TABLE 25

Domestic R&D paid for and performed by the company, by type of cost, industry, and company size: 2017 (Millions of U.S. dollars)

| Industry and company size | NAICS code | Total | Salaries, wages, and fringe benefits | Stock-based compensation | Tempora staffing | | Expensed equipmen | d | Material and supplies | and re | ntal | Depreciat | tion | and licensi | ng | Other purchas service (excep R&D) | ed s | Other |
|--|-------------------------|---------|---|--------------------------|---------------------|---|-------------------|---|-----------------------------|--------|------|--------------|------|----------------|----|---|---------|--------------|
| All industries | 21-23, 31- 33, 42-81 | 339,036 | 195,095 | 24,315 | 14,013 | | 5,800 | | 23,309 | 5,694 | | 13,495 | | 2,117 | | 8,078 | | 47,120 |
| Manufacturing industries | 31-33 | 216,155 | 117,622 | 9,665 | 7,787 | | 3,436 | | 20,248 | 3,076 | | 9,760 | | 1,931 | | 5,941 | | 36,689 |
| Food | 311 | 4,453 i | 2,863 i | 45 | i 76 | i | 25 | i | 484 | i 24 | | 206 | i | 2 | i | 160 | i | 568 |
| Beverage and tobacco products | 312 | 968 | 544 | 15 | 31 | | 2 | | 79 | 10 | | 48 | | * | | 40 | | 198 |
| Textile, apparel, and leather products | 313-16 | 919 | 589 | 16 | 25 | | 67 | | 96 | 3 | | 18 | | * | | 15 | | 90 |
| Wood products | 321 | 170 | 126 | 0 | 5 | | 2 | | 23 | 1 | | 2 | | 0 | | 4 | | 6 |
| Paper | 322 | 1,292 | 692 | 0 | 38 | | 36 | | 412 | 6 | | 39 | | 1 | | 7 | | 61 |
| Printing and related support activities | 323 | 218 | 146 | 2 | i 8 | i | 10 | | 20 | 3 | | 10 | i | * | | 1 | | 18 |
| Petroleum and coal products | 324 | 301 | 191 | 0 | 0 - 7 | | 8 | | 33 | 0 - 5 | | 6 - 13 | | 1 | | 9 | | 35 - 42 |
| Chemicals | 325 | 63,285 | 28,469 | 3,513 | 3,584 | | 307 | | 5,471 | 1,094 | | 3,126 | | 666 | | 1,629 | | 15,428 |
| Basic chemicals | 3251 | 2,393 | 1,393 | 3 | 33 - 51 | | 32 | | 258 | 46 | | 143 | | 24 | | 93 | i | 348 - 366 |
| Resin, synthetic rubber, and artificial synthetic fibers and filaments | 3252 | 612 | 401 | 0 - 107 | 15 - 26 | | 1 | | 43 | 16 | | 25 | | 0 | | 5 | | 0 - 107 |
| Pesticide, fertilizer, and other agricultural chemicals | 3253 | 1,092 | 513 - 541 | 0 - 149 | 67 - 119 | | 1 | | 70 - 90 | 41 | | 136 - 162 | | 3 | | 6 | | 46 - 257 |
| Pharmaceuticals and medicines | 3254 | 55,229 | 23,689 | 3,351 | 3,318 | | 253 | | 4,885 | 957 | | 2,671 | | 635 | | 1,488 | | 13,982 |
| Soap, cleaning compound, and toilet preparation | 3256 | 2,488 | 1,498 | 12 | 95 | | 6 | | 124 | 16 | | 81 | | 0 | | 17 | | 639 |
| Paint, coating, adhesive, and other chemicals | 3255, 3259 | 1,471 | 949 - 974 | 0 - 149 | 2 - 27 | | 14 | | 70 - 90 | 19 | | 43 - 68 | | 3 | | 20 | | 107 - 287 |
| Plastics and rubber products | 326 | 3,637 | 2,186 | 55 | 86 | | 44 | | 520 | 60 | | 197 | | 7 | | 153 | | 330 |
| Nonmetallic mineral products | 327 | 1,303 | 835 i | 1 | 61 | i | 6 | | 63 | 10 | i | 103 | i | * | | 16 | i | 207 |
| Primary metals | 331 | 741 | 393 | 6 | 9 | | 5 | | 148 | 8 | | 37 | | * | | 9 | | 125 |
| Fabricated metal products | 332 | 2,099 | 1,349 | 23 | 47 | | 23 | | 349 | 15 | | 32 | | 5 | | 32 | | 222 |
| Machinery | 333 | 12,257 | 7,419 | 221 | 439 | | 108 | | 1,557 | 112 | | 490 | | 15 | | 112 | | 1,783 |
| Agricultural implement | 33311 | 1,511 | 892 | 0 | 106 | | 4 | | 277 | 4 | | 36 | | 2 | | 4 | | 186 |
| Semiconductor machinery | 333242 | 3,228 | 1,571 | 165 | 20 | | 3 | | 394 | 32 | | 255 | | 2 | i | 15 | | 771 |
| Engine, turbine, and power transmission equipment | 3336 | 1,921 | 1,182 | 1 | 0 - 314 | | 2 | | 232 | i 3 | | 79 | | * | | 8 | | 95 - 418 |

TABLE 25

Domestic R&D paid for and performed by the company, by type of cost, industry, and company size: 2017 (Millions of U.S. dollars)

| ndustry and company size | NAICS code | Total | Salaries, wages, and fringe benefits | Stock-based compensation | • | • | Expense equipme | d | Material and supplies | and r | ental | Deprecia | tion | and licensi | ng | Other purchased services (except R&D) | | Other |
|--|----------------------|--------|---|--------------------------|--------------|---|--------------------|---|-----------------------------|---------|-------|--------------|------|----------------|----|---|---|------------------|
| Other machinery | other 333 | 5,596 | 3,774 | 55 | 0 - 314 | | 99 | | 654 | - | '3 | 120 | | 11 | | 85 | | 408 - 730 |
| Computer and electronic products | 334 | 69,942 | 40,465 i | 5,373 | 1,263 | | 1,453 | | 4,313 | 1,23 | 0 | 4,044 | i | 992 | i | 2,776 | i | 8,035 |
| Communications equipment | 3342 | 10,972 | 6,351 | 673 | 412 | | 169 | | 349 | 84 | -0 | 545 | | 19 | | 465 | i | 1,149 |
| Semiconductor and other electronic components | 3344 | 27,859 | 17,003 i | 1,905 | i 335 | i | 342 | i | 1,552 | i 18 | 3 | 1,839 | i | 613 | i | 1,094 | i | 2,994 |
| Navigational, measuring, electromedical, and control instruments | 3345 | 10,089 | 6,497 | 151 | 297 | | 133 | | 819 | 10 | 14 | 230 | | 6 | i | 240 | i | 1,611 |
| Electromedical, electrotherapeutic, and irradiation apparatus | 334510, 334517 | 2,545 | 1,429 | 30 | 80 | | 11 | | 183 | 2 | :5 | 66 | | 3 | i | 93 | | 625 |
| Search, detection, navigation, guidance, aeronautical, and nautical system and instrument | 334511 | 3,214 | 2,231 | 18 - 32 | 115 | i | 15 - 39 | i | 253 | | 4 | 71 | i | * | | 82 - 111 | i | 363 - 416 |
| Other measuring and controlling device | other 3345 | 4,329 | 2,837 | 88 - 102 | 102 | | 83 - 107 | | 384 | (| 6 | 92 | | 2 | | 35 - 64 | | 571 - 622 |
| Other computer and electronic products | other 334 | 21,022 | 10,613 | 2,644 | 218 | | 808 | | 1,593 | 10 | 2 | 1,430 | | 355 | | 977 | | 2,281 |
| Electrical equipment, appliances, and components | 335 | 4,110 | 2,803 | 42 | 106 | | 35 | | 327 | (| 9 | 98 | i | 4 | | 102 | i | 524 |
| Transportation equipment | 336 | 34,629 | 18,867 | 10 | 1,408 | | 1,123 | | 5,134 | 29 | 3 | 727 | | 189 | | 455 | | 6,423 |
| Automobiles, bodies, trailers, and parts | 3361-63 | 21,137 | 12,534 | 6 | 1,168 | | 981 | | 3,468 | 20 | 1 | 557 | | 156 | i | 226 | | 1,840 |
| Aerospace products and parts | 3364 | 11,903 | 5,400 | * | 173 - 190 | | 103 | | 1,259 | 62 - 9 | 3 | 110 - 171 | | 13 | | 192 | | 4,479 - 4,584 |
| Aircraft, aircraft engine, and aircraft parts | 336411-13 | 11,473 | 5,185 | * | 174 | | 101 | | 1,169 | 59 - 9 | 2 | 108 - 171 | | 13 | | 192 | | 4,372 - 4,471 |
| Guided missile, space vehicle, and related parts | 336414-15, 336419 | 430 | 215 | 0 | 0 - 16 | | 1 | | 90 | | 2 | 0 - 3 | | 0 | | * | | 103 - 124 |
| Military armored vehicle, tank, and tank component | 336992 | 4 | 0 - 5 | 0 | * | i | * | i | 0 - 5 | i | * | 0 - 1 | i | * | i | * | i | * |
| Other transportation | other 336 | 1,585 | 927 - 935 | 3 | 48 - 67 | | 40 | | 401 - 409 | i 0 - 2 | 9 | 0 - 59 | | 19 | i | 37 | i | 0 - 105 |
| Furniture and related products | 337 | 419 | 309 | 1 | 10 | | 1 | | 44 | | 5 | 4 | | 2 | | 6 | | 37 |

TABLE 25

Domestic R&D paid for and performed by the company, by type of cost, industry, and company size: 2017 (Millions of U.S. dollars)

| Industry and company size | NAICS code | Total | Salaries, wages, and fringe benefits | Stock-base compensation | | | Expense equipme | | Material and supplies | | Lease and rent payment | | Depreciatio | | Royaltie and licensin fees | • | Other purchased services (except R&D) | | Other |
|--|------------------|---------|---|-------------------------|--------------|---|-----------------|---|-----------------------------|---|------------------------------|---|--------------|--------|-------------------------------------|---|---|---|------------------|
| Miscellaneous | 339 | 15,410 | 9,375 | 342 | 580 - 586 | | 181 | | 1,175 | | 125 - 131 | | 560 - 568 | | 46 | | 415 | | 2,590 - 2,601 |
| Medical equipment and supplies | 3391 | 13,348 | 7,837 | 335 | 562 | | 175 | | 992 | | 118 | | 533 | | 36 | | 402 | | 2,358 |
| Other miscellaneous manufacturing | 3399 | 2,062 | 1,538 | 6 | 17 - 24 | | 6 | | 183 | | 7 - 13 | | 28 - 36 | | 10 | | 13 | | 233 - 243 |
| Nonmanufacturing industries | 21-23, 42- 81 | 122,881 | 77,474 | 14,650 | 6,226 | | 2,365 | | 3,060 | | 2,619 | | 3,734 | | 186 | | 2,137 | | 10,431 |
| Mining, extraction, and support activities | 21 | 2,841 | 1,826 | 30 | 128 | | 12 | | 110 | | 46 | | 91 | | 0 | | 283 | | 315 |
| Utilities | 22 | 281 | 100 | 1 | i 15 | i | 4 | i | 41 | i | * | | 56 | | 4 | | 44 | i | 16 |
| Wholesale trade | 42 | 503 | 366 | 1 | i 12 | i | 1 | i | 36 | i | 6 | i | 5 | i | 21 | i | 10 | i | 45 |
| Electronic shopping and electronic auctions | 454111-12 | 9,318 | 6,122 i | 1,369 - 1,515 | 58 | | 65 | | 16 | | 40 - 186 | | 544 | | 0 | | 3 | | 809 - 955 |
| Transportation and warehousing | 48-49 | 1,116 | 668 | 6 | 90 | | 51 | | 175 | | 11 | | 31 | | 0 | | 27 | | 57 |
| Information | 51 | 78,898 | 47,749 | 12,039 | 3,783 | | 1,962 | | 1,434 | i | 2,077 | | 2,200 | \Box | 120 | | 995 | | 6,541 |
| Publishing | 511 | 33,276 | 22,265 | 3,200 - 3,237 | 1,246 | | 196 | | 426 | | 542 | | 564 | | 98 | | 830 | | 3,875 - 3,912 |
| Newspaper, periodical, book, and directory publishers | 5111 | 74 | 51 | 1 | 2 | | 1 | | 3 | | * | i | 5 | | 0 | | 0 | | 10 |
| Software publishers | 5112 | 33,201 | 22,214 | 3,199 - 3,236 | 1,244 | | 195 | | 422 | | 542 | | 558 | | 98 | | 830 | | 3,866 - 3,902 |
| Telecommunications | 517 | 3,643 | 2,265 - 2,372 | 168 | i 201 | | 9 | | 0 - 690 | i | 154 - 163 | i | 14 | | 4 | | 24 - 32 | | 0 - 806 |
| Data processing, hosting, and related services | 518 | 16,037 | 10,900 | 1,739 - 1,747 | 643 | | 245 | | 319 | | 236 | | 281 | | 15 | | 103 | | 1,545 - 1,553 |
| Other information | other 51 | 25,943 | 12,212 - 12,319 | 6,887 - 6,925 | 1,692 | | 1,511 | | 0 - 690 | | 1,135 - 1,144 | | 1,342 | | 3 | | 30 - 38 | | 278 - 1,099 |
| Finance and insurance | 52 | 7,565 | 4,848 | 178 | 1,204 | | 44 | | 42 | | 57 | | 156 | | 2 | | 566 | | 467 |
| Real estate and rental and leasing | 53 | 708 | 527 | 78 | 8 | i | 6 | i | 2 | | 6 | | 24 | | 3 | | 3 | i | 50 |
| Lessors of nonfinancial intangible assets (except copyrighted works) | 533 | 138 i | i 135 i | * | i * | i | * | i | * | i | * | i | * | i | * | i | 2 | i | * |

TABLE 25

Domestic R&D paid for and performed by the company, by type of cost, industry, and company size: 2017 (Millions of U.S. dollars)

| Industry and company size | NAICS code | Total | Salaries, wages, and fringe benefits | Stock-based compensation | Temporar staffing | | | and rental | Depreciation | and licensing | Other purchased services (except R&D) | Other |
|---|--|---------|---|--------------------------|----------------------|-------|--------|------------|--------------|---------------|---|--------------|
| Other real estate and rental and leasing | other 53 | 570 | 392 | 78 | 8 | i 6 | i 2 | 6 | 24 | 3 | * | 50 |
| Professional, scientific, and technical services | 54 | 18,972 | 13,268 | 737 | i 840 | 205 | 1,061 | 198 | 584 | 33 | 180 | 1,865 |
| Architectural, engineering, and related services | 5413 | 1,561 | 1,313 | 2 | 57 | 4 | 79 | 11 | 9 | 1 | 31 | 53 |
| Computer systems design and related services | 5415 | 11,669 | 8,183 | 634 | i 546 | 102 | 447 | 75 | 443 | 2 | 43 | 1,195 |
| Scientific research and development services | 5417 | 2,817 | 1,537 | 39 | 134 | 32 | 238 | 98 | 105 | 25 | 82 | 528 |
| Biotechnology research and development | 541711 | 795 | 416 | 15 | 47 | 4 | 81 | 18 | 27 | 8 | 30 | 150 |
| Physical, engineering, and life sciences (except biotechnology) research and development | 541712 | 1,936 | 1,089 | 24 | 87 | 28 | 158 | 73 | 78 | 17 | 52 | 330 |
| Social sciences and humanities research and development | 541720 | 86 | 32 | * | i * | i * | i * | i 6 | * | 0 | * i | 48 |
| Other professional, scientific, and technical services | other 54 | 2,925 | 2,235 | 62 | i 103 | 67 | 296 | 14 | 27 | 6 | 25 | 89 |
| Health care services | 621-23 | 958 | i 521 i | 70 | i 45 | i 11 | i 99 | i 36 i | 28 i | 1 i | 23 | 124 |
| Other nonmanufacturing | 23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81 | 1,722 | 1,478 | 0 - 137 | 41 | 6 | i 44 | i 0-137 | 14 | 2 i | 3 i | 0 - 137 |
| All companies (number of domestic employees) | _ | 339,036 | 195,095 | 24,315 | 14,013 | 5,800 | 23,309 | 5,694 | 13,495 | 2,117 | 8,078 | 47,120 |
| Small companies | | | | | | | | | | | | |
| 10−19 ^a | _ | 2,402 | 1,653 | 47 | 133 | 28 | 158 | 51 | 39 | 0 - 33 | 46 | 211 - 251 |
| 20-49 | _ | 7,593 | 5,052 | 161 | 323 | 85 | 650 | 176 | 191 | 83 | 149 | 724 |
| Medium companies | | | | | | | | | | | | |
| 50-99 | _ | 8,070 | 5,094 | 242 | 372 | 57 | 676 | 187 | 171 | 133 | 251 | 887 |
| 100-249 | _ | 13,514 | 8,281 | 629 | 553 | 165 | 1,230 | 307 | 340 | 242 | 172 | 1,594 |
| Large companies | | | | | | | | | | | | |

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TABLE 25

Domestic R&D paid for and performed by the company, by type of cost, industry, and company size: 2017 (Millions of U.S. dollars)

| Industry and company size | NAICS code | Total | Salaries, wages, and fringe benefits | Stock-based compensatio | | Expensed equipment | Materials and supplies | and rental | Depreciation | and licensing | Other purchased services (except R&D) | Other |
|---------------------------|------------|---------|---|-------------------------|-------|--------------------|------------------------------|------------|--------------|----------------|---|-----------------------|
| 250-499 | _ | 11,773 | 7,223 | 613 | 485 | 131 | 948 | 249 | 272 | 111 | 242 | 1,498 |
| 500-999 | _ | 16,295 | 9,878 | 1,124 | 650 | 309 | 1,201 | 288 | 484 | 134 | 385 | 1,843 |
| 1,000-4,999 | _ | 52,341 | 30,839 | 3,954 | 1,764 | 646 | 2,772 | 656 | 1,950 | 382 | 828 | 8,550 |
| 5,000-9,999 | _ | 32,701 | 19,636 | 1,804 | 1,463 | 233 | 2,074 | 402 | 1,352 | 35 | 537 | 5,165 |
| 10,000-24,999 | _ | 63,415 | 36,132 | 4,690 | 2,231 | 957 | 4,893 | 901 | 3,250 | 167 | 1,930 | 8,264 |
| 25,000 or more | _ | 130,931 | 71,307 | 11,051 | 6,039 | 3,190 | 8,708 | 2,477 | 5,445 | 793 - 834 i | 3,537 | 18,340 - 18,388 |

^{* =} amount < \$500,000; i = > 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

NAICS = 2012 North American Industry Classification System.

Note(s)

Detail may not add to total because of rounding. Industry classification is based on the dominant business code for domestic R&D performance, where available. 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.

^a Business Research and Development Survey does not include companies with fewer than 10 domestic employees.