

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: 2017
(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	400,100	4.1	4.3
Manufacturing industries	31-33	257,227	4.7	4.8
Food	311	4,697	0.7	0.7
Beverage and tobacco products	312	1,076	0.7	0.7
Textile, apparel, and leather products	313-16	920	1.1	1.2
Wood products	321	175	0.6	0.6
Paper	322	1,322	0.8	0.8
Printing and related support activities	323	229	0.6	0.6
Petroleum and coal products	324	316	0.1	0.1
Chemicals	325	74,977	8.3	8.4
Basic chemicals	3251	2,574	1.6	1.6
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	628	1.4	1.5
Pesticide, fertilizer, and other agricultural chemicals	3253	1,376 - 1,475	D	D
Pharmaceuticals and medicines	3254	66,202	14.2	14.3
Soap, cleaning compound, and toilet preparation	3256	2,605 - 2,701	D	D
Paint, coating, adhesive, and other chemicals	3255, 3259	1,495	2.3	2.3
Plastics and rubber products	326	3,754	2.0	2.0
Nonmetallic mineral products	327	1,334	2.9	3.2
Primary metals	331	749	0.8	0.9
Fabricated metal products	332	2,206	2.0	2.0
Machinery	333	13,197	4.1	4.1
Agricultural implement	33311	1,570	3.4	3.4
Semiconductor machinery	333242	3,694	18.4	18.4
Engine, turbine, and power transmission equipment	3336	2,080	5.8	5.8
Other machinery	other 333	5,853	2.7	2.7
Computer and electronic products	334	78,575	11.3	11.3
Communications equipment	3342	12,687	14.3	14.4
Semiconductor and other electronic components	3344	30,148	17.5	17.6
Navigational, measuring, electromedical, and control instruments	3345	14,509	8.6	8.7
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	2,696	12.0	12.1
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	7,297	9.5	9.5
Other measuring and controlling device	other 3345	4,516	6.5	6.6

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Other computer and electronic products	other 334	21,231	7.9	7.9
Electrical equipment, appliances, and components	335	4,291	3.8	3.8
Transportation equipment	336	53,292	4.5	4.7
Automobiles, bodies, trailers, and parts	3361-63	23,881	3.2	3.4
Aerospace products and parts	3364	26,383	7.5	7.5
Aircraft, aircraft engine, and aircraft parts	336411-13	24,576	7.4	7.4
Guided missile, space vehicle, and related parts	336414-15, 336419	1,807	9.6	9.6
Military armored vehicle, tank, and tank component	336992	9	2.9	3.0
Other transportation	other 336	3,018	4.6	4.6
Furniture and related products	337	422	1.0	1.0
Miscellaneous manufacturing	339	15,695	4.0	4.1
Medical equipment and supplies	3391	13,589	4.4	4.4
Other miscellaneous manufacturing	3399	2,106	2.7	2.7
Nonmanufacturing industries	21-23, 42-81	142,874	3.4	3.6
Mining, extraction, and support activities	21	3,150	1.3	D
Utilities	22	317	0.1	0.1
Wholesale trade	42	534	0.3	0.3
Electronic shopping and electronic auctions	454111-12	9,318	6.8	6.8
Transportation and warehousing	48-49	1,147	0.6	D
Information	51	80,252	6.7	6.8
Publishing	511	34,338	14.8	14.8
Newspaper, periodical, book, and directory publishers	5111	74	3.4	4.0
Software publishers	5112	34,264	14.9	14.9
Telecommunications	517	3,682 - 3,806	D	D
Data processing, hosting, and related services	518	16,155	5.3	5.3
Other information	other 51	25,954 - 26,077	D	D
Finance and insurance	52	7,616	1.0	1.1
Real estate and rental and leasing	53	718	6.6	7.4
Lessors of nonfinancial intangible assets (except copyrighted works)	533	138	6.7	7.3
Other real estate and rental and leasing	other 53	579	6.6	7.5
Professional, scientific, and technical services	54	36,922	9.2	9.3
Architectural, engineering, and related services	5413	2,708	2.9	2.9

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Computer systems design and related services	5415	13,327	8.8	8.8
Scientific research and development services	5417	17,321	25.1	25.1
Biotechnology research and development	541711	4,449	16.6	16.6
Physical, engineering, and life sciences (except biotechnology) research and development	541712	11,913	29.0	29.1
Social sciences and humanities research and development	541720	959	77.1	77.1
Other professional, scientific, and technical services	other 54	3,566	4.1	4.1
Health care services	621-23	1,101	1.0	1.0
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	1,799	0.3	0.4
All companies (number of domestic employees)	-	400,100	4.1	4.3
Small companies				
10-19 ^c	-	3,311	13.7	15.4
20-49	-	9,435	11.0	11.7
Medium companies				
50-99	-	10,141	8.7	9.0
100-249	-	17,216	6.7	6.9
Large companies				
250-499	-	14,103	5.0	5.2
500-999	-	17,871	4.8	5.0
1,000-4,999	-	65,112	5.2	5.3
5,000-9,999	-	40,198	4.3	4.4
10,000-24,999	-	73,485	4.0	4.1
25,000 or more	-	149,227	3.3	3.5

D = data withheld to avoid disclosing operations of individual companies; i = > 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

NAICS = 2012 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 Business 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 R&D, unless indicated otherwise. 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, 2017.