**Table 32. Domestic R&D paid for by others and performed by the company, by type of cost, industry, and company size: 2024**

(Millions of U.S. dollars)

| Industry and company size | NAICS code | Total | Salaries, wages, and fringe benefits | Stock-based compensation | Temporary staffing | Expensed equipment | Materials and supplies | Lease and rental payments | Depreciation | Royalties and licensing fees | Other purchased services (except R&D) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All industries | 21–23, 31–33, 42–81 | 85,711 | 47,712 | 2,023 | 2,046 | 751 i | 9,384 i | 1,211 | 2,608 | 438 | 4,813 i | 14,725 i |
| Manufacturing industries | 31–33 | 48,661 | 27,930 | 1,164 | 903 | 353 | 6,055 i | 539 | 1,190 | 405 | 2,272 | 7,851 |
| Food | 311 | 268 | 166 | * | 16 | 1 | 11 | 7 i | 8 | 0 | 3 | 55 i |
| Beverage and tobacco products | 312 | * | 0 | 0 | 0 | 0 | 0 | 0 | * | 0 | 0 | 0 |
| Textile, apparel, and leather products | 313–16 | 6 | 4 | 0 | * i | * i | * | * i | 0 | 0 | * i | 2 |
| Wood products | 321 | 6 | 4 | * i | * | * | * | * | * | 0 | D | D |
| Paper | 322 | 1 | 1 | * i | * i | * i | * i | * i | 0 | * i | D | D |
| Printing and related support activities | 323 | 2 | 2 | * i | * i | 0 | * i | * i | * | 0 | * i | * i |
| Petroleum and coal products | 324 | 2 | 2 | * i | * i | * i | * i | * i | 0 | * i | D | D |
| Chemicals | 325 | 11,954 | 7,048 | 426 | 460 | 53 | 542 | 194 | 459 | 41 | 1,252 | 1,480 i |
| Basic chemicals | 3251 | 237 | 149 | 0 | 15 | 6 | 22 | * i | 16 | 0 | 1 | 29 |
| Resin, synthetic rubber, and artificial synthetic fibers and filaments | 3252 | D | D | 0 | D | D | D | * | D | 0 | 2 | D |
| Pesticide, fertilizer, and other agricultural chemicals | 3253 | D | D | * i | D | * i | D | D | D | * i | * i | D |
| Pharmaceuticals and medicines | 3254 | 10,971 | 6,500 | 426 | 409 | 41 | 418 | 151 | 393 | 37 | 1,239 | 1,357 i |
| Soap, cleaning compound, and toilet preparations | 3256 | 272 | 143 | 0 | 7 | D | 7 | D | 11 | 3 | 9 | D |
| Paint, coating, adhesive, and other chemicals | 3255, 3259 | D | 31 | * | D | D | 4 | D | D | * | 2 | D |
| Plastics and rubber products | 326 | 141 | 93 | 0 | 0 | * | 9 | * | 8 | 0 | 1 | 29 |
| Nonmetallic mineral products | 327 | 22 | 13 | 0 | * | * | 5 | * | 1 | 0 | 0 | 2 |
| Primary metals | 331 | 45 | 13 | 0 | 1 | 6 | 13 | * | * | 0 | 6 | 6 |
| Fabricated metal products | 332 | 93 | 47 | 0 | 0 | 1 i | 9 i | * r | 1 | 12 r | 12 i | 11 i |
| Machinery | 333 | 2,191 | 1,322 | D | 32 | 47 r | 99 | 67 | 103 | 1 | 27 | D |
| Agricultural implement | 33311 | D | D | D | D | 3 | D | D | D | 0 | 7 | D |
| Semiconductor machinery | 333242 | D | D | D | D | * | 19 | D | D | 0 | 2 | D |
| Engine, turbine, and power transmission equipment | 3336 | D | 224 i | D | 10 i | 3 i | D | D | D | 0 | 3 i | D |
| Other machinery | other 333 | 333 | 180 | D | 4 | 42 r | 48 | 2 | 10 | 1 | 16 | D |
| Computer and electronic products | 334 | 8,561 | 4,717 | 585 | 119 i | 82 | 1,269 | 148 | 270 | 27 | 193 | 1,151 |
| Communications equipment | 3342 | 771 i | 574 i | * i | 8 i | 2 i | 68 i | 31 i | 3 i | * i | 1 | 84 i |
| Semiconductor and other electronic components | 3344 | 3,812 | 2,244 | 544 | 84 i | 28 i | 46 | 44 | 155 | 27 | 132 i | 508 |
| Navigational, measuring, electromedical, and control instruments | 3345 | 3,347 | 1,545 | 3 | 24 | 42 | 1,097 | 38 | 94 | * | 55 | 447 |
| Electromedical, electrotherapeutic, and irradiation apparatus | 334510, 334517 | 199 | 133 | * | 6 | 1 | 20 | 6 | 3 | 0 | 3 | 28 |
| Search, detection, navigation, guidance, aeronautical, and nautical system and instruments | 334511 | 2,971 | 1,320 | 3 | 15 | 39 | 1,062 | 31 | 90 | 0 | 47 | 364 |
| Other measuring and controlling devices | other 3345 | 177 | 92 | 0 | 3 i | 2 | 14 | 2 r | 1 | * | 6 r | 55 r |
| Other computer and electronic products | other 334 | 631 | 353 | 37 | 3 | 11 | 59 | 35 | 17 | 0 | 4 | 112 |
| Electrical equipment, appliances, and components | 335 | 864 | 475 | D | 53 | 11 | 58 | 12 | 14 | 150 | 7 | D |
| Transportation equipment | 336 | 24,192 | 13,825 | D | 206 | 142 i | 4,011 i | 105 | 321 | 173 | 755 | D |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Motor vehicles, bodies, trailers, and parts | 3361–63 | D | 879 | * | 52 | 19 | 158 | 35 | D | 140 | D | D |
| Aerospace products and parts | 3364 | 20,774 i | 11,938 | D | 134 | 112 i | 3,636 i | D | 229 | D | 612 | D |
| Aircraft, aircraft engine, and aircraft parts | 336411–13 | D | D | * i | 78 i | 81 i | D | D | D | 0 | D | D |
| Guided missile, space vehicle, and related parts | 336414–15, 336419 | D | D | D | 57 | 31 | D | D | D | D | D | D |
| Military armored vehicle, tank, and tank components | 336992 | 10 | 6 | 0 | 1 | 0 | 3 | 0 | * | 0 | D | D |
| Other transportation | other 336 | D | 1,002 i | D | 19 i | 11 i | 214 i | D | D | D | D | D |
| Furniture and related products | 337 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Miscellaneous | 339 | 312 | 197 | 0 | 16 | 9 | 30 | 5 | 4 | 2 r | 15 | 35 |
| Medical equipment and supplies | 3391 | 285 | 181 | 0 | 16 | 9 | 23 | 5 | 3 | 2 r | 15 | 31 |
| Other miscellaneous manufacturing | 3399 | 27 | 15 | 0 | * | * i | 7 | * | 1 | 0 | * | 4 |
| Nonmanufacturing industries | 21–23, 42–81 | 37,050 | 19,782 | 859 | 1,143 | 398 i | 3,330 i | 672 i | 1,418 | 34 i | 2,540 i | 6,874 i |
| Mining, quarrying, oil and gas extraction, and support activities | 21 | 638 i | D | 0 | 50 i | 47 i | 1 i | 3 i | 87 i | 0 | 17 i | D |
| Utilities | 22 | D | D | 0 | * | 1 | * | 0 | 0 | 0 | 0 | * i |
| Wholesale trade | 42 | D | 94 i | 0 | 1 | * i | 12 i | 1 i | D | 0 | 3 i | D |
| Electronic shopping and electronic auctions | 454111–12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Transportation and warehousing | 48–49 | D | D | 0 | * | 5 | D | * | D | 0 | 8 | D |
| Information | 51 | 1,322 | 755 | 309 i | 96 | 23 | 21 | 8 | 6 | * | 33 | 70 |
| Publishing | 511 | 511 | 413 | 4 | 13 | 19 | 17 | D | 3 | * | 9 | D |
| Newspaper, periodical, book, and directory publishers | 5111 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Software publishers | 5112 | 511 | 413 | 4 | 13 | 19 | 17 | D | 3 | * | 9 | D |
| Telecommunications | 517 | D | D | 1 i | D | D | D | D | D | 0 | * i | D |
| Data processing, hosting, and related services | 518 | 755 | 308 | 301 i | D | D | 3 | 1 | D | 0 | 24 | D |
| Other information | other 51 | D | D | 3 | D | 0 | D | 3 | D | 0 | 0 | D |
| Finance and insurance | 52 | 101 | 99 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | * i |
| Real estate and rental and leasing | 53 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lessors of nonfinancial intangible assets (except copyrighted works) | 533 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other real estate and rental and leasing | other 53 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Professional, scientific, and technical services | 54 | 34,415 | 18,298 | 550 | 990 | 321 i | 3,271 i | 657 i | 1,317 | 33 i | 2,455 i | 6,523 i |
| Architectural, engineering, and related services | 5413 | 654 | 423 | 0 | 26 | 17 | 51 | 14 r | 3 | * | 32 | 88 |
| Computer systems design and related services | 5415 | 4,411 | 2,994 | 279 | 128 | 3 | 152 | 121 | 74 | * | 160 | 499 |
| Scientific research and development services | 5417 | 28,237 | 14,073 | 271 i | 716 i | 300 i | 3,022 i | 512 i | 1,237 | 33 i | 2,255 i | 5,820 i |
| Research and development in nanotechnology | 541713 | 115 | 75 | 0 | 2 | * | 8 | 3 | * | 0 | 9 r | 17 |
| Research and development in biotechnology (except nanobiotechnology) | 541714 | 5,547 | 2,657 | 44 | 147 | 33 | 701 | 45 | 184 | 3 | 986 i | 747 |
| Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology) | 541715 | 21,872 i | 10,964 i | 201 i | 541 i | 261 i | 2,311 i | 461 i | 1,048 | 30 i | 1,260 i | 4,794 i |
| Research and development in the social sciences and humanities | 541720 | 704 | 376 | 26 | 25 | 5 | 2 | 3 | 4 | * | 0 | 262 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Other professional, scientific, and technical services | other 54 | 1,113 | 808 | * | 120 | 1 | 46 | 10 | 2 | 0 | 9 | 116 |
| Health care services | 621–23 | 131 | 81 | 0 | 4 | 1 | 8 | 3 | D | 0 | 23 | D |
| Other nonmanufacturing | 23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81 | 49 | 39 | 0 | * | 0 | D | * | 2 | 0 | 1 | D |
| All companies (number of domestic employees) | – | 85,711 | 47,712 | 2,023 | 2,046 | 751 i | 9,384 i | 1,211 | 2,608 | 438 | 4,813 i | 14,725 i |
| Small companies | | | | | | | | | | | | |
| 10–19[a] | – | 1,056 | 642 | 15 | 22 | 14 i | 89 | 49 | 11 | 4 | 47 | 165 |
| 20–49 | – | 2,026 | 1,181 | 12 | 57 | 57 r | 214 | 46 | 38 | 7 | 132 | 282 |
| Medium companies | | | | | | | | | | | | |
| 50–99 | – | 2,080 | 1,354 | 56 | 34 | 11 | 194 | 31 | 24 | 6 | 79 | 290 |
| 100–249 | – | 2,777 | 1,553 | 49 | 103 | 36 | 296 | 53 | 43 | 11 r | 191 | 441 |
| Large companies | | | | | | | | | | | | |
| 250–499 | – | 2,667 | 1,594 | 150 | 35 | 11 | 225 | 58 | 85 | 23 | 70 i | 417 |
| 500–999 | – | 4,545 | 2,880 | 43 | 266 | 115 | 281 | 85 | 216 | 3 i | 148 | 509 |
| 1,000–4,999 | – | 13,201 | 7,124 | 907 | 455 | 118 i | 811 i | 230 | 437 i | 10 i | 1,160 i | 1,949 i |
| 5,000–9,999 | – | 7,146 | 3,956 | 242 | 77 | 17 | 225 | 124 | 291 | 5 i | 958 i | 1,251 |
| 10,000–24,999 | – | 19,357 | 10,371 | 520 | 598 | 188 i | 1,637 i | 306 i | 829 | 302 | 1,079 | 3,528 i |
| 25,000 or more | – | 30,855 | 17,056 i | 29 i | 400 | 185 i | 5,413 i | 229 | 635 | 67 i | 950 | 5,893 i |

* = amount < $500,000; D = data withheld to avoid disclosing operations of individual companies; i = more than 50% of the estimate is a combination of imputation and reweighting to account for nonresponse; r = relative standard error is more than 50%.

NAICS = 2017 North American Industry Classification System.

[a] The Business Enterprise Research and Development Survey does not include companies with fewer than 10 domestic employees.

**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 $50,000 or more of R&D.

**Source(s):**
National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2024.