

TABLE 15

Domestic R&D paid for by the company and others and performed by the company, by industry, company size, and domestic R&D program size: 2016

(Millions of U.S. dollars)

Industry	NAICS code	R&D program size						
		All companies	Less than \$1 million	\$1 million – \$9.999 million	\$10 million – \$49.999 million	\$50 million – \$99.999 million	\$100 million or more	
All industries	21–23, 31–33, 42–81	374,685	6,526	25,760	33,208	20,064	289,127	
Manufacturing industries	31–33	250,553	3,851	13,443	19,968	14,378	198,914	
Food	311	4,828	200	516	491	515	3,106	
Beverages and tobacco products	312	D	D	66	84	D	676	
Textiles, apparel, and leather products	313–16	1,166	78	415	350	322	0	
Wood products	321	188	28	78	83	0	0	
Paper	322	851	52	82	101	63	553	
Printing and related support activities	323	219	63	78	79	0	0	
Petroleum and coal products	324	381	21	152	73	135	0	
Chemicals	325	73,575	572	2,889	6,183	4,255	59,676	
Basic chemicals	3251	2,545	81	364	649	592	860	
Resins, synthetic rubber, and artificial synthetic fibers and filaments	3252	711	D	156	184	0	D	
Pesticides, fertilizers, and other agricultural chemicals	3253	D	14	55	D	D	D	
Pharmaceuticals and medicines	3254	64,628	144	1,881	4,937	3,043	54,621	
Soaps, cleaning compounds, and toilet preparations	3256	2,800	84	175	204	147	2,190	
Paints, coatings, adhesives, and other chemicals	3255, 3259	D	D	258	D	D	D	
Plastics and rubber products	326	3,752	305	595	728	298	1,826	
Nonmetallic mineral products	327	1,289	63	138	218	0	870	
Primary metals	331	592	D	184	215	D	0	
Fabricated metal products	332	2,239	497	832	449	312	149	
Machinery	333	12,585	577	1,603	1,807	1,300	7,298	
Agricultural implements	33311	1,565	24	113	160	189	1,079	
Semiconductor machinery	333242	3,411	10	D	162	226	D	
Engines, turbines, and power transmission equipment	3336	1,959	28	D	D	0	D	
Other machinery	other 333	5,650	516	D	D	885	D	
Computer and electronic products	334	77,385	672	2,234	3,433	3,562	67,483	
Communications equipment	3342	13,112	161	284	614	753	11,300	
Semiconductors and other electronic components	3344	31,391	134	767	1,223	984	28,283	
Navigational, measuring, electromedical, and control instruments	3345	14,885	294	1,024	1,092	1,168	11,306	
Electromedical, electrotherapeutic, and irradiation apparatuses	334510, 334517	2,632	48	300	298	642	1,344	
Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments	334511	7,533	D	151	236	D	7,033	
Other measuring and controlling devices	other 3345	4,720	D	573	558	D	2,929	
Other computer and electronic products	other 334	17,997	82	160	504	657	16,594	
Electrical equipment, appliances, and components	335	4,771	122	617	1,077	568	2,387	
Transportation equipment	336	51,275	109	1,433	2,169	1,786	45,780	
Automobiles, bodies, trailers, and parts	3361–63	22,042	D	1,101	1,394	D	D	
Aerospace products and parts	3364	26,645	19	D	D	D	25,516	
Aircraft, aircraft engines, and aircraft parts	336411–13	25,221	17	D	D	D	24,271	
Guided missiles, space vehicles, and related parts	336414–15, 336419	1,424	2	16	54	107	1,245	

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Military armored vehicles, tanks, and tank components	336992	D	1	D	0	0	0
Other transportation	other 336	D	D	D	D	D	D
Furniture and related products	337	366	64 i	98	203	0	0
Miscellaneous manufacturing	339	D	D	1,434	2,225	895	9,109
Medical equipment and supplies	3391	11,668	167 i	1,073	1,725	895	7,808
Other miscellaneous manufacturing	3399	D	D	361	499	0	1,301 i
Nonmanufacturing industries	21–23, 42–81	124,132	2,675 i	12,317	13,241	5,687	90,213
Mining, extraction, and support activities	21	3,296	13 i	92	83	85	3,024
Utilities	22	351	5 i	D	D	D	D
Wholesale trade	42	452 i	339 i	113 i	0	0	0
Electronic shopping and electronic auctions	454111–12	1,569 i	30 i	28 i	D	0	D
Transportation and warehousing	48–49	488	10 i	50	19	86	323
Information	51	70,748	493 i	3,828	5,189	3,644	57,595
Publishing	511	33,574	353 i	D	1,790	D	28,548
Newspaper, periodical, book, and directory publishers	5111	79 i	25 i	22	32	0	0
Software publishers	5112	33,495	328 i	D	1,758	D	28,548
Telecommunications	517	D	D	D	210	D	2,803 i
Data processing, hosting, and related services	518	11,914	117 i	1,734	2,968	1,918	5,176
Other information	other 51	D	D	171	221	D	21,067
Finance and insurance	52	7,331	13 i	71	522	0	6,725
Real estate and rental and leasing	53	475	13 i	5 i	45	103	309
Lessors of nonfinancial intangible assets (except copyrighted works)	533	27	D	0	D	0	0
Other real estate and rental and leasing	other 53	449	D	5 i	D	103	309
Professional, scientific, and technical services	54	37,595	D	7,459	6,520	D	20,609
Architectural, engineering, and related services	5413	3,412	331 i	1,133	1,059	187	702
Computer systems design and related services	5415	15,747	556 i	2,232 i	1,900	860	10,199
Scientific research and development services	5417	14,842	493 i	2,977	2,657	186	8,529
Biotechnology research and development	541711	4,464	136 i	674	D	0	D
Physical, engineering, and life sciences (except biotechnology) research and development	541712	9,659	349 i	2,250	2,107	186	4,766
Social sciences and humanities research and development	541720	719	9 i	53	D	0	D
Other professional, scientific, and technical services	other 54	3,595	D	1,117 i	904	D	1,179
Health care services	621–23	848	45 i	197	515 i	91	0
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	977 i	D	D	D	D	0
All companies (number of domestic employees)	–	374,685	6,526 i	25,760	33,208	20,064	289,127
Micro companies ^a							
5 – 9	–	1,581 i	870 i	596	115 i	0	0
Small companies							
10 – 19	–	4,958 i	D	2,787 i	616	D	0
20 – 49	–	9,662 i	1,656 i	6,697	1,309	0	0
Medium companies							

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50 – 99	–	9,298	1,086	i 4,496	3,235	481	0
100 – 249	–	14,875	D	4,740	6,433	1,926	D
Large companies							
250 – 499	–	13,092	D	2,679	5,226	2,060	D
500 – 999	–	14,450	134	i 1,696	4,904	4,066	3,649
1,000 – 4,999	–	63,971	64	i 1,528	7,921	7,768	46,689
5,000 – 9,999	–	40,633	D	D	2,089	2,153	36,047
10,000 – 24,999	–	65,594	4	i 112	916	875	63,686
25,000 or more	–	136,571	2	i D	444	D	135,397

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 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. R&D program size classifications are based on R&D performance.

Source(s)

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