products manufacturing	32790	446
Primary metal manufacturing	33100	808
Fabricated metal products manufacturing	33200	2,809
Agricultural machinery and equipment manufacturing	33311	2,440
Construction machinery manufacturing	33312	1,880
Mining, oil, and gas field machinery and equipment manufacturing	33319	1,739
Semiconductor machinery manufacturing	33321	4,465
Industrial machinery manufacturing (except semiconductor machinery)	33322	1,124
Photographic and photocopying equipment manufacturing	33331	58
Commercial, service industry, temperature control, and air-flow control machinery manufacturing	33332	2,262
Digital cameras manufacturing	33333	274
Engine, turbine, and power transmission equipment manufacturing	33360	2,757
Metalworking and other general purpose machinery manufacturing	33390	3,009
Computers and peripheral equipment manufacturing and magnetic and optical media	33412	27,805
Telephone apparatus manufacturing, including routers, modems, and gateways	33421	11,487
Radio, television, and wireless communication equipment manufacturing	33422	2,609
Other communication equipment manufacturing (except radio, television, and wireless communication equipment)	33429	2,151
Audio and video equipment manufacturing	33430	1,461
Semiconductor and other electronic components manufacturing	33440	43,956
Electromedical, electrotherapeutic, and irradiation apparatus manufacturing	33451	4,827
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments manufacturing	33452	3,052
Measuring and control instruments manufacturing (not listed elsewhere)	33459	5,473
Electrical equipment, appliances, and components manufacturing	33500	5,456
Motor vehicles manufacturing	33610	23,882
Motor vehicle body and trailer manufacturing	33620	99

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Motor vehicle parts manufacturing	33630	8,841
Aircraft manufacturing	33641	6,458
Aircraft engine and engine parts manufacturing	33642	1,760
Other aircraft parts and auxiliary equipment manufacturing	33643	2,037
Guided missiles, space vehicles, and related parts manufacturing	33644	1,211
Railroad rolling stock manufacturing	33651	213
Ship and boat building	33660	144
Motorcycle, bicycle, and parts manufacturing	33691	429
Military armored vehicle, tank, and tank components manufacturing	33692	491 i
All other transportation equipment manufacturing	33699	521
Furniture and related products manufacturing	33700	467
Medical equipment and supplies manufacturing	33910	16,801
Miscellaneous manufacturing not listed elsewhere (games, office supplies, slot machines, etc.)	33990	3,409
Merchant wholesalers, durable goods	42300	826 i
Merchant wholesalers, nondurable goods	42400	322
Wholesale electronic markets and agents and brokers (business to business)	42500	89 i
Retail trade (except electronic shopping and electronic auctions)	44000	264
Electronic shopping and electronic auctions	45411	0 - 13,324 i
Transportation	48000	473
Couriers, messengers, and express delivery services	49200	452
Warehousing and storage	49300	79
Newspaper, periodical, book, and directory publishers (except Internet)	51110	175
Software publishers (except Internet)	51120	32,921
Motion picture and sound recording (except Internet)	51200	155
Broadcasting (except Internet)	51500	424
Wired telecommunications carriers	51710	476
Wireless telecommunications carriers (except satellite)	51720	2,439
Satellite telecommunications	51740	474
Other telecommunications (not listed elsewhere)	51790	741
Data processing, hosting, and related services	51800	7,709
Cloud computing applications and Internet-based software services	51801	24,408
Other information services, including Internet publishing, broadcasting, and Web search portals	51910	43,243
Finance: banking and credit intermediation	52200	4,975
Securities, commodity contracts, and other financial investments and related activities, including funds and trusts	52310	1,445
Insurance carriers and related activities	52400	2,147
Real estate	53100	380
Rental and leasing services	53200	699
Lessors of nonfinancial intangible assets, including patent licensing	53300	24 i
Legal, accounting, tax preparation, bookkeeping, and payroll services	54111	1,440
Architectural, engineering, and related services	54130	2,551
Specialized design services	54140	285
Computer systems design and related services	54150	18,118
Management, scientific, and technical consulting services	54160	2,425
Research and development services in social sciences and humanities	54172	27
Research and development services in biotechnology	54173	1,123
Research and development services in physical, engineering, and life sciences (except biotechnology)	54174	2,319
Advertising and related services	54180	1,164 i
Professional, scientific, and technical services (not listed elsewhere)	54190	870
Management of companies and enterprises	55100	0 - 13,324
Administrative and support services	56100	2,673
Waste management and remediation services	56200	0 - 3,913

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Offices of physicians	62110	113
Medical and diagnostic laboratories	62150	1,739 i
Other ambulatory health care services (ambulance, dental, home health care)	62199	48
Hospitals and nursing care facilities	62200	0 - 13,324
Social assistance services	62400	13
Arts, entertainment, and recreation	71000	45
Accommodation and food services	72000	126
Other services (not listed elsewhere)	81000	458 - 4,352
Undistributed	-	0

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

^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 North American Industry Classification System 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. Beginning in survey year 2018, statistics are representative of companies located in the United States that performed or funded \$50,000 or more of R&D. This change has affected the comparability of these estimates with estimates published for years prior to 2018. 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, 2018.