

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: 2019

(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	492,956	4,980	32,782	40,807	28,222	386,165
Manufacturing industries	31–33	285,674	2,784	15,831	22,018	17,938	227,103
Food	311	4,180	172	613	639	636	2,119
Beverage and tobacco products	312	1,082	42	84	60	285	611
Textile, apparel, and leather products	313–16	904	51	221	246	220	166
Wood products	321	186	19	86	81	0	0
Paper	322	1,064	12	133	86	0	832
Printing and related support activities	323	420	26	284	110	0	0
Petroleum and coal products	324	1,306	13	74	105	50 - 372	740 - 1,066
Chemicals	325	97,063	360	2,952	7,310	7,057	79,384
Basic chemicals	3251	2,360	46	376	665	521	752
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,172	0 - 164	162	139	50 - 70	636 - 823
Pesticide, fertilizer, and other agricultural chemicals	3253	1,822 - 1,846	0 - 25	80	84	0	1,658
Pharmaceuticals and medicines	3254	87,619	75	1,933	5,847	6,243	73,521
Soap, cleaning compound, and toilet preparation	3256	2,760	76	179	172	107	2,227
Paint, coating, adhesive, and other chemicals	3255, 3259	1,305 - 1,333	0 - 165	223	403	114 - 138	401 - 592
Plastics and rubber products	326	2,856	165	768	819	277	827
Nonmetallic mineral products	327	1,508	36	149	223	86	1,014
Primary metals	331	665	33	248	304	80	0
Fabricated metal products	332	2,885	458	1,137	645	457	189
Machinery	333	15,184	416	2,240	2,173	1,448	8,906
Agricultural implement	33311	1,921	46	130	134	193	1,419
Semiconductor machinery	333242	4,459	5	122	218	243	3,870
Engine, turbine, and power transmission equipment	3336	1,301	19	137	174	71	900
Other machinery	other 333	7,503	346	1,851	1,648	941	2,717
Computer and electronic products	334	86,729	378	2,787	3,691	2,927	76,946
Communications equipment	3342	12,595	49	385	602	654	10,905
Semiconductor and other electronic components	3344	35,183	60	916	1,354	1,116	31,736
Navigational, measuring, electromedical, and control instruments	3345	17,562	221	1,233	1,409	472	14,227
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	3,342	36	310	594	154	2,248
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	9,662	32	197	294	55	9,084
Other measuring and controlling device	other 3345	4,558	153	727	520	263	2,895
Other computer and electronic products	other 334	21,388	49	253	325	684	20,078
Electrical equipment, appliances, and components	335	5,263	211	580	919	934	2,619
Transportation equipment	336	45,375	110	1,703	2,402	1,973	39,186

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Motor vehicles, bodies, trailers, and parts	3361–63	24,117	84	761	1,579	1,207	20,485
Aerospace products and parts	3364	18,358	i 3 - 27	709	559	603 - 629	16,459
Aircraft, aircraft engine, and aircraft parts	336411–13	16,891	i 0 - 23	436	362	603 - 629	15,466
Guided missile, space vehicle, and related parts	336414–15, 336419	1,467	4	273	i 197	0	993
Military armored vehicle, tank, and tank component	336992	35	1	34	0	0	0
Other transportation	other 336	2,865	0 - 23	199	264	137 - 162	2,242
Furniture and related products	337	409	31	128	250	0	0
Miscellaneous	339	18,596	251	1,643	1,954	1,191 - 1,513	13,233 - 13,558
Medical equipment and supplies	3391	16,014	119	1,164	1,420	1,142	12,169
Other miscellaneous manufacturing	3399	2,582	132	479	534	50 - 372	1,064 - 1,389
Nonmanufacturing industries	21–23, 42–81	207,283	2,196	16,951	18,790	10,284	159,062
Mining, quarrying, oil and gas extraction, and support activities	21	2,717	26	359	91 - 1,808	0	524 - 2,242
Utilities	22	275	0 - 31	65	131	50 - 81	0
Wholesale trade	42	1,191	420	771	0	0	0
Electronic shopping and electronic auctions	454111–12	3,131 - 15,818	i 14	68	10 - 1,726	50 - 317	1,005 - 15,677
Transportation and warehousing	48–49	9,890	i 19	115	488	101	9,167
Information	51	110,227	402	5,115	6,306	6,529	91,875
Publishing	511	33,019	206	1,660	1,409	1,043	28,701
Newspaper, periodical, book, and directory publishers	5111	61	5	18	38	0	0
Software publishers	5112	32,958	201	1,642	1,372	1,043	28,701
Telecommunications	517	3,733	39	145	504	90	2,954
Data processing, hosting, and related services	518	30,558	121	2,817	3,867	4,921	18,833
Other information	other 51	42,917	36	493	525	475	41,387
Finance and insurance	52	8,917	14	323	1,313	373	6,893
Real estate and rental and leasing	53	1,371	10	17	64	0	1,280
Lessors of nonfinancial intangible assets (except copyrighted works)	533	45	4	i 6	35	0	0
Other real estate and rental and leasing	other 53	1,326	6	11	30	0	1,280
Professional, scientific, and technical services	54	53,233	1,176	7,868	8,061	2,697	33,432
Architectural, engineering, and related services	5413	4,207	287	1,522	990	511	897
Computer systems design and related services	5415	21,046	648	2,856	2,488	520	14,535
Scientific research and development services	5417	21,669	115	2,563	3,201	1,281	14,509
Research and development in biotechnology	541711	6,457	26	656	800	307	4,668

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Research and development in the physical, engineering, and life sciences (except biotechnology)	541712	14,446 i	87	1,870	2,321	974	9,193 i	
Research and development in the social sciences and humanities	541720	766	1	37	80	0	647	
Other professional, scientific, and technical services	other 54	6,312	126 i	927	1,382	385	3,491	
Health care services	621–23	2,265	43	1,186	602	50 - 317	116 - 386	
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	1,380 - 14,067	37 - 77	1,064	10 - 1,726	170	100 - 12,787	
All companies (number of domestic employees)	–	492,956	4,980	32,782	40,807	28,222	386,165	
Small companies								
10–19 ^a	–	5,501	1,111	3,875	369	146	0	
20–49	–	12,418	1,720	7,822	2,641	235	0	
Medium companies								
50–99	–	14,021	987	5,528	5,857	1,171	478	
100–249	–	19,793	695	7,182	7,478	3,198	1,240	
Large companies								
250–499	–	18,883	295	3,412	6,209	4,127	4,840	
500–999	–	23,969	95	2,133	5,944	5,704	10,094	
1,000–4,999	–	75,671	71	2,335	8,527	9,302	55,436	
5,000–9,999	–	50,811	2	161	2,001	1,935	46,711	
10,000–24,999	–	88,263	2	232	1,190	1,572	85,267	
25,000 or more	–	183,626	1	103	590	832	182,100	

i = > 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

NAICS = 2012 North American Industry Classification System.

^a 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. Beginning in survey year 2018, statistics are representative of companies located in the United States that performed or funded \$50,000 or more of R&D. This change has affected the comparability of these estimates with estimates published for years prior to 2018. R&D program size classifications are based on R&D performance. 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, 2019.