

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: 2016

(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	66,309		0.7	0.7
Manufacturing industries	31-33	46,285		0.9	D
Food	311	217		*	*
Beverages and tobacco products	312	D		D	D
Textiles, apparel, and leather products	313-16	10		*	*
Wood products	321	D		D	D
Paper	322	*		*	*
Printing and related support activities	323	D		D	D
Petroleum and coal products	324	D		D	D
Chemicals	325	13,592		1.3	D
Basic chemicals	3251	263		0.1	D
Resins, synthetic rubber, and artificial synthetic fibers and filaments	3252	18		*	*
Pesticides, fertilizers, and other agricultural chemicals	3253	D		D	D
Pharmaceuticals and medicines	3254	12,793		2.2	D
Soaps, cleaning compounds, and toilet preparations	3256	168		0.2	0.2
Paints, coatings, adhesives, and other chemicals	3255, 3259	D		D	D
Plastics and rubber products	326	172		0.1	0.1
Nonmetallic mineral products	327	15		*	*
Primary metals	331	D		D	D
Fabricated metal products	332	144	i	0.1	0.1
Machinery	333	919		0.3	0.3
Agricultural implements	33311	13		*	*
Semiconductor machinery	333242	404		2.4	2.4
Engines, turbines, and power transmission equipment	3336	60	i	0.2	0.2
Other machinery	other 333	441		0.2	0.2
Computer and electronic products	334	9,123		1.2	1.2
Communications equipment	3342	1,861	i	1.8	1.8
Semiconductors and other electronic components	3344	2,261		0.8	0.8
Navigational, measuring, electromedical, and control instruments	3345	4,916		2.9	2.9
Electromedical, electrotherapeutic, and irradiation apparatuses	334510, 334517	167		0.8	0.8
Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments	334511	4,569		6.2	6.2
Other measuring and controlling devices	other 3345	180		0.2	0.2
Other computer and electronic products	other 334	85		*	*
Electrical equipment, appliances, and components	335	479	i	0.3	0.3
Transportation equipment	336	21,213		1.6	1.7
Automobiles, bodies, trailers, and parts	3361-63	2,886		0.3	0.3
Aerospace products and parts	3364	17,076		5.1	5.1
Aircraft, aircraft engines, and aircraft parts	336411-13	15,993		5.0	5.0
Guided missiles, space vehicles, and related parts	336414-15, 336419	1,083	i	6.3	6.3
Military armored vehicles, tanks, and tank components	336992	D		D	D
Other transportation	other 336	D		D	D
Furniture and related products	337	*		*	*
Miscellaneous manufacturing	339	264		0.1	0.1
Medical equipment and supplies	3391	219		0.1	0.1
Other miscellaneous manufacturing	3399	45		0.1	0.1

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: 2016

(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
Nonmanufacturing industries	21-23, 42-81	20,024		0.5	D
Mining, extraction, and support activities	21	400		0.2	0.2
Utilities	22	40		*	*
Wholesale trade	42	13	i	*	*
Electronic shopping and electronic auctions	454111-12	0		0.0	0.0
Transportation and warehousing	48-49	3		*	*
Information	51	747		0.1	0.1
Publishing	511	468		0.1	0.1
Newspaper, periodical, book, and directory publishers	5111	3	i	0.1	0.1
Software publishers	5112	465		0.1	0.1
Telecommunications	517	D		D	D
Data processing, hosting, and related services	518	143		0.1	0.1
Other information	other 51	D		D	D
Finance and insurance	52	94		*	*
Real estate and rental and leasing	53	0		0.0	0.0
Lessors of nonfinancial intangible assets (except copyrighted works)	533	0		0.0	0.0
Other real estate and rental and leasing	other 53	0		0.0	0.0
Professional, scientific, and technical services	54	18,601		4.4	D
Architectural, engineering, and related services	5413	1,958		1.9	1.9
Computer systems design and related services	5415	2,588		1.5	1.5
Scientific research and development services	5417	13,319		20.0	D
Biotechnology research and development	541711	3,819		14.0	14.0
Physical, engineering, and life sciences (except biotechnology) research and development	541712	8,695		23.7	D
Social sciences and humanities research and development	541720	805		31.2	31.2
Other professional, scientific, and technical services	other 54	737		0.9	0.9
Health care services	621-23	68		0.1	0.1
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	59		*	*
All companies (number of domestic employees)	-	66,309		0.7	0.7
Micro companies ^c					
5-9	-	626	i	9.2	9.3
Small companies					
10-19	-	1,234	i	4.8	4.8
20-49	-	2,499		2.5	D
Medium companies					
50-99	-	1,963		1.7	1.7
100-249	-	3,895		1.4	1.4
Large companies					
250-499	-	1,951		0.7	0.7
500-999	-	1,209		0.4	0.4
1,000-4,999	-	12,607		1.0	D
5,000-9,999	-	5,784		0.6	0.6
10,000-24,999	-	13,429		0.8	0.8
25,000 or more	-	21,112		0.5	0.5

National Center for Science and Engineering Statistics | NSF 19-318

* = 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 R&D and Innovation Survey does not include companies with fewer than five 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.

Source(s)

National Science Foundation, National Center for Science and Engineering Statistics, and U.S. Census Bureau, Business R&D and Innovation Survey, 2016.