

TABLE 41

Domestic R&D paid for by others and performed by the company and others 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	70,854	0.7	0.8
Manufacturing industries	31-33	48,691	0.9	0.9
Food	311	252	*	*
Beverage and tobacco products	312	107	0.1	0.1
Textile, apparel, and leather products	313-16	1	*	*
Wood products	321	5	*	*
Paper	322	30	*	*
Printing and related support activities	323	11	*	*
Petroleum and coal products	324	17	*	*
Chemicals	325	16,451	1.8	1.8
Basic chemicals	3251	180 - 217	D	D
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	16	*	*
Pesticide, fertilizer, and other agricultural chemicals	3253	284 - 418	D	D
Pharmaceuticals and medicines	3254	15,697	3.4	3.4
Soap, cleaning compound, and toilet preparation	3256	118 - 249	D	D
Paint, coating, adhesive, and other chemicals	3255, 3259	23 - 60	D	D
Plastics and rubber products	326	129	0.1	0.1
Nonmetallic mineral products	327	30	0.1	0.1
Primary metals	331	10	*	*
Fabricated metal products	332	112	0.1	0.1
Machinery	333	974	0.3	0.3
Agricultural implement	33311	58 - 62	i D	D
Semiconductor machinery	333242	465 - 487	D	D
Engine, turbine, and power transmission equipment	3336	169	0.5	0.5
Other machinery	other 333	256 - 283	D	D
Computer and electronic products	334	8,798	1.3	1.3
Communications equipment	3342	1,727	i 1.9	2.0
Semiconductor and other electronic components	3344	2,309	1.3	1.3
Navigational, measuring, electromedical, and control instruments	3345	4,546	2.7	2.7
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	152 - 162	D	D
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	4,190 - 4,200	D	D
Other measuring and controlling device	other 3345	193	0.3	0.3

TABLE 41

Domestic R&D paid for by others and performed by the company and others 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
Other computer and electronic products	other 334	216		0.1	0.1
Electrical equipment, appliances, and components	335	188		0.2	0.2
Transportation equipment	336	21,251	i	1.8	1.9
Automobiles, bodies, trailers, and parts	3361-63	2,869		0.4	0.4
Aerospace products and parts	3364	16,940	i	4.8	4.8
Aircraft, aircraft engine, and aircraft parts	336411-13	15,563	i	4.7	4.7
Guided missile, space vehicle, and related parts	336414-15, 336419	1,378		7.3	7.3
Military armored vehicle, tank, and tank component	336992	5		1.5	1.6
Other transportation	other 336	1,437		2.2	2.2
Furniture and related products	337	3		*	*
Miscellaneous manufacturing	339	319		0.1	0.1
Medical equipment and supplies	3391	273		0.1	0.1
Other miscellaneous manufacturing	3399	46		0.1	0.1
Nonmanufacturing industries	21-23, 42-81	22,163		0.5	0.6
Mining, extraction, and support activities	21	308 - 315		D	D
Utilities	22	81	i	*	*
Wholesale trade	42	42		*	*
Electronic shopping and electronic auctions	454111-12	0		0.0	0.0
Transportation and warehousing	48-49	31		*	D
Information	51	1,437		0.1	0.1
Publishing	511	1,142		0.5	0.5
Newspaper, periodical, book, and directory publishers	5111	*		*	0.0
Software publishers	5112	1,142		0.5	0.5
Telecommunications	517	42 - 165		D	D
Data processing, hosting, and related services	518	120		*	*
Other information	other 51	11 - 134		D	D
Finance and insurance	52	51		*	*
Real estate and rental and leasing	53	11		0.1	0.1
Lessors of nonfinancial intangible assets (except copyrighted works)	533	0		0.0	0.0
Other real estate and rental and leasing	other 53	11		0.1	0.1
Professional, scientific, and technical services	54	19,943		5.0	5.0
Architectural, engineering, and related services	5413	1,462		1.6	1.6

TABLE 41

Domestic R&D paid for by others and performed by the company and others 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
Computer systems design and related services	5415	1,695	1.1	1.1
Scientific research and development services	5417	16,035	23.2	23.2
Biotechnology research and development	541711	3,699	13.8	13.8
Physical, engineering, and life sciences (except biotechnology) research and development	541712	11,306	27.5	27.5
Social sciences and humanities research and development	541720	1,030	82.8	82.8
Other professional, scientific, and technical services	other 54	751	0.9	0.9
Health care services	621-23	143 - 150	i D	D
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	111	*	*
All companies (number of domestic employees)	-	70,854	0.7	0.8
Small companies				
10-19 ^c	-	1,036	4.3	4.8
20-49	-	2,156	2.5	2.7
Medium companies				
50-99	-	2,493	2.1	2.2
100-249	-	4,681	1.8	1.9
Large companies				
250-499	-	2,647	0.9	1.0
500-999	-	1,822	0.5	0.5
1,000-4,999	-	14,705	1.2	1.2
5,000-9,999	-	8,637	0.9	1.0
10,000-24,999	-	11,753	0.6	0.7
25,000 or more	-	20,924	i 0.5	0.5

* = amount < \$500,000 or less than 0.05%; 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.