

TABLE 3

## Worldwide R&amp;D paid for by the company and others and performed by the company, by industry, company size, and worldwide R&amp;D program size: 2021

(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	737,911	5,538	34,279	49,391	31,600	617,104
Manufacturing industries	31–33	404,449	2,919	14,841	26,242	19,637	340,810
Food	311	6,456	202	668	946	582	4,058
Beverage and tobacco products	312	2,139	25	128	73	191	1,722
Textile, apparel, and leather products	313–16	997	64	192	363	100	279
Wood products	321	447	26	272	150	0	0
Paper	322	1,206	21	134	169	184	698
Printing and related support activities	323	231	29	96	106	0	0
Petroleum and coal products	324	1,131	19	70	95	221	726
Chemicals	325	133,231	341	2,697	9,149	6,441	114,603
Basic chemicals	3251	3,710	55	244	684	676	2,051
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,969	27	166	218	143	1,414
Pesticide, fertilizer, and other agricultural chemicals	3253	1,279	16	82	119	0	1,062
Pharmaceuticals and medicines	3254	121,157	95	1,805	7,612	5,484	106,160
Soap, cleaning compound, and toilet preparations	3256	3,611	78	162	225	0	3,146
Paint, coating, adhesive, and other chemicals	3255, 3259	1,505	70	237	290	138	769
Plastics and rubber products	326	3,752	204	703	904	822	1,118
Nonmetallic mineral products	327	1,731	95	213	158	109	1,157
Primary metals	331	963	63	190	342	0	368
Fabricated metal products	332	4,669	509	1,878	1,105	634	543
Machinery	333	23,073	384	2,151	2,291	1,922	16,325
Agricultural implement	33311	2,774	0 - 65	117	189	50 - 115	2,355
Semiconductor machinery	333242	6,648	7	50	135	446	6,010
Engine, turbine, and power transmission equipment	3336	1,920	11	90	198	225	1,395
Other machinery	other 333	11,731	299 - 368	1,893	1,770	1,134 - 1,203	6,565
Computer and electronic products	334	132,597	374	2,196	3,553	3,368	123,107
Communications equipment	3342	15,968	45	288	515	705	14,414
Semiconductor and other electronic components	3344	63,917	86	710	1,398	954	60,770
Navigational, measuring, electromedical, and control instruments	3345	17,220	217	839	1,365	1,196	13,604
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	3,554	38	241	479	378	2,417
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	5,895	48	96	215	421	5,114
Other measuring and controlling devices	other 3345	7,771	130	502	670	397	6,072

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Other computer and electronic products	other 334	35,492	25 i	359	275	514	34,319
Electrical equipment, appliances, and components	335	7,374	91	584	1,364	869	4,466
Transportation equipment	336	58,423	183	1,092	2,689	2,472	51,988
Motor vehicles, bodies, trailers, and parts	3361–63	33,111	94	443	1,616	1,480	29,478
Aerospace products and parts	3364	22,180 i	47	400	900	720	20,112 i
Aircraft, aircraft engine, and aircraft parts	336411–13	20,538 i	0 - 48	1 - 400	567	373	19,149 - 19,599 i
Guided missile, space vehicle, and related parts	336414–15, 336419	1,642	0 - 48	1 - 400	333	347	513 - 962
Military armored vehicle, tank, and tank components	336992	24	5 r	19	0	0	0
Other transportation	other 336	3,109	37	229	173	272	2,398
Furniture and related products	337	464	39	136	289	0	0
Miscellaneous	339	25,564	250	1,444	2,495	1,722	19,653
Medical equipment and supplies	3391	22,444	110	897	1,759	1,501	18,177
Other miscellaneous manufacturing	3399	3,120	140	547	736	221	1,476
Nonmanufacturing industries	21–23, 42–81	333,462	2,619	19,438	23,149	11,962	276,293
Mining, quarrying, oil and gas extraction, and support activities	21	1,339 i	21	294 i	244	275 i	506
Utilities	22	168 - 19,125	2	1 - 1,482	10 - 942	50 - 258 i	100 - 19,063
Wholesale trade	42	1,855 i	423	1,325 i	106 i	0	0
Electronic shopping and electronic auctions	454111–12	10,538 - 29,503 i	42	1 - 1,482	10 - 942	50 - 258	7,816 - 29,400 i
Transportation and warehousing	48–49	7,282	0 - 61	87	565	50 - 111 i	6,521
Information	51	177,113	496	5,606	10,304	5,406	155,301
Publishing	511	49,085	277	2,129	3,325	1,521	41,833
Newspaper, periodical, book, and directory publishers	5111	103	9	38 r	56 i	0	0
Software publishers	5112	48,981	268	2,090	3,269	1,521	41,833
Telecommunications	517	3,912	12	191	364	58	3,287
Data processing, hosting, and related services	518	55,072	195	2,907	5,839	3,359	42,772
Other information	other 51	69,044	11	380	776	468	67,408
Finance and insurance	52	23,409	13 r	768	1,117	747	20,764
Real estate and rental and leasing	53	2,199	0 - 78	33	10 - 87	0	2,080
Lessors of nonfinancial intangible assets (except copyrighted works)	533	7	1	6	0	0	0
Other real estate and rental and leasing	other 53	2,192	0 - 77	27	10 - 87	0	2,080

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		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
Professional, scientific, and technical services	54	85,259	1,209	9,605	9,487	4,459	60,499
Architectural, engineering, and related services	5413	4,598	252	1,673	1,771	239	663
Computer systems design and related services	5415	25,041	651	3,903	2,544	1,658	16,286
Scientific research and development services	5417	47,772	i 145	2,777	3,602	2,209	39,039
Research and development in nanotechnology	541713	244	10	164	70	i 0	0
Research and development in biotechnology (except nanobiotechnology)	541714	13,441	25	688	805	973	10,950
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	33,519	i 107	1,893	2,650	1,236	27,633
Research and development in the social sciences and humanities	541720	568	3	32	76	0	457
Other professional, scientific, and technical services	other 54	7,847	161	1,252	1,570	353	4,511
Health care services	621–23	2,140	100	241	358	670	771
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	3,200	170 - 317	1 - 1,482	10 - 942	50 - 258	201 - 2,969
All companies (number of domestic employees)	–	737,911	5,538	34,279	49,391	31,600	617,104
Small companies							
10–19 <sup>a</sup>	–	5,836	1,323	3,606	639	54 - 170	100 - 213
20–49	–	15,969	1,748	9,536	4,216	255 - 371	100 - 213
Medium companies							
50–99	–	15,406	1,103	6,061	7,057	971 - 1,087	100 - 213
100–249	–	26,406	864	7,266	10,220	5,333	2,722
Large companies							
250–499	–	27,592	261	3,363	8,194	4,633	11,142
500–999	–	31,961	125	2,151	5,861	7,026	16,798
1,000–4,999	–	115,278	101	1,923	9,029	8,383	95,842
5,000–9,999	–	78,388	11	159	2,361	2,667	73,190
10,000–24,999	–	133,088	2	151	1,199	1,413	130,324
25,000 or more	–	287,987	*	65	615	629	286,677

\* = amount &lt; \$500,000; i = more than 50% of the estimate is a combination of imputation and reweighting to account for nonresponse; r = relative standard error is more than 50%.

NAICS = 2017 North American Industry Classification System.

<sup>a</sup> 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. Statistics are representative of companies located in the United States that performed or funded \$50,000 or more of R&D and are not comparable 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, 2021.