

TABLE 3
Worldwide R&D paid for by the company and others and performed by the company, by industry, company size, and worldwide R&D program size: 2017
(Millions of U.S. dollars)

Industry and company size	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	487,628	5,657	25,010	36,838	23,119	397,004
Manufacturing industries	31–33	314,496	2,957	13,428	20,640	16,280	261,191
Food	311	5,563	135	529	571	809	3,518 i
Beverage and tobacco products	312	1,743	20	58	114	264	1,286
Textile, apparel, and leather products	313–16	1,080	63	169	213	382	253
Wood products	321	176	20	59	96	0	0
Paper	322	1,580	28	114	129	62	1,249
Printing and related support activities	323	235	42	129	64 i	0	0
Petroleum and coal products	324	370	13	64	100 i	192	0
Chemicals	325	89,427	311	2,569	6,843	5,132	74,574
Basic chemicals	3251	3,133	63	352	715	577	1,426
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	949	28	189	156	81	496
Pesticide, fertilizer, and other agricultural chemicals	3253	1,761 - 1,875	0 - 165	88	0	247	1,239 - 1,734
Pharmaceuticals and medicines	3254	78,178	57	1,563	5,574	3,519	67,465
Soap, cleaning compound, and toilet preparation	3256	3,383 - 3,479	0 - 165	139	184	141	2,886
Paint, coating, adhesive, and other chemicals	3255, 3259	1,910 - 1,927	0 - 165	237	213	568	564 - 1,060
Plastics and rubber products	326	4,656	213 i	674	948	504	2,317
Nonmetallic mineral products	327	1,515	67	136	377	0	935
Primary metals	331	879	52	183	158	214	272
Fabricated metal products	332	2,371	330	1,035	555	452	0
Machinery	333	16,463	452	1,714	1,962	947	11,388
Agricultural implement	33311	2,137	0 - 303	113	152	50 - 353	1,753
Semiconductor machinery	333242	4,479	3	41	166	146	4,122
Engine, turbine, and power transmission equipment	3336	2,397 - 2,540	32	100	179	50 - 258	2,165
Other machinery	other 333	7,306 - 7,451	113 - 419	1,460	1,464	190 - 702	3,348
Computer and electronic products	334	101,223	500	2,261	3,424	3,354	91,683
Communications equipment	3342	15,819	49	400	525	824	14,020
Semiconductor and other electronic components	3344	41,046	116	690	1,373	1,164	37,703
Navigational, measuring, electromedical, and control instruments	3345	18,350	228	953	1,069	792	15,307
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	3,773	22	219	324	452	2,757
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	8,257	37	154	214	0	7,851

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Other measuring and controlling device	other 3345	6,320	169	580	531	340	4,700
Other computer and electronic products	other 334	26,007	106	219	457	573	24,653
Electrical equipment, appliances, and components	335	6,158	174	783	1,004	796	3,401 i
Transportation equipment	336	62,114	169	1,298	1,943	1,980	56,723
Automobiles, bodies, trailers, and parts	3361–63	30,478	52	802	1,252	1,046	27,326
Aerospace products and parts	3364	28,436	72	353	525	774	26,712
Aircraft, aircraft engine, and aircraft parts	336411–13	26,626	68	331	423	604	25,200 i
Guided missile, space vehicle, and related parts	336414–15, 336419	1,810	4	22	102	170	1,512
Military armored vehicle, tank, and tank component	336992	9	2	7	0	0	0
Other transportation	other 336	3,190	44	135	167	159	2,685
Furniture and related products	337	462	43	111	308	0	0
Miscellaneous manufacturing	339	18,482	325	1,542	1,831	1,192	13,593
Medical equipment and supplies	3391	16,079	153	1,114	1,427	1,064	12,321
Other miscellaneous manufacturing	3399	2,403	172	427	404	128 i	1,272
Nonmanufacturing industries	21–23, 42–81	173,132	2,700	11,582	16,199	6,839	135,813
Mining, extraction, and support activities	21	3,479 - 3,486	0 - 252	193	103	50 - 96	3,104
Utilities	22	327	0 - 239	56	184	50 - 96 i	0
Wholesale trade	42	571	209	361 i	0	0	0
Electronic shopping and electronic auctions	454111–12	11,873 - 12,096	0 - 252	31	45	0	11,802
Transportation and warehousing	48–49	1,155	13	39	317	0	786
Information	51	94,898	762	4,019	6,550	4,720	78,847
Publishing	511	43,169	413	1,405	1,796	1,368	38,187
Newspaper, periodical, book, and directory publishers	5111	81	17 i	26	39	0	0
Software publishers	5112	43,088	396	1,379	1,758	1,368	38,187
Telecommunications	517	3,776 - 3,900	0 - 77	163	369	50 - 544	3,082
Data processing, hosting, and related services	518	18,427	274	2,111	4,124	2,515	9,403
Other information	other 51	29,403 - 29,527	0 - 77	340	261	291 - 789	28,175
Finance and insurance	52	8,581	0 - 252	210	698	50 - 96	7,617
Real estate and rental and leasing	53	909 i	305 i	73	47	106	378
Lessors of nonfinancial intangible assets (except copyrighted works)	533	311 i	271 - 304 i	0	10 - 38 i	0	0
Other real estate and rental and leasing	other 53	597	0 - 34	73	10 - 38	106	378

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Professional, scientific, and technical services	54	47,987	1,146	5,732	7,187	1,711	32,210
Architectural, engineering, and related services	5413	2,761	365	843	1,060	106	387
Computer systems design and related services	5415	16,824	458	1,668	1,850	577	12,271
Scientific research and development services	5417	24,445	192	2,477	2,985	773	18,017
Biotechnology research and development	541711	6,444	37	553	569	0	5,285
Physical, engineering, and life sciences (except biotechnology) research and development	541712	17,038	153	1,903	2,389	694	11,900
Social sciences and humanities research and development	541720	963	2	21	28	79	832
Other professional, scientific, and technical services	other 54	3,957	131	743	1,292	255	1,536
Health care services	621–23	1,325 - 1,332	16 - 115	236	602	109	307
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	1,798 - 2,016	0 - 252	632	465	0	762
All companies (number of domestic employees)	–	487,628	5,657	25,010	36,838	23,119	397,004
Small companies							
10–19 ^a	–	3,447	1,061	2,180	154	52	0
20–49	–	10,011	2,280	5,491	2,240	0	0
Medium companies							
50–99	–	10,623	1,001	4,880	4,383	359	0
100–249	–	18,596	820	5,383	7,555	2,702	2,136
Large companies							
250–499	–	16,376	302	2,942	5,859	3,096	4,177
500–999	–	20,387	118	2,087	6,064	4,899	7,219
1,000–4,999	–	80,255	66	1,631	7,495	7,906	63,157
5,000–9,999	–	54,428	2	194	1,524	2,512	50,197
10,000–24,999	–	87,990	6	134	874	1,232	85,744
25,000 or more	–	185,514	1	88	690	361	184,374

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 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. 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 U.S. Census Bureau, Business Research and Development Survey, 2017.