

Table 15. Domestic R&D paid for by the company and others and performed by the company, by business activity: 2024

(Millions of U.S. dollars)

Business activity ^a	Business code ^b	Total	Paid for by the company	Paid for by others
All business activities	21100–81000	765,082	679,371	85,711
Oil and gas extraction	21100	639	614	25 i
Mining	21200	110	110	*
Support activities for mining, including oil and gas	21300	1,158	515	642
Utilities	22100	D	618	D
Construction	23000	733	705	27
Food manufacturing	31100	6,291	6,069	222
Beverage manufacturing	31210	912	912	*
Tobacco manufacturing	31220	232	232	0
Textile, apparel, and leather products manufacturing	31990	743	737	6
Wood products manufacturing	32100	363	356	6
Paper manufacturing	32200	1,469	1,468	1
Printing and related support activities	32300	420	419	2
Petroleum refineries	32401	531	530	1
Asphalt paving, roofing, and saturated materials manufacturing	32402	141	141	0
Other petroleum and coal products manufacturing, including motor oil, hydraulic fluid, and charcoal	32403	122	122	* i
Basic chemicals manufacturing	32510	3,345	3,154	192
Resin, synthetic rubber, and artificial synthetic fibers and filaments manufacturing	32520	D	1,143	D
Pesticide, fertilizer, and other agricultural chemicals manufacturing	32530	D	1,304	D
Pharmaceutical, medicinal, botanical, and biological products (except diagnostic substances) manufacturing	32541	63,457	55,976	7,481
In vitro diagnostic substances manufacturing	32542	3,193	3,161	32
Biotechnology-based pharmaceutical and biological products (except diagnostic substances)	32543	65,536	62,529	3,006
Soap, cleaning compound, and toilet preparations manufacturing	32591	2,398	2,093	306
Paint, adhesive, and other chemical manufacturing	32592	D	1,509	D
Plastics and rubber products manufacturing	32600	2,862	2,777	84 i
Clay and glass products manufacturing	32710	1,464 i	1,442 i	22
Cement, concrete, lime, gypsum, and other nonmetallic mineral products manufacturing	32790	350 i	281	69 i
Primary metal manufacturing	33100	1,159	1,097	62
Fabricated metal products manufacturing	33200	3,783	3,367	416
Agricultural machinery and equipment manufacturing	33311	D	2,011	D
Construction machinery manufacturing	33312	1,506	1,484	22
Mining, oil, and gas field machinery and equipment manufacturing	33319	1,063	973	90
Semiconductor machinery manufacturing	33321	D	D	D
Industrial machinery manufacturing (except semiconductor machinery)	33322	1,451	1,281	170
Photographic and photocopying equipment manufacturing	33331	71	71	0
Commercial, service industry, temperature control, and air-flow control machinery manufacturing	33332	2,578	2,507	70
Digital cameras manufacturing	33333	238	238	0
Engine, turbine, and power transmission equipment manufacturing	33360	3,819	3,214	605
Metalworking and other general purpose machinery manufacturing	33390	2,804	2,742	62
Computers and peripheral equipment manufacturing and magnetic and optical media	33412	D	34,449	D
Telephone apparatus manufacturing, including routers, modems, and gateways	33421	9,188	9,185	3
Radio, television, and wireless communication equipment manufacturing	33422	3,292	2,348	945 i
Other communication equipment manufacturing (except radio, television, and wireless communication equipment)	33429	518	497	22
Audio and video equipment manufacturing	33430	1,622	1,577	45
Semiconductor and other electronic components manufacturing	33440	55,353	51,748	3,605
Electromedical, electrotherapeutic, and irradiation apparatus manufacturing	33451	4,466	4,273	193

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Search, detection, navigation, guidance, aeronautical, and nautical system and instruments manufacturing	33452	6,655	2,919	3,736
Measuring and control instruments manufacturing (not listed elsewhere)	33459	4,517	4,361	156
Electrical equipment, appliances, and components manufacturing	33500	6,548	5,709	839
Motor vehicles manufacturing	33610	25,676	24,962	714
Motor vehicle body and trailer manufacturing	33620	238	238	* i
Motor vehicle parts manufacturing	33630	5,905	5,073	831
Aircraft manufacturing	33641	18,800 i	7,133	11,667 i
Aircraft engine and engine parts manufacturing	33642	4,948	2,387	2,561
Other aircraft parts and auxiliary equipment manufacturing	33643	3,122	1,788	1,334 i
Guided missiles, space vehicles, and related parts manufacturing	33644	6,808 i	2,938	3,870 i
Railroad rolling stock manufacturing	33651	D	217	D
Ship and boat building	33660	D	260	D
Motorcycle, bicycle, and parts manufacturing	33691	390	375	15
Military armored vehicle, tank, and tank components manufacturing	33692	210 i	182 i	28
All other transportation equipment manufacturing	33699	589	576	12
Furniture and related products manufacturing	33700	475	474	1
Medical equipment and supplies manufacturing	33910	21,421	21,157	263
Miscellaneous manufacturing not listed elsewhere (games, office supplies, slot machines, etc.)	33990	2,833	2,775	59
Merchant wholesalers, durable goods	42300	1,091	1,041	50
Merchant wholesalers, nondurable goods	42400	660 i	605 i	55 i
Wholesale electronic markets and agents and brokers (business to business)	42500	60	D	D
Retail trade (except electronic shopping and electronic auctions)	44000	737	737	*
Electronic shopping and electronic auctions	45411	6,048 i	6,048 i	0
Transportation	48000	8,345	8,345	1
Couriers, messengers, and express delivery services	49200	2,287	2,287	0
Warehousing and storage	49300	32	30	2
Newspaper, periodical, book, and directory publishers (except Internet)	51110	336 i	336 i	0
Software publishers (except Internet)	51120	42,990	41,978	1,012
Motion picture and sound recording (except Internet)	51200	48	47	1
Broadcasting (except Internet)	51500	494 i	494 i	0
Wired telecommunications carriers	51710	481	480	1
Wireless telecommunications carriers (except satellite)	51720	2,322	2,263	60
Satellite telecommunications	51740	720	718	2
Other telecommunications (not listed elsewhere)	51790	452	439	13
Data processing, hosting, and related services	51800	16,183	16,159	24
Cloud computing applications and Internet-based software services	51801	54,815	53,800	1,015 i
Other information services, including Internet publishing, broadcasting, and Web search portals	51910	D	105,524	D
Finance: banking and credit intermediation	52200	16,313	16,217	97
Securities, commodity contracts, and other financial investments and related activities, including funds and trusts	52310	5,813	5,809	4
Insurance carriers and related activities	52400	2,732	2,732	0
Real estate	53100	521	521	0
Rental and leasing services	53200	2,395	2,395	*
Lessors of nonfinancial intangible assets, including patent licensing	53300	34	33	*
Legal, accounting, tax preparation, bookkeeping, and payroll services	54111	4,522 i	4,522 i	0
Architectural, engineering, and related services	54130	4,604	3,790	814
Specialized design services	54140	136	94 r	42
Computer systems design and related services	54150	25,311	21,501	3,810
Management, scientific, and technical consulting services	54160	4,820	3,388	1,432

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Research and development services in the social sciences and humanities	54172	715	8	706
Research and development services in biotechnology	54173	6,164	1,217	4,947
Research and development services in the physical, engineering, and life sciences (except biotechnology)	54174	25,296	3,397	21,900 i
Research and development services in nanotechnology	54175	561	445	115
Advertising and related services	54180	1,050 i	1,046 i	4
Professional, scientific, and technical services (not listed elsewhere)	54190	2,202	1,696	506
Management of companies and enterprises	55100	27	27	0
Administrative and support services	56100	4,800	4,797	3
Waste management and remediation services	56200	63	56	7
Offices of physicians	62110	282	174	107
Medical and diagnostic laboratories	62150	2,604	1,763	841
Other ambulatory health care services (ambulance, dental, home health care)	62199	344	344	0
Hospitals and nursing care facilities	62200	D	D	1
Social assistance services	62400	D	D	0
Arts, entertainment, and recreation	71000	158	158	0
Accommodation and food services	72000	188	188	0
Other services (not listed elsewhere)	81000	585	563	23
Undistributed ^c	–	0	0	0

* = 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%.

^a Business activity data are tabulated independent of the industry classification of the company. Companies were asked to report their sales and R&D activity in one or more business activity codes.

^b Business codes and descriptions are based on 2017 North American Industry Classification System industry definitions.

^c Undistributed includes data reported that were not allocated to a business activity.

Note(s):

Detail may not add to total because of rounding. 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.