

TABLE 5

Worldwide R&D paid for by the company and performed by the company and others, by industry and company size: 2021

(Millions of U.S. dollars)

Industry and company size	NAICS code	Total	Performed by the company	Performed by others
All industries	21-23, 31-33, 42-81	709,663	648,075	61,588
Manufacturing industries	31-33	419,490	364,349	55,141
Food	311	6,569	6,151	418
Beverage and tobacco products	312	2,444	2,121	323
Textile, apparel, and leather products	313-16	1,000	987	14
Wood products	321	449 - 458	437 - 445	12
Paper	322	1,214	1,206	8
Printing and related support activities	323	235	223 - 232	3 - 12
Petroleum and coal products	324	1,386	1,127	259
Chemicals	325	161,924	120,516	41,408
Basic chemicals	3251	3,647	3,553	95
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,921	1,844 - 1,889	32 - 78
Pesticide, fertilizer, and other agricultural chemicals	3253	1,186	1,025 - 1,069	117 - 162
Pharmaceuticals and medicines	3254	149,811	109,180	40,631
Soap, cleaning compound, and toilet preparations	3256	3,837	3,392	445
Paint, coating, adhesive, and other chemicals	3255, 3259	1,522	1,477	45
Plastics and rubber products	326	3,658	3,564	94
Nonmetallic mineral products	327	1,714	1,700	14
Primary metals	331	952	936	17
Fabricated metal products	332	4,317	4,225	92
Machinery	333	22,307	21,951	356
Agricultural implement	33311	2,834	2,707	127
Semiconductor machinery	333242	6,463	6,460	3
Engine, turbine, and power transmission equipment	3336	1,785	1,772	13
Other machinery	other 333	11,225	11,012	213
Computer and electronic products	334	129,897	125,475	4,423
Communications equipment	3342	15,879	14,731	1,148
Semiconductor and other electronic components	3344	62,330	61,900	430
Navigational, measuring, electromedical, and control instruments	3345	13,854	13,480	374
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	3,384	3,291	93
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	2,715	2,628	88
Other measuring and controlling devices	other 3345	7,754	7,561	193
Other computer and electronic products	other 334	37,836	35,364	2,472
Electrical equipment, appliances, and components	335	6,957	6,847	110
Transportation equipment	336	47,162	41,228	5,933
Motor vehicles, bodies, trailers, and parts	3361-63	34,173	28,824	5,349
Aerospace products and parts	3364	10,955	10,448	507
Aircraft, aircraft engine, and aircraft parts	336411-13	10,267	9,822	445
Guided missile, space vehicle, and related parts	336414-15, 336419	688	626	62
Military armored vehicle, tank, and tank components	336992	23	23	*
Other transportation	other 336	2,011	1,934	77
Furniture and related products	337	490	460	30
Miscellaneous	339	26,798 - 26,816	25,181	1,617 - 1,635
Medical equipment and supplies	3391	23,656	22,146	1,510
Other miscellaneous manufacturing	3399	3,142 - 3,161	3,035	106 - 125
Nonmanufacturing industries	21-23, 42-81	290,173	283,726	6,447

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Mining, quarrying, oil and gas extraction, and support activities	21	1,278	1,150	128
Utilities	22	134 - 19,767	134 - 19,090	0 - 677
Wholesale trade	42	1,944	1,770	174
Electronic shopping and electronic auctions	454111-12	10,533 - 30,171	10,533 - 29,498	0 - 677
Transportation and warehousing	48-49	7,321	7,272	49
Information	51	179,320	175,699	3,621
Publishing	511	50,404	48,429	1,975
Newspaper, periodical, book, and directory publishers	5111	88	81	7
Software publishers	5112	50,316	48,349	1,968
Telecommunications	517	4,390 - 4,460	3,813 - 3,883	577
Data processing, hosting, and related services	518	55,275	54,442	833
Other information	other 51	69,181 - 69,252	68,944 - 69,014	237
Finance and insurance	52	23,499	23,323	176
Real estate and rental and leasing	53	2,202 - 2,204	2,197 - 2,200	4
Lessors of nonfinancial intangible assets (except copyrighted works)	533	8	7	1
Other real estate and rental and leasing	other 53	2,193 - 2,196	2,190 - 2,193	3
Professional, scientific, and technical services	54	38,872	37,506	1,366
Architectural, engineering, and related services	5413	2,698	2,590	108
Computer systems design and related services	5415	22,192	21,779	413
Scientific research and development services	5417	7,271	6,476	795
Research and development in nanotechnology	541713	195	170	24
Research and development in biotechnology (except nanobiotechnology)	541714	2,110	1,800	310
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	4,929	4,467	461
Research and development in the social sciences and humanities	541720	38	38	0
Other professional, scientific, and technical services	other 54	6,711	6,660	50
Health care services	621-23	2,298	2,045	253
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	3,137 - 3,815	3,135	3 - 680
All companies (number of domestic employees)	-	709,663	648,075	61,588
Small companies				
10-19 ^a	-	5,358	4,611	747
20-49	-	15,920	13,501	2,419
Medium companies				
50-99	-	16,454	13,300	3,154
100-249	-	25,209	22,233	2,976
Large companies				
250-499	-	27,270	24,185	3,085
500-999	-	30,373	27,917	2,456
1,000-4,999	-	110,128	103,779	6,349
5,000-9,999	-	71,968	67,394	4,575
10,000-24,999	-	119,637	103,153	16,484
25,000 or more	-	287,345	268,001	19,344

* = amount < \$500,000; 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. 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.