

TABLE 7

Worldwide R&D paid for by others 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	97,766	89,837	7,929
Manufacturing industries	31-33	45,406	40,100	5,306
Food	311	313	305	8
Beverage and tobacco products	312	22	19	4
Textile, apparel, and leather products	313-16	11	11	*
Wood products	321	2 - 10	2 - 10	0
Paper	322	*	* i	* i
Printing and related support activities	323	0 - 7	0 - 7	0
Petroleum and coal products	324	6	5	1
Chemicals	325	16,543	12,715	3,828
Basic chemicals	3251	170	157	12
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	126	81 - 125 i	2 - 45 i
Pesticide, fertilizer, and other agricultural chemicals	3253	211 - 254	211 - 254 i	0 - 6
Pharmaceuticals and medicines	3254	15,744	11,976	3,768
Soap, cleaning compound, and toilet preparations	3256	224	219	5
Paint, coating, adhesive, and other chemicals	3255, 3259	27 - 71	28	0 - 43
Plastics and rubber products	326	192	188	4
Nonmetallic mineral products	327	33	31	3
Primary metals	331	27 i	27 i	*
Fabricated metal products	332	453	444	9
Machinery	333	1,156	1,121	35
Agricultural implement	33311	66 - 82	67	0 - 15
Semiconductor machinery	333242	190	189	2
Engine, turbine, and power transmission equipment	3336	160	147	13
Other machinery	other 333	722 - 740	718	4 - 22
Computer and electronic products	334	7,288	7,123	165
Communications equipment	3342	1,252	1,237 i	15 i
Semiconductor and other electronic components	3344	2,075	2,018	57
Navigational, measuring, electromedical, and control instruments	3345	3,831	3,740	90
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	270	263	8
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	3,344	3,267	76
Other measuring and controlling devices	other 3345	217	210	6
Other computer and electronic products	other 334	131	128	3
Electrical equipment, appliances, and components	335	532	527	5
Transportation equipment	336	18,419	17,195	1,224
Motor vehicles, bodies, trailers, and parts	3361-63	4,555	4,287	268
Aerospace products and parts	3364	12,687 i	11,731 i	956
Aircraft, aircraft engine, and aircraft parts	336411-13	11,667 i	10,716 i	951
Guided missile, space vehicle, and related parts	336414-15, 336419	1,021	1,016	5
Military armored vehicle, tank, and tank components	336992	1	1	0
Other transportation	other 336	1,175	1,175	*
Furniture and related products	337	4	3	* i
Miscellaneous	339	403	383	20
Medical equipment and supplies	3391	313	298	15
Other miscellaneous manufacturing	3399	89	85	5
Nonmanufacturing industries	21-23, 42-81	52,360 i	49,736 i	2,623
Mining, quarrying, oil and gas extraction, and support activities	21	197 i	189 i	8 i

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Utilities	22	42	35 i	7 i
Wholesale trade	42	90	84	6
Electronic shopping and electronic auctions	454111-12	8 r	4 - 8	0 - 4
Transportation and warehousing	48-49	9	9	0
Information	51	1,565	1,414	151
Publishing	511	709	656	54
Newspaper, periodical, book, and directory publishers	5111	23 r	23 r	0
Software publishers	5112	687	633	54
Telecommunications	517	31 - 100	30 - 98	1
Data processing, hosting, and related services	518	726	630	95
Other information	other 51	29 - 100	29 - 99	*
Finance and insurance	52	88	86	2
Real estate and rental and leasing	53	0 - 1	0 - 1	0
Lessors of nonfinancial intangible assets (except copyrighted works)	533	0	0	0
Other real estate and rental and leasing	other 53	0 - 1	0 - 1	0
Professional, scientific, and technical services	54	50,153 i	47,753 i	2,400 i
Architectural, engineering, and related services	5413	2,379	2,008	372
Computer systems design and related services	5415	3,363	3,262	101
Scientific research and development services	5417	43,130 i	41,296 i	1,834 i
Research and development in nanotechnology	541713	84	73 i	11 i
Research and development in biotechnology (except nanobiotechnology)	541714	11,807	11,641	166
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	30,653 i	29,052 i	1,601 i
Research and development in the social sciences and humanities	541720	586	530	56
Other professional, scientific, and technical services	other 54	1,281	1,187	93
Health care services	621-23	104	95	9 r
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	100 - 108	65	35 - 44
All companies (number of domestic employees)	-	97,766	89,837	7,929
Small companies				
10-19 ^a	-	1,375	1,226	150
20-49	-	2,698	2,468	230
Medium companies				
50-99	-	2,311	2,106	206
100-249	-	4,785	4,172	612
Large companies				
250-499	-	4,186	3,407	779
500-999	-	4,393	4,043	349
1,000-4,999	-	12,697	11,500	1,197
5,000-9,999	-	11,999	10,995 i	1,005 i
10,000-24,999	-	32,298 i	29,935 i	2,363
25,000 or more	-	21,024	19,986	1,038

* = amount < \$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.

^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.