

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: 2020

(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	647,324	5,573	32,420	42,943	32,368	534,020
Manufacturing industries	31–33	374,688	3,106	14,656	23,863	17,983	315,079
Food	311	6,392 - 6,399	196 - 207	688	669	608	4,229
Beverage and tobacco products	312	1,935	36	72	45	268	1,515 i
Textile, apparel, and leather products	313–16	973	38	133	236	310	256
Wood products	321	195	26	77	92	0	0
Paper	322	1,021	13	115	171	63	659
Printing and related support activities	323	294	46	98	150 i	0	0
Petroleum and coal products	324	1,476 - 1,490	0 - 226	84	185	50 - 400	595 - 1,172
Chemicals	325	120,440	399	3,077	8,144	5,995	102,826
Basic chemicals	3251	3,540	48	330	962	612	1,587
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,745	33	223	159	132	1,198
Pesticide, fertilizer, and other agricultural chemicals	3253	1,157 - 1,172	17 - 35	68	79	0	992
Pharmaceuticals and medicines	3254	108,537	84	2,041	6,397	5,127	94,888
Soap, cleaning compound, and toilet preparation	3256	3,432	102	173	187	63	2,906
Paint, coating, adhesive, and other chemicals	3255, 3259	2,013 - 2,028	95 - 113	241	359	62	1,255
Plastics and rubber products	326	3,162	218	735	872	1,099	238
Nonmetallic mineral products	327	1,924 i	0 - 226	180	183	50 - 400	936 - 1,512 i
Primary metals	331	847	51	173	418	0	206
Fabricated metal products	332	3,746	517	1,451	915	530	332
Machinery	333	20,508	388	2,177	2,103	1,439	14,402
Agricultural implement	33311	2,450	0 - 62	96	141	50 - 112	2,103
Semiconductor machinery	333242	5,834	9 i	54	135	280	5,356
Engine, turbine, and power transmission equipment	3336	2,203	19	55	263	231	1,636
Other machinery	other 333	10,022	296 - 362	1,973	1,564	814 - 880	5,307
Computer and electronic products	334	126,102	433	2,193	3,820	2,858	116,797
Communications equipment	3342	15,491	64	400	603	695	13,728
Semiconductor and other electronic components	3344	56,204	102	582	1,268	1,102	53,150
Navigational, measuring, electromedical, and control instruments	3345	21,651	223	1,008	1,727	625	18,068
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	3,356 i	27	273	783	176 i	2,097 i
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	11,270	0 - 24	120	350	50 - 74	10,728

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Other measuring and controlling device	other 3345	7,025	171 - 197	615	595	374 - 400	5,243	
Other computer and electronic products	other 334	32,756	45	203	221	436	31,851	
Electrical equipment, appliances, and components	335	6,792	136	593	1,298	889	3,876	
Transportation equipment	336	55,311	158	1,156	1,956	2,203	49,838 i	
Motor vehicles, bodies, trailers, and parts	3361–63	28,910 - 28,922 i	76 - 91	589	1,068	1,320	25,855 i	
Aerospace products and parts	3364	23,424 i	58	335	707	644	21,680 i	
Aircraft, aircraft engine, and aircraft parts	336411–13	21,791 i	54	299	563	428	20,447 i	
Guided missile, space vehicle, and related parts	336414–15, 336419	1,633	5	35	144	216	1,233	
Military armored vehicle, tank, and tank component	336992	11	3	8	0	0	0	
Other transportation	other 336	2,955 - 2,966	7 - 22	224	181	239	2,302	
Furniture and related products	337	535	43	220	208	64 i	0	
Miscellaneous	339	23,013 - 23,027	189 - 416	1,434	2,399	1,214	17,549 - 17,791	
Medical equipment and supplies	3391	19,938	190	898	1,700	1,153	15,997	
Other miscellaneous manufacturing	3399	3,075 - 3,088	0 - 226	536	699	61 i	1,551 - 1,794	
Nonmanufacturing industries	21–23, 42–81	272,637	2,466	17,764	19,081	14,385	218,941	
Mining, quarrying, oil and gas extraction, and support activities	21	1,285 - 1,292 i	0 - 190	213 i	258 i	262 i	361 - 561	
Utilities	22	271	5	62	126	77	0	
Wholesale trade	42	1,104	318	718 i	68 i	0	0	
Electronic shopping and electronic auctions	454111–12	3,937 - 24,262 i	13	67	186	50 - 526	3,144 - 23,948 i	
Transportation and warehousing	48–49	4,994 i	4	63	183	0	4,743 i	
Information	51	152,363	596 i	5,565	8,212	8,866	129,124	
Publishing	511	42,708	347 i	2,351	1,783	997	37,229	
Newspaper, periodical, book, and directory publishers	5111	60	4	8 i	48	0	0	
Software publishers	5112	42,648	343 i	2,343	1,735	997	37,229	
Telecommunications	517	3,519 - 3,532	3 - 20	266	527	95 i	2,626	
Data processing, hosting, and related services	518	49,697	195 i	2,591	5,176	7,221	34,514	
Other information	other 51	56,425 - 56,440	33 - 50 i	358	726	554	54,754	
Finance and insurance	52	13,837	13	372	1,045	509	11,897	
Real estate and rental and leasing	53	3,412	4 - 195	16	10 - 698	50 - 526	1,977 - 3,333	

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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
Lessors of nonfinancial intangible assets (except copyrighted works)	533	6 - 21	5	1 - 16	0	0	0
Other real estate and rental and leasing	other 53	3,390 - 3,406	0 - 190	1 - 16	10 - 698	50 - 526	1,977 - 3,333
Professional, scientific, and technical services	54	68,112	1,231	9,069	7,820	3,690	46,302
Architectural, engineering, and related services	5413	4,235	281	1,569	1,031	554	800
Computer systems design and related services	5415	21,259	566	3,175	2,083	1,338	14,097
Scientific research and development services	5417	35,670 i	227 i	3,379	3,241	1,260	27,563 i
Research and development in nanotechnology	541713	179 - 182 i	22 - 27 i	156 i	0	0	0
Research and development in biotechnology (except nanobiotechnology)	541714	9,120	42 i	687	785	436	7,170
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	25,674 i	156 - 163 i	2,508	1,885 - 2,447	824	19,732 - 20,294 i
Research and development in the social sciences and humanities	541720	692 - 698	1 i	28	10 - 570	0	100 - 660
Other professional, scientific, and technical services	other 54	6,948	157	946	1,465	538	3,842
Health care services	621–23	1,495 - 1,498	95 - 102	274	480	359	285
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	1,504 - 21,828	0 - 190	1,345	10 - 698	50 - 526 i	100 - 20,423
All companies (number of domestic employees)	–	647,324	5,573	32,420	42,943	32,368	534,020
Small companies							
10–19 ^a	–	5,338	1,155	3,648	379	0	155
20–49	–	13,600	2,146	7,672	3,537	246	0
Medium companies							
50–99	–	13,791	1,053	5,905	5,880	954	0
100–249	–	27,483	732	7,261	10,444	4,554	4,492
Large companies							
250–499	–	23,743	255	3,524	5,625	7,590	6,750
500–999	–	24,451	134	2,050	5,545	5,590	11,131
1,000–4,999	–	106,758	86	1,883	8,072	8,739	87,979
5,000–9,999	–	60,241	7 i	179	1,912	2,784	55,358
10,000–24,999	–	111,753	4	210	1,014	1,506	109,018
25,000 or more	–	260,165	1	89	535	404	259,136

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

NAICS = 2017 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. 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, 2020.