

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: 2022

(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	841,131	5,844	34,635	55,768	33,957	710,928
Manufacturing industries	31–33	456,879	2,924	14,215	27,946	20,939	390,853
Food	311	8,605	176	861	1,961	581	5,027
Beverage and tobacco products	312	1,397	40	140	84	356	776
Textile, apparel, and leather products	313–16	748	43	157	377	59	112
Wood products	321	263	17	82	165	0	0
Paper	322	1,086	13	112	186	185	591
Printing and related support activities	323	167	26	61	80	0	0
Petroleum and coal products	324	1,107	10	D	178	163	D
Chemicals	325	150,790	394	2,469	10,249	7,494	130,184
Basic chemicals	3251	3,816	78	324	915	552	1,947
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	2,032	D	231	333	D	1,342
Pesticide, fertilizer, and other agricultural chemicals	3253	1,344	12	52	218	0	1,062
Pharmaceuticals and medicines	3254	138,339	122	1,399	8,392	6,697	121,730
Soap, cleaning compound, and toilet preparations	3256	3,803	D	200	181	D	3,270
Paint, coating, adhesive, and other chemicals	3255, 3259	1,456	D	264	208	D	834
Plastics and rubber products	326	4,151	155	670	760	855	1,711
Nonmetallic mineral products	327	1,623	74	142	187	77	1,144
Primary metals	331	1,139	70	207	324	128	410
Fabricated metal products	332	3,757	454	1,384	733	650	536
Machinery	333	25,378	434	2,192	2,366	1,691	18,695
Agricultural implement	33311	3,277	D	137	207	D	2,840
Semiconductor machinery	333242	7,074	6	42	169	91	6,766
Engine, turbine, and power transmission equipment	3336	4,097	15	146	146	130	3,661
Other machinery	other 333	10,930	D	1,867	1,844	D	5,428
Computer and electronic products	334	140,254	476	1,931	4,777	3,288	129,782
Communications equipment	3342	15,174	67	284	532	901	13,391
Semiconductor and other electronic components	3344	71,114	84	443	2,586	1,054	66,946
Navigational, measuring, electromedical, and control instruments	3345	15,445	222	896	1,353	953	12,021
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	5,007	17	321	464	431	3,774
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	4,473	19	109	257	191	3,897
Other measuring and controlling devices	other 3345	5,965	187	466	632	331	4,350
Other computer and electronic products	other 334	38,521	103	308	305	380	37,425

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Electrical equipment, appliances, and components	335	8,661	57	901	1,223	1,250	5,230
Transportation equipment	336	79,294	190	1,192	2,056	2,025	73,831
Motor vehicles, bodies, trailers, and parts	3361–63	38,916	88	582	1,245	1,195	35,806
Aerospace products and parts	3364	37,175	47	327	652	571	35,577
Aircraft, aircraft engine, and aircraft parts	336411–13	25,224	40	290	571	269	24,055
Guided missile, space vehicle, and related parts	336414–15, 336419	11,951	8	37	81	303	11,522
Military armored vehicle, tank, and tank components	336992	31	D	18	D	0	0
Other transportation	other 336	3,172	D	264	D	259	2,448
Furniture and related products	337	445	39	119	75	212	0
Miscellaneous	339	28,014	256	D	2,167	1,926	D
Medical equipment and supplies	3391	24,628	132	1,072	1,500	1,777	20,147
Other miscellaneous manufacturing	3399	3,385	124	D	668	148	D
Nonmanufacturing industries	21–23, 42–81	384,253	2,920	20,419	27,822	13,017	320,074
Mining, quarrying, oil and gas extraction, and support activities	21	1,008	i D	336	i 371	i D	D
Utilities	22	D	2	57	D	D	D
Wholesale trade	42	1,861	353	1,332	177	i 0	0
Electronic shopping and electronic auctions	454111–12	D	11	r 93	D	D	D
Transportation and warehousing	48–49	9,516	8	70	398	0	9,039
Information	51	219,288	443	5,948	12,061	6,441	194,395
Publishing	511	62,697	215	2,413	3,232	1,824	55,011
Newspaper, periodical, book, and directory publishers	5111	72	11	6	55	0	0
Software publishers	5112	62,625	205	2,407	3,177	1,824	55,011
Telecommunications	517	3,891	71	i 172	656	188	2,803
Data processing, hosting, and related services	518	61,649	108	2,971	7,479	3,797	47,294
Other information	other 51	91,051	48	392	695	630	89,286
Finance and insurance	52	19,834	7	1,777	r 1,141	792	16,116
Real estate and rental and leasing	53	2,500	i D	37	D	0	2,218
Lessors of nonfinancial intangible assets (except copyrighted works)	533	5	i 3	i 3	i 0	0	0
Other real estate and rental and leasing	other 53	2,494	i D	34	D	0	2,218
Professional, scientific, and technical services	54	93,801	1,616	9,594	11,502	4,325	66,763
Architectural, engineering, and related services	5413	3,919	312	1,738	1,669	200	0
Computer systems design and related services	5415	27,108	733	3,398	4,148	1,493	17,337
Scientific research and development services	5417	53,196	i 137	3,437	3,908	1,930	43,784

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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	
Research and development in nanotechnology	541713	311	13	187	43	68	0	
Research and development in biotechnology (except nanobiotechnology)	541714	14,299	33	844	877	682	11,864	
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	37,886	i	91	2,381	2,915	1,180	31,318
Research and development in the social sciences and humanities	541720	700	1	24	73	0	602	
Other professional, scientific, and technical services	other 54	9,577	435	r	1,020	1,777	703	5,642
Health care services	621–23	2,948	56	286	575	585	1,445	
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	3,539	D	889	D	D	D	
All companies (number of domestic employees)	–	841,131	5,844	34,635	55,768	33,957	710,928	
Small companies								
10–19 ^a	–	5,537	1,616	3,217	650	55	0	
20–49	–	15,636	1,781	9,511	4,189	155	0	
Medium companies								
50–99	–	16,227	1,053	6,401	6,565	2,077	131	
100–249	–	29,864	946	7,183	12,379	5,539	3,818	
Large companies								
250–499	–	33,789	239	3,434	10,505	5,164	14,446	
500–999	–	36,458	133	2,367	7,677	7,242	19,039	
1,000–4,999	–	128,912	65	2,132	9,643	9,131	107,940	
5,000–9,999	–	72,325	7	163	2,054	2,592	67,510	
10,000–24,999	–	153,179	2	143	1,396	1,442	150,196	
25,000 or more	–	349,204	2	i	85	710	560	347,847

D = data withheld to avoid disclosing operations of individual companies; 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.

^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.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2022.