

TABLE 19. Domestic R&D paid for by the company and others and performed by the company as a percent of domestic net sales, by industry and company size: 2013

| Industry and company size  | NAICS code          | Domestic R&D<br>(US\$millions) | Percent of domestic<br>sales of R&D<br>performers and funders <sup>a</sup> | Percent of domestic<br>sales of R&D<br>performers only <sup>b</sup> |
|--|---------------------|--------------------------------|--|---|
| All industries   | 21–23, 31–33, 42–81 | 322,528                        | 3.3  | 3.5   |
| Manufacturing industries   | 31–33               | 221,476                        | 3.8  | 3.9   |
| Food   | 311                 | 5,028                          | 0.7  | 0.7   |
| Beverage and tobacco products  | 312                 | 827                            | 0.6  | 0.6   |
| Textile, apparel, and leather products   | 313–316             | 662                            | 1.2  | 1.2   |
| Wood products  | 321                 | 220                            | 0.7  | 0.7   |
| Paper  | 322                 | 920                            | 1.0  | 1.0   |
| Printing and related support activities  | 323                 | 252 i                          | 1.1  | 1.1   |
| Petroleum and coal products  | 324                 | 242                            | 0.1  | 0.1   |
| Chemicals  | 325                 | 61,664                         | 4.5  | 4.5   |
| Basic chemicals  | 3251                | 2,658                          | 0.6  | 0.6   |
| Resin, synthetic rubber, and artificial synthetic<br>fibers and filaments                    | 3252                | 1,065                          | 0.7  | 0.7   |
| Pesticide, fertilizer, and other agricultural chemicals                                      | 3253                | 1,691 i                        | 3.5  | 3.5   |
| Pharmaceuticals and medicines  | 3254                | 52,426                         | 10.3   | 10.3  |
| Soap, cleaning compound, and toilet preparation  | 3256                | 2,469                          | 2.4  | 2.4   |
| Paint, coating, adhesive, and other chemicals  | 3255, 3259          | 1,355                          | 1.9  | 1.9   |
| Plastics and rubber products   | 326                 | 3,650                          | 2.2  | 2.2   |
| Nonmetallic mineral products   | 327                 | 1,329 i                        | 2.4  | 2.4   |
| Primary metals   | 331                 | 624                            | 0.5  | 0.5   |
| Fabricated metal products  | 332                 | 2,212 i                        | 1.6  | 1.6   |
| Machinery  | 333                 | 12,650                         | 3.4  | 3.4   |
| Agricultural implement   | 33311               | 1,597                          | 2.8  | 2.8   |
| Semiconductor machinery  | 333295              | 3,194                          | 28.4   | 28.4  |
| Engine, turbine, and power transmission equipment  | 3336                | 1,448                          | 2.9  | 2.9   |
| Other machinery  | other 333           | 6,411                          | 2.5  | 2.5   |
| Computer and electronic products   | 334                 | 67,205                         | 10.6   | 10.6  |
| Communications equipment   | 3342                | 15,658                         | 9.0  | 9.0   |
| Semiconductor and other electronic components  | 3344                | 30,800                         | 18.5   | 18.6  |
| Navigational, measuring, electromedical, and<br>control instruments                          | 3345                | 14,478                         | 8.3  | 8.3   |
| Electromedical, electrotherapeutic, and irradiation<br>apparatus                             | 334510, 334517      | 2,634                          | 9.5  | 9.5   |
| Search, detection, navigation, guidance,<br>aeronautical, and nautical system and instrument | 334511              | 8,106                          | 9.4  | 9.4   |
| Other measuring and controlling device   | other 3345          | 3,738                          | 6.2  | 6.2   |
| Other computer and electronic products   | other 334           | 6,269                          | 5.2  | 5.3   |
| Electrical equipment, appliances, and components   | 335                 | 4,136                          | 2.9  | 2.9   |
| Transportation equipment   | 336                 | 45,972                         | 4.1  | 4.3   |
| Automobiles, bodies, trailers, and parts   | 3361, 3362, 3363    | 16,729                         | 2.4  | 2.6   |
| Aerospace products and parts   | 3364                | 27,114                         | 7.6  | 7.6   |
| Aircraft, aircraft engine, and aircraft parts  | 336411–13           | D                              | D  | D   |
| Guided missile, space vehicle, and related parts   | 336414–15, 336419   | D                              | D  | D   |
| Military armored vehicle, tank, and tank components  | 336992              | 9 i                            | 2.7  | 2.7   |
| Other transportation   | other 336           | 2,121                          | 3.4  | 3.4   |
| Furniture and related products   | 337                 | 374                            | 1.1  | 1.1   |
| Miscellaneous manufacturing  | 339                 | 13,509                         | 4.0  | 4.0   |
| Medical equipment and supplies   | 3391                | 10,954                         | 4.4  | 4.4   |
| Other miscellaneous manufacturing  | 3399                | 2,555                          | 2.7  | 2.7   |
| Nonmanufacturing industries  | 21–23, 42–81        | 101,052                        | 2.7  | 2.8   |
| Mining, extraction, and support activities   | 21                  | 3,997                          | 0.9  | 0.9   |
| Utilities  | 22                  | 294                            | 0.1  | 0.1   |
| Wholesale trade  | 42                  | 529 i                          | 0.2  | 0.2   |
| Electronic shopping and electronic auctions  | 454111–12           | 1,357 i                        | 2.1  | 2.1   |
| Transportation and warehousing   | 48–49               | D                              | D  | D   |
| Information  | 51                  | 57,207                         | 5.5  | 5.5   |
| Publishing   | 511                 | 35,675                         | 8.6  | 8.6   |

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|---|--|--------------------------------|--|---|
| Newspaper, periodical, book, and directory publishers                                       | 5111   | 342 i                          | 1.5  | 1.5   |
| Software publishers   | 5112   | 35,333                         | 9.0  | 9.0   |
| Telecommunications  | 517  | 3,041                          | 0.7  | 0.7   |
| Data processing, hosting, and related services  | 518  | 6,446                          | 8.1  | 8.2   |
| Other information   | other 51   | 12,046                         | 9.0  | 9.5   |
| Finance and insurance   | 52   | 4,308                          | 0.7  | 0.7   |
| Real estate and rental and leasing  | 53   | 150                            | 1.5  | 1.5   |
| Lessors of nonfinancial intangible assets (except<br>copyrighted works)                     | 533  | 58 i                           | 15.4   | 15.4  |
| Other real estate and rental and leasing  | other 53   | 92                             | 0.9  | 0.9   |
| Professional, scientific, and technical services  | 54   | 31,017                         | 8.4  | 8.4   |
| Architectural, engineering, and related services  | 5413   | 3,133                          | 3.4  | 3.4   |
| Computer systems design and related services  | 5415   | 9,268 i                        | 8.4  | 8.4   |
| Scientific research and development services  | 5417   | 14,201                         | 20.1   | 20.3  |
| Biotechnology research and development  | 541711   | 4,499                          | 19.3   | 19.4  |
| Physical, engineering, and life sciences (except<br>biotechnology) research and development | 541712   | 8,910                          | 19.4   | 19.5  |
| Social sciences and humanities research and<br>development                                  | 541720   | 792                            | 61.1   | 61.1  |
| Other professional, scientific, and technical services                                      | other 54   | 4,415                          | 4.5  | 4.5   |
| Health care services  | 621-23   | 526 i                          | 1.0  | 1.0   |
| Other nonmanufacturing  | 23, 44-45 (excluding<br>454111-12), 55-56, 624,<br>71-72, 81 | D                              | D  | D   |
| All companies (number of domestic employees)  | -  | 322,528                        | 3.3  | 3.5   |
| Small companies <sup>c</sup>  |  |                                |  |   |
| 5-499   | -  | 53,002                         | 4.3  | 4.3   |
| 5-99  | -  | 27,148 i                       | 5.0  | 5.0   |
| 5-49  | -  | 18,238 i                       | 6.2  | 6.2   |
| 5-9   | -  | 3,402 i                        | 6.8  | 6.9   |
| 10-24   | -  | 6,895 i                        | 6.3  | 6.3   |
| 25-49   | -  | 7,941 i                        | 5.8  | 5.9   |
| 50-99   | -  | 8,910                          | 3.6  | 3.6   |
| 100-249   | -  | 13,666                         | 3.9  | 3.9   |
| 250-499   | -  | 12,189                         | 3.6  | 3.6   |
| Medium and large companies  |  |                                |  |   |
| 500-999   | -  | 12,002                         | 3.4  | 3.7   |
| 1,000-4,999   | -  | 55,517                         | 4.8  | 4.8   |
| 5,000-9,999   | -  | 31,514                         | 3.5  | 3.7   |
| 10,000-24,999   | -  | 51,218                         | 2.7  | 2.9   |
| 25,000 or more  | -  | 119,275                        | 2.9  | 3.0   |

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.

NAICS = 2007 North American Industry Classification System.

<sup>a</sup> Statistics used for the denominator in the calculation of these percentages are representative of companies located in the United States that performed or funded R&D.

<sup>b</sup> Statistics used for the denominator in the calculation of these percentages are representative of companies located in the United States that performed R&D. The calculation of percentages in this column excludes sales of companies that fund R&D but do not perform R&D.

<sup>c</sup> Upper bound based on U.S. Small Business Administration's definition of a small business: Business R&D and Innovation Survey does not include companies with fewer than five domestic employees.

NOTES: Detail may not add to total because of rounding. Industry classification based on dominant business code for domestic R&D performance where available. For companies that did not report business codes, classification used for sampling was assigned. Statistics are representative of companies located in the United States that performed or funded R&D, unless indicated otherwise. Percentages are calculated as domestic R&D paid for by the company and others divided by domestic sales.

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