

TABLE 9. Worldwide R&D paid for by others and performed by the company and others, by industry and company size: 2008
(Millions of U.S. dollars)

| Industry and company size | NAICS code | Worldwide | Own performance | Paid to others |
|--|------------------------|-----------|-----------------|----------------|
| All industries | 21-23, 31-33, 42-81 | 75,357 | 62,752 | 12,606 |
| Manufacturing industries | 31-33 | 49,503 | 40,666 | 8,837 |
| Food | 311 | 48 | 37 | 11 |
| Beverage and tobacco products | 312 | D | 3 | D |
| Textiles, apparel, and leather products | 313-316 | 14 | 12 | 2 |
| Wood products | 321 | 4 | 3 | 1 |
| Paper | 322 | 15 | 11 | 5 |
| Printing and related support activities | 323 | 67 | 37 | 30 |
| Petroleum and coal products | 324 | D | D | D |
| Chemicals | 325 | 5,659 | 3,648 | 2,011 |
| Basic chemicals | 3251 | 71 | 66 | 5 |
| Resin, synthetic rubber, fibers, and filaments | 3252 | D | 35 | D |
| Pesticide, fertilizer, and other agricultural chemical | 3253 | D | D | D |
| Pharmaceuticals and medicines | 3254 | 5,319 | 3,345 | 1,975 |
| Soap, cleaning compound, and toilet preparation | 3256 | 11 | 9 | 2 |
| Paint, coating, adhesive, and other chemical | 3255, 3259 | 69 | D | D |
| Plastics and rubber products | 326 | 114 | 106 | 8 |
| Nonmetallic mineral products | 327 | 51 | 46 | 5 |
| Primary metals | 331 | 46 | 42 | 5 |
| Fabricated metal products | 332 | 67 | 57 | 9 |
| Machinery | 333 | 323 | 269 | 54 |
| Agricultural implement | 33311 | D | 3 | D |
| Semiconductor machinery | 333295 | 70 | 63 | 7 |
| Engine, turbine, and power transmission equipment | 3336 | 82 | 63 | 18 |
| Other machinery | other 333 | D | 140 | D |
| Computer and electronic products | 334 | 8,325 | 7,906 | 418 |
| Communications equipment | 3342 | 1,443 | 1,431 | 12 |
| Semiconductor and other electronic components | 3344 | 957 | 909 | 48 |
| Navigational, measuring, electromedical, and control instruments | 3345 | 5,403 | 5,102 | 302 |
| Electromedical, electrotherapeutic, and irradiation apparatus | 334510, 334517 | 1,131 | 1,123 | 8 |
| Search, detection, navigation, guidance, aeronautical, and nautical system and instruments | 334511 | 4,124 | D | D |
| Other measuring and controlling instruments | other 3345 | 148 | D | D |
| Computer and peripheral equipment and other computer and electronic products | 3341, 3343, 3346 | 520 | 464 | 57 |
| Electrical equipment, appliances, and components | 335 | 230 | 206 | 25 |
| Transportation equipment | 336 | 34,147 | 27,984 | 6,162 i |
| Automobiles, bodies, trailers, and parts | 3361-3363 | 1,141 | 1,040 | 101 |
| Aerospace products and parts | 3364 | 32,967 | 26,907 | 6,060 i |
| Aircraft, aircraft engine, and aircraft parts | 336411-336413 | 25,725 | D | D |
| Guided missile, space vehicle, and related parts | 336414, 336415, 336419 | 7,242 | D | D |
| Military armored vehicle, tank, and tank components | 336992 | D | 7 | D |
| Other transportation | other 336 | D | 30 i | D |
| Furniture and related products | 337 | * | * | * |
| Miscellaneous manufacturing | 339 | D | D | D |
| Medical equipment and supplies | 3391 | 160 | 126 | 35 |
| Other miscellaneous manufacturing | 3399 | D | D | D |
| Nonmanufacturing industries | 21-23, 42-81 | 25,855 | 22,085 | 3,769 |
| Mining, extraction, and support activities | 21 | 39 | D | D |
| Utilities | 22 | 38 | 35 | 3 |
| Construction | 23 | D | D | * |
| Wholesale trade | 42 | 220 | 151 | 69 |
| Retail trade | 44, 45 | 2 | 2 | * |
| Electronic shopping and mail-order houses | 4541 | 1 | 1 | * |
| Other retail trade | other 44, 45 | 1 | 1 | 0 |
| Transportation and warehousing | 48, 49 | 2 | * | 2 |
| Information | 51 | 902 | 828 | 75 |
| Publishing | 511 | 671 | 603 | 68 |
| Newspaper, periodical, book, and directory publishers | 5111 | 0 | 0 | 0 |
| Software publishers | 5112 | 671 | 603 | 68 |

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|--|-----------------------------|-----------|-----------------|----------------|
| Telecommunications | 517 | 88 | 83 | 5 |
| Internet service providers, Web search portals, and data processing services | 518 | 86 | 84 | 2 |
| Other information | other 51 | 58 | 58 | * |
| Finance and insurance | 52 | 9 | 9 | 0 |
| Real estate and rental and leasing | 53 | 7 i | 7 i | 0 |
| Professional, scientific, and technical services | 54 | 24,059 | 20,611 | 3,448 |
| Architectural, engineering, and related services | 5413 | 2,535 | 2,126 | 409 |
| Computer systems design and related services | 5415 | 4,007 | 3,665 | 343 |
| Scientific R&D services | 5417 | 14,474 | 12,185 | 2,289 |
| Other professional, scientific, and technical services | other 54 | 3,043 | 2,635 | 408 |
| Health care services | 621-623 | 425 | 282 | 143 |
| Other nonmanufacturing | 55, 56, 61, 624, 71, 72, 81 | D | D | D |
| All companies | 21-23, 31-33, 42-81 | 75,357 | 62,752 | 12,606 |
| Small companies (number of employees) ^a | | | | |
| 5-499 | - | 14,651 | 12,131 | 2,520 |
| 5-99 | - | 9,999 | 8,577 | 1,422 |
| 5-49 | - | 7,647 | 6,453 | 1,193 |
| 5-24 | - | 4,713 | 4,076 | 637 |
| 25-49 | - | 2,934 | 2,377 | 556 |
| 50-99 | - | 2,352 | 2,123 | 229 |
| 100-249 | - | 2,635 | 1,842 | 794 |
| 250-499 | - | 2,017 | 1,712 | 304 |
| Medium and large companies (number of employees) | | | | |
| 500-999 | - | 2,858 | 2,286 | 572 |
| 1,000-4,999 | - | 9,152 | 8,049 | 1,103 |
| 5,000-9,999 | - | 8,165 | 6,842 | 1,324 |
| 10,000-24,999 | - | 7,907 | 6,250 | 1,657 |
| 25,000 or more | - | 32,624 | 27,194 | 5,430 i |

* = amount < \$500,000; D = data withheld to avoid disclosing operations of individual companies; i = value > 50% of estimate is a combination of imputation and reweighting to account for nonresponse.

NAICS = 2002 North American Industry Classification System.

^a Upper bound based on U.S. Small Business Administration's definition of small business: Business R&D and Innovation Survey (BRDIS) does not include companies with fewer than five domestic employees. After 2008 BRDIS sample was selected and surveyed, an error was identified that resulted in excluding 226,884 single-establishment companies with five paid employees from sample frame. Most excluded establishments were classified in industries with low R&D intensities, such as construction, retail trade, and service sectors. Based on available information for these small single-establishment companies, their contribution to 2008 R&D estimates is estimated to be negligible.

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 United States that performed or funded R&D.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics and U.S. Census Bureau, Business R&D and Innovation Survey, 2008.