

TABLE 17

Domestic R&D paid for by the company and others and performed by the company as a percentage of domestic net sales, by industry and company size: 2020

(Millions of U.S. dollars and percent)

Industry and company size	NAICS code	Domestic R&D (US\$millions)		Percent of domestic sales of R&D performers or funders ^a	Percent of domestic sales of R&D performers ^b
All industries	21-23, 31-33, 42-81	537,619		4.8	5.0
Manufacturing industries	31-33	308,445		5.4	5.5
Food	311	5,239		0.9	0.9
Beverage and tobacco products	312	1,177	i	0.8	0.8
Textile, apparel, and leather products	313-16	822		1.3	1.3
Wood products	321	187		0.4	0.4
Paper	322	928		1.1	1.1
Printing and related support activities	323	283		0.9	0.9
Petroleum and coal products	324	1,311 - 1,324		D	D
Chemicals	325	101,079		9.0	9.1
Basic chemicals	3251	2,694		1.1	1.1
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,234		2.4	2.4
Pesticide, fertilizer, and other agricultural chemicals	3253	1,060 - 1,066		D	D
Pharmaceuticals and medicines	3254	91,776		16.6	16.9
Soap, cleaning compound, and toilet preparation	3256	2,665		2.3	2.3
Paint, coating, adhesive, and other chemicals	3255, 3259	1,643 - 1,649		D	D
Plastics and rubber products	326	2,634		1.4	1.4
Nonmetallic mineral products	327	1,717	i	2.9	3.6
Primary metals	331	815		1.2	1.2
Fabricated metal products	332	3,396		2.5	2.5
Machinery	333	16,223		4.6	4.6
Agricultural implement	33311	1,769 - 1,811		D	D
Semiconductor machinery	333242	4,807		17.9	17.9
Engine, turbine, and power transmission equipment	3336	1,645		3.8	D
Other machinery	other 333	7,959 - 8,001		D	D
Computer and electronic products	334	99,535		13.1	13.2
Communications equipment	3342	12,103		11.8	D
Semiconductor and other electronic components	3344	43,181		20.9	21.1
Navigational, measuring, electromedical, and control instruments	3345	18,505		9.9	9.9
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	2,858		13.6	13.6
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	10,586		12.2	12.2
Other measuring and controlling device	other 3345	5,061		6.4	6.4
Other computer and electronic products	other 334	25,747		9.8	D
Electrical equipment, appliances, and components	335	4,998		3.3	3.3
Transportation equipment	336	48,796		5.3	5.3
Motor vehicles, bodies, trailers, and parts	3361-63	23,121		4.0	D
Aerospace products and parts	3364	22,914	i	8.5	8.5
Aircraft, aircraft engine, and aircraft parts	336411-13	21,291	i	8.3	8.3
Guided missile, space vehicle, and related parts	336414-15, 336419	1,623		15.8	15.8
Military armored vehicle, tank, and tank component	336992	11		2.1	2.1

TABLE 17

Domestic R&D paid for by the company and others and performed by the company as a percentage of domestic net sales, by industry and company size: 2020

(Millions of U.S. dollars and percent)

Industry and company size	NAICS code	Domestic R&D (US\$millions)		Percent of domestic sales of R&D performers or funders ^a	Percent of domestic sales of R&D performers ^b
Other transportation	other 336	2,750		3.9	D
Furniture and related products	337	496		1.1	1.1
Miscellaneous	339	18,791 - 18,809		D	D
Medical equipment and supplies	3391	16,116		2.7	2.7
Other miscellaneous manufacturing	3399	2,674 - 2,692		D	D
Nonmanufacturing industries	21-23, 42-81	229,174		4.1	4.4
Mining, quarrying, oil and gas extraction, and support activities	21	1,165		1.2	1.2
Utilities	22	264		0.1	0.1
Wholesale trade	42	1,058		0.4	0.4
Electronic shopping and electronic auctions	454111-12	3,840 - 19,390	i	D	D
Transportation and warehousing	48-49	4,957	i	2.3	2.3
Information	51	129,463		7.8	7.8
Publishing	511	35,025		13.8	13.9
Newspaper, periodical, book, and directory publishers	5111	60		3.8	4.5
Software publishers	5112	34,965		13.9	13.9
Telecommunications	517	3,425 - 3,437		D	D
Data processing, hosting, and related services	518	41,551		8.1	8.1
Other information	other 51	49,449 - 49,463		D	D
Finance and insurance	52	12,296		0.8	1.0
Real estate and rental and leasing	53	3,249		24.0	24.0
Lessors of nonfinancial intangible assets (except copyrighted works)	533	7		0.4	0.4
Other real estate and rental and leasing	other 53	3,242		27.0	27.1
Professional, scientific, and technical services	54	54,367		13.0	13.2
Architectural, engineering, and related services	5413	4,214		5.9	6.0
Computer systems design and related services	5415	17,935		10.7	10.9
Scientific research and development services	5417	25,600		36.4	36.8
Research and development in nanotechnology	541713	179	i	46.7	46.7
Research and development in biotechnology (except nanobiotechnology)	541714	6,191		30.7	31.0
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	18,539	i	38.0	38.4
Research and development in the social sciences and humanities	541720	691		69.3	69.3
Other professional, scientific, and technical services	other 54	6,618		6.1	6.1
Health care services	621-23	1,477		1.0	1.0
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	1,491 - 17,041		D	D
All companies (number of domestic employees)	-	537,619		4.8	5.0
Small companies					
10-19 ^c	-	5,047		21.4	22.2
20-49	-	12,994		12.8	13.4
Medium companies					

TABLE 17

Domestic R&D paid for by the company and others and performed by the company as a percentage of domestic net sales, by industry and company size: 2020

(Millions of U.S. dollars and percent)

Industry and company size	NAICS code	Domestic R&D (US\$millions)	Percent of domestic sales of R&D performers or funders ^a	Percent of domestic sales of R&D performers ^b
50–99	–	12,993	10.1	10.4
100–249	–	25,411	6.2	6.3
Large companies				
250–499	–	20,878	7.0	7.3
500–999	–	21,264	5.2	5.2
1,000–4,999	–	88,238	5.8	5.9
5,000–9,999	–	48,397	4.1	4.2
10,000–24,999	–	88,567	4.3	4.3
25,000 or more	–	213,829	4.1	4.4

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.

NAICS = 2017 North American Industry Classification System.

^a Statistics used for both the numerator and denominator in the calculation of these percentages are representative of companies located in the United States that performed or funded R&D.

^b Statistics used for both the numerator and denominator in the calculation of these percentages are representative of companies located in the United States that performed R&D. The calculation of percentages in this column excludes R&D and sales of companies that fund R&D but do not perform R&D.

^c 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 and are not comparable 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 Census Bureau, Business Enterprise Research and Development Survey, 2020.