

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: 2018
(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	541,412	4,914	29,667	40,651	28,642	437,538
Manufacturing industries	31–33	338,953	2,912	14,106	22,975	18,748	280,212
Food	311	5,518	202	579	670	381	3,686
Beverage and tobacco products	312	1,629	31	84	67	356	1,090
Textile, apparel, and leather products	313–16	1,205	40	242	264	385	274
Wood products	321	206	50	59	98	0	0
Paper	322	1,014	30	129	159	68	628
Printing and related support activities	323	246	31	97	118	0	0
Petroleum and coal products	324	1,460 - 1,463	15 - 22	86	127	197	1,033
Chemicals	325	100,886	464	2,680	7,600	6,787	83,355
Basic chemicals	3251	3,046	56	361	627	707	1,294
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	2,427 - 2,445	55	144	118	50 - 603	1,506 - 2,080
Pesticide, fertilizer, and other agricultural chemicals	3253	1,788 - 1,797	7 - 18	94	107	0	1,579
Pharmaceuticals and medicines	3254	88,537	161	1,649	6,336	5,379	75,011
Soap, cleaning compound, and toilet preparation	3256	3,557	0 - 93	194	246	50 - 143	2,976
Paint, coating, adhesive, and other chemicals	3255, 3259	1,512 - 1,531	79 - 187	239	166	50 - 603	413 - 992
Plastics and rubber products	326	3,179	191	720	1,007	606	655
Nonmetallic mineral products	327	1,567	i 53	146	223	75	1,070
Primary metals	331	990	49	237	265	186	253
Fabricated metal products	332	2,544	348	805	666	467	258
Machinery	333	19,319	378	2,108	2,178	1,294	13,361
Agricultural implement	33311	2,730	40	171	152	193	i 2,175
Semiconductor machinery	333242	5,077	9	53	171	224	4,621
Engine, turbine, and power transmission equipment	3336	3,418 - 3,440	17	i 83	198	132 - 158	2,986
Other machinery	other 333	8,071 - 8,095	313	1,802	1,658	718 - 746	3,578
Computer and electronic products	334	112,020	388	2,484	4,333	3,391	101,423
Communications equipment	3342	16,483	41	362	823	583	14,675
Semiconductor and other electronic components	3344	45,540	82	710	1,855	1,349	41,543
Navigational, measuring, electromedical, and control instruments	3345	20,898	227	1,168	1,165	961	17,377
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	4,378	i 52	301	378	519	3,128
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	9,997	15	140	286	0	9,556

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: 2018
(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
Other measuring and controlling device	other 3345	6,524	160	727	501	442	4,694
Other computer and electronic products	other 334	29,099	38	244	490	498	27,829
Electrical equipment, appliances, and components	335	6,180	173	723	960	702	3,622
Transportation equipment	336	60,075	166	1,432	2,021	2,540	53,917
Motor vehicles, bodies, trailers, and parts	3361–63	32,125	102	781	1,345	1,160	28,738
Aerospace products and parts	3364	24,977 - 25,002	29 - 57	421	548	1,012	22,965
Aircraft, aircraft engine, and aircraft parts	336411–13	23,654 - 23,679	26 - 55	331	424	941	21,930
Guided missile, space vehicle, and related parts	336414–15, 336419	1,323	3	90	124	72	1,035
Military armored vehicle, tank, and tank component	336992	11	0 - 11 i	1 - 12	0	0	0
Other transportation	other 336	2,936 - 2,961	0 - 36	217 - 231	129	367	2,214
Furniture and related products	337	435	53	113	269	0	0
Miscellaneous	339	20,478 - 20,483	245 - 253	1,382	1,951	1,313	15,586
Medical equipment and supplies	3391	17,415	140	840	1,347	1,148	13,940
Other miscellaneous manufacturing	3399	3,063 - 3,068	105 - 114	542	604	164 i	1,646 i
Nonmanufacturing industries	21–23, 42–81	202,460	2,003	15,561	17,676	9,894	157,326
Mining, quarrying, oil and gas extraction, and support activities	21	2,068	22	234	193	0	1,618
Utilities	22	283	5	67	132	78	0
Wholesale trade	42	938	i 187	606 i	145 i	0	0
Electronic shopping and electronic auctions	454111–12	11,715 - 15,516	i 12	45	81	93	11,482 - 15,287 i
Transportation and warehousing	48–49	956	9	77	218	256	396
Information	51	111,505	358	4,449	7,306	5,487	93,905
Publishing	511	39,965	170	1,428	2,133	1,835	34,399
Newspaper, periodical, book, and directory publishers	5111	150	3	22	126 i	0	0
Software publishers	5112	39,815	167	1,407	2,007	1,835	34,399
Telecommunications	517	3,827 - 3,833	18 - 28	238	537	167	2,865
Data processing, hosting, and related services	518	28,045	118	2,168	4,121	3,022	18,616
Other information	other 51	39,662 - 39,668	43 - 53	615	514	463	38,025
Finance and insurance	52	8,356	42	262	836	471	6,745

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: 2018
(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
Real estate and rental and leasing	53	1,073	6	32	125	0	911
Lessors of nonfinancial intangible assets (except copyrighted works)	533	6	*	6	0	0	0
Other real estate and rental and leasing	other 53	1,067	6	26	125	0	911
Professional, scientific, and technical services	54	58,168	1,229	8,747	7,612	3,102	37,477
Architectural, engineering, and related services	5413	4,017 - 4,027	274 - 287	1,474	873	373	1,022
Computer systems design and related services	5415	20,287	477	3,589	2,195	706	13,320
Scientific research and development services	5417	28,555 - 28,564	312 - 324	2,476	2,810	1,468	21,488
Research and development in biotechnology	541711	8,447	0 - 39	504	65 - 617	142	7,146 - 7,698
Research and development in the physical, engineering, and life sciences (except biotechnology)	541712	19,435	286	1,949	2,184	1,325	13,691
Research and development in the social sciences and humanities	541720	672 - 683	0 - 39	23	10 - 560	0	100 - 650
Other professional, scientific, and technical services	other 54	5,298	152	1,208	1,734	556	1,648
Health care services	621–23	1,498	44	211	508	345	390
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	2,102 - 5,904	88	830	519	62	601 - 4,406
All companies (number of domestic employees)	–	541,412	4,914	29,667	40,651	28,642	437,538
Small companies							
10–19 ^a	–	4,518	994	2,812	469	0	243
20–49	–	11,821	1,543	7,416	2,540	170	151
Medium companies							
50–99	–	13,013	839	5,642	5,231	1,002	300
100–249	–	20,420	1,093	6,121	7,980	3,755	1,470
Large companies							
250–499	–	21,824	253	3,440	6,680	4,880	6,571
500–999	–	20,214	117	2,083	5,237	4,931	7,846
1,000–4,999	–	83,761	68	1,757	8,639	9,311	63,986
5,000–9,999	–	60,875	3	188	2,178	2,475	56,031
10,000–24,999	–	106,777	5	121	1,106	1,483	104,061
25,000 or more	–	198,190	0	86	591	635	196,878

* = amount < \$500,000; 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. 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 U.S. Census Bureau, Business Research and Development Survey, 2018.