

TABLE 42

**Domestic R&D paid for by other companies and performed by the company, by funders' business activity: 2018**

(Millions of U.S. dollars)

Funders' business activity <sup>a</sup>	Business code <sup>b</sup>	Amount	
All business activities	21100-81000	37,420	
Oil and gas extraction	21100	113	
Mining	21200	*	
Support activities for mining, including oil and gas	21300	32	
Utilities	22100	14	
Construction	23000	14	
Food manufacturing	31100	213	
Beverage manufacturing	31210	103	
Tobacco manufacturing	31220	5	
Textile, apparel, and leather products manufacturing	31990	*	i
Wood products manufacturing	32100	4	
Paper manufacturing	32200	1	
Printing and related support activities	32300	3	
Petroleum refineries	32401	28	i
Asphalt paving, roofing, and saturated materials manufacturing	32402	0	
Other petroleum and coal products manufacturing, including motor oil, hydraulic fluid, and charcoal	32403	3	
Basic chemicals manufacturing	32510	88	
Resin, synthetic rubber, and artificial synthetic fibers and filaments manufacturing	32520	74	
Pesticide, fertilizer, and other agricultural chemicals manufacturing	32530	29	
Pharmaceutical, medicinal, botanical, and biological products (except diagnostic substances) manufacturing	32541	15,338	
In vitro diagnostic substances manufacturing	32542	1	
Biotechnology-based pharmaceutical and biological products (except diagnostic substances)	32543	6,230	
Soap, cleaning compound, and toilet preparations manufacturing	32591	164	
Paint, adhesive, and other chemical manufacturing	32592	10	i
Plastics and rubber products manufacturing	32600	23	
Clay and glass products manufacturing	32710	2	i
Cement, concrete, lime, gypsum, and other nonmetallic mineral products manufacturing	32790	9	
Primary metal manufacturing	33100	12	i
Fabricated metal products manufacturing	33200	87	
Agricultural machinery and equipment manufacturing	33311	12	i
Construction machinery manufacturing	33312	2	i
Mining, oil, and gas field machinery and equipment manufacturing	33319	61	
Semiconductor machinery manufacturing	33321	0 - 646	
Industrial machinery manufacturing (except semiconductor machinery)	33322	27	
Photographic and photocopying equipment manufacturing	33331	1	
Commercial, service industry, temperature control, and air-flow control machinery manufacturing	33332	6	i
Digital cameras manufacturing	33333	0	

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Engine, turbine, and power transmission equipment manufacturing	33360	136	
Metalworking and other general purpose machinery manufacturing	33390	15	
Computers and peripheral equipment manufacturing and magnetic and optical media	33412	62	
Telephone apparatus manufacturing, including routers, modems, and gateways	33421	1	i
Radio, television, and wireless communication equipment manufacturing	33422	365	i
Other communication equipment manufacturing (except radio, television, and wireless communication equipment)	33429	37	
Audio and video equipment manufacturing	33430	7	
Semiconductor and other electronic components manufacturing	33440	2,729	
Electromedical, electrotherapeutic, and irradiation apparatus manufacturing	33451	91	
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments manufacturing	33452	848	
Measuring and control instruments manufacturing (not listed elsewhere)	33459	106	
Electrical equipment, appliances, and components manufacturing	33500	519	
Motor vehicles manufacturing	33610	2,747	
Motor vehicle body and trailer manufacturing	33620	0	
Motor vehicle parts manufacturing	33630	223	
Aircraft manufacturing	33641	318	
Aircraft engine and engine parts manufacturing	33642	213	
Other aircraft parts and auxiliary equipment manufacturing	33643	277	
Guided missiles, space vehicles, and related parts manufacturing	33644	359	
Railroad rolling stock manufacturing	33651	*	i
Ship and boat building	33660	0	
Motorcycle, bicycle, and parts manufacturing	33691	14	
Military armored vehicle, tank, and tank components manufacturing	33692	0 - 646	
All other transportation equipment manufacturing	33699	19	
Furniture and related products manufacturing	33700	1	
Medical equipment and supplies manufacturing	33910	678	
Miscellaneous manufacturing not listed elsewhere (games, office supplies, slot machines, etc.)	33990	143	i
Merchant wholesalers, durable goods	42300	13	
Merchant wholesalers, nondurable goods	42400	2	
Wholesale electronic markets and agents and brokers (business to business)	42500	4	
Retail trade (except electronic shopping and electronic auctions)	44000	20	
Electronic shopping and electronic auctions	45411	93	
Transportation	48000	*	
Couriers, messengers, and express delivery services	49200	15	
Warehousing and storage	49300	6	
Newspaper, periodical, book, and directory publishers (except Internet)	51110	0	
Software publishers (except Internet)	51120	222	

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Motion picture and sound recording (except Internet)	51200	0	
Broadcasting (except Internet)	51500	0	
Wired telecommunications carriers	51710	5	
Wireless telecommunications carriers (except satellite)	51720	10	
Satellite telecommunications	51740	0 - 646	
Other telecommunications (not listed elsewhere)	51790	23	
Data processing, hosting, and related services	51800	22	i
Cloud computing applications and Internet-based software services	51801	143	i
Other information services, including Internet publishing, broadcasting, and Web search portals	51910	0 - 646	
Finance: banking and credit intermediation	52200	2	
Securities, commodity contracts, and other financial investments and related activities, including funds and trusts	52310	9	
Insurance carriers and related activities	52400	11	
Real estate	53100	20	
Rental and leasing services	53200	0	
Lessors of nonfinancial intangible assets, including patent licensing	53300	0	
Legal, accounting, tax preparation, bookkeeping, and payroll services	54111	2	i
Architectural, engineering, and related services	54130	299	
Specialized design services	54140	8	
Computer systems design and related services	54150	1,387	
Management, scientific, and technical consulting services	54160	4	i
Research and development services in social sciences and humanities	54172	10	
Research and development services in biotechnology	54173	445	
Research and development services in physical, engineering, and life sciences (except biotechnology)	54174	649	
Advertising and related services	54180	0	
Professional, scientific, and technical services (not listed elsewhere)	54190	215	
Management of companies and enterprises	55100	15	
Administrative and support services	56100	0	
Waste management and remediation services	56200	0	
Offices of physicians	62110	4	
Medical and diagnostic laboratories	62150	28	i
Other ambulatory health care services (ambulance, dental, home health care)	62199	0	
Hospitals and nursing care facilities	62200	2	
Social assistance services	62400	*	
Arts, entertainment, and recreation	71000	*	
Accommodation and food services	72000	0	
Other services (not listed elsewhere)	81000	94	

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Undistributed	-	419   i

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

<sup>a</sup> Data are tabulated independent of the industry classification and business activities of the company that performs R&D.

<sup>b</sup> Business codes and descriptions are based on 2012 North American Industry Classification System industry definitions.

**Note(s):**

Detail may not add to total because of rounding. For an R&D performer that did not report the R&D funders' business activities, no systematic imputation of these business activities was conducted. The business activities of the R&D funders may not be assumed to be the same as those of the R&D performer. Beginning in survey year 2018, statistics are representative of companies located in the United States that performed or funded \$50,000 or more of R&D. This change has affected the comparability of these estimates with estimates published for years prior to 2018. 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, 2018.