

TABLE 6. Worldwide R&D paid for by the company and performed by the company and others, by business activity:
2014

(Millions of U.S. dollars)

| Business activity ^a | Business code ^b | Amount |
|---|----------------------------|---------|
| All business activities | 21100–81000 | 399,321 |
| Oil and gas extraction | 21100 | 1,308 |
| Mining | 21200 | 56 |
| Support activities for mining, including oil and gas | 21300 | 2,065 |
| Utilities | 22100 | 527 |
| Construction | 23000 | 297 |
| Food manufacturing | 31100 | 7,254 |
| Beverage manufacturing | 31210 | 753 |
| Tobacco manufacturing | 31220 | 672 |
| Textile, apparel, and leather products manufacturing | 31990 | 780 |
| Wood products manufacturing | 32100 | 362 i |
| Paper manufacturing | 32200 | 1,615 |
| Printing and related support activities | 32300 | 390 |
| Petroleum refineries | 32401 | 617 |
| Asphalt paving, roofing, and saturated materials manufacturing | 32402 | 78 |
| Other petroleum and coal products manufacturing, including motor oil, hydraulic fluid, and charcoal | 32403 | 460 i |
| Basic chemicals manufacturing | 32510 | 4,036 |
| Resin, synthetic rubber, and artificial synthetic fibers and filaments manufacturing | 32520 | 1,771 |
| Pesticide, fertilizer, and other agricultural chemical manufacturing | 32530 | 2,478 i |
| Pharmaceutical, medicinal, botanical, and biological products (except diagnostic) manufacturing | 32541 | 68,838 |
| In vitro diagnostic substances manufacturing | 32542 | 1,251 |
| Biotechnology-based pharmaceutical and biological products (except diagnostics) | 32543 | 14,872 |
| Soap, cleaning compound, and toilet preparations manufacturing | 32591 | 3,493 |
| Paint, adhesive, and other chemical manufacturing | 32592 | 2,123 |
| Plastics and rubber products manufacturing | 32600 | 3,540 |
| Clay and glass products manufacturing | 32710 | 1,130 |
| Cement, concrete, lime, gypsum, and other nonmetallic mineral products manufacturing | 32790 | 800 |
| Primary metal manufacturing | 33100 | 853 |
| Fabricated metal products manufacturing | 33200 | 2,564 |
| Agricultural machinery and equipment manufacturing | 33311 | 1,990 |
| Construction machinery manufacturing | 33312 | 1,725 |
| Mining, oil, and gas field machinery and equipment manufacturing | 33319 | 1,395 |
| Semiconductor machinery manufacturing | 33321 | 3,363 |
| Industrial machinery manufacturing (except semiconductor machinery) | 33322 | 1,244 |
| Photographic and photocopying equipment manufacturing | 33331 | 25 |
| Commercial, service industry, temperature control, and air-flow control machinery manufacturing | 33332 | 2,077 |
| Digital cameras manufacturing | 33333 | 33 |
| Engine, turbine, and power transmission equipment manufacturing | 33360 | 3,332 |
| Metalworking and other general purpose machinery manufacturing | 33390 | 2,640 |
| Computers and peripheral equipment manufacturing and magnetic and optical media ^c | 33412 | 13,506 |
| Telephone apparatus manufacturing, including routers, modems, and gateways | 33421 | 10,526 |
| Radio, television, and wireless communication equipment manufacturing | 33422 | 5,844 i |
| Other communication equipment manufacturing, (except radio, television, and wireless communication equipment) | 33429 | 1,782 |

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| Audio and video equipment manufacturing | 33430 | 1,281 |
| Semiconductor and other electronic components manufacturing | 33440 | 41,797 |
| Electromedical, electrotherapeutic, and irradiation apparatus manufacturing | 33451 | 4,256 |
| Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments manufacturing | 33452 | 2,423 |
| Measuring and control instruments manufacturing (not listed elsewhere) | 33459 | 5,550 |
| Electrical equipment, appliances, and components manufacturing | 33500 | 5,531 |
| Motor vehicles manufacturing | 33610 | 18,984 |
| Motor vehicle body and trailer manufacturing | 33620 | 104 |
| Motor vehicle parts manufacturing | 33630 | 7,055 |
| Aircraft manufacturing | 33641 | 4,204 |
| Aircraft engine and engine parts manufacturing | 33642 | 2,059 i |
| Other aircraft parts and auxiliary equipment manufacturing | 33643 | 2,966 |
| Guided missiles, space vehicles, and related parts manufacturing | 33644 | 875 |
| Railroad rolling stock manufacturing | 33651 | 363 |
| Ship and boat building | 33660 | 489 |
| Motorcycle, bicycle, and parts manufacturing | 33691 | 283 |
| Military armored vehicle, tank, and tank components manufacturing | 33692 | 158 |
| All other transportation equipment manufacturing | 33699 | 355 |
| Furniture and related products manufacturing | 33700 | 451 |
| Medical equipment and supplies manufacturing | 33910 | 14,318 |
| Miscellaneous manufacturing not listed elsewhere (games, office supplies, slot machines, etc.) | 33990 | 2,849 |
| Merchant wholesalers, durable goods | 42300 | 513 |
| Merchant wholesalers, nondurable goods | 42400 | 217 |
| Wholesale electronic markets and agents and brokers (business to business) | 42500 | D |
| Retail trade (except electronic shopping and electronic auctions) | 44000 | 70 |
| Electronic shopping and electronic auctions | 45411 | D |
| Transportation | 48000 | 412 |
| Couriers, messengers, and express delivery services | 49200 | 348 |
| Warehousing and storage | 49300 | 3 |
| Newspaper, periodical, book, and directory publishers (except Internet) | 51110 | 103 |
| Software publishers (except Internet) | 51120 | 40,318 |
| Motion picture and sound recording (except Internet) | 51200 | 83 i |
| Broadcasting (except Internet) | 51500 | 206 |
| Wired telecommunications carriers | 51710 | 1,154 |
| Wireless telecommunications carriers (except satellite) | 51720 | 2,498 |
| Satellite telecommunications | 51740 | 134 |
| Other telecommunications (not listed elsewhere) | 51790 | 330 |
| Data processing, hosting, and related services | 51800 | 5,394 |
| Cloud computing applications and Internet-based software services | 51801 | 6,703 |
| Other information services, including Internet publishing, broadcasting, and Web search portals | 51910 | 17,469 |
| Finance: banking and credit intermediation | 52200 | 3,553 |
| Securities, commodity contracts, and other financial investments and related activities, including funds and trusts | 52310 | 1,147 |
| Insurance carriers and related activities | 52400 | 1,069 |
| Real estate | 53100 | 199 |
| Rental and leasing services | 53200 | 80 |

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| Lessors of nonfinancial intangible assets, including patent licensing | 53300 | 97 |
| Legal, accounting, tax preparation, bookkeeping, and payroll services | 54111 | 1,128 |
| Architectural, engineering, and related services | 54130 | 1,683 |
| Specialized design services | 54140 | 42 |
| Computer systems design and related services | 54150 | 13,249 |
| Management, scientific, and technical consulting services | 54160 | 1,681 |
| R&D services in social sciences and humanities | 54172 | 47 |
| R&D services in biotechnology | 54173 | 1,345 |
| R&D services in physical, engineering, and life sciences (except biotechnology) | 54174 | 2,542 |
| Advertising and related services | 54180 | 424 |
| Professional, scientific, and technical services (not listed elsewhere) | 54190 | 808 |
| Management of companies and enterprises | 55100 | 43 |
| Administrative and support services | 56100 | 459 |
| Waste management and remediation services | 56200 | D |
| Offices of physicians | 62110 | 39 |
| Medical and diagnostic laboratories | 62150 | 410 |
| Other ambulatory health care services (ambulance, dental, home health care) | 62199 | 37 |
| Hospitals and nursing care facilities | 62200 | 2 |
| Social assistance services | 62400 | 17 |
| Arts, entertainment, and recreation | 71000 | 103 i |
| Accommodation and food services | 72000 | D |
| Other services (not listed elsewhere) | 81000 | 549 |
| Undistributed | – | 69 |

D = relative standard error not calculated when estimate is suppressed for confidentiality; 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 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 NAICS industry definitions.

^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 2014: 33333, Digital cameras manufacturing.

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, the 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, 2014.