

TABLE 7

Worldwide R&D paid for by others and performed by the company and others, by industry and company size: 2018

(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	84,016	73,178	10,838
Manufacturing industries	31-33	50,008	40,871	9,137
Food	311	258	245	13
Beverage and tobacco products	312	109	109	1
Textile, apparel, and leather products	313-16	5	4	1 i
Wood products	321	4	4	* i
Paper	322	4	2	2
Printing and related support activities	323	4	4	*
Petroleum and coal products	324	24	22 - 25	0 - 2 i
Chemicals	325	15,642	10,842	4,799
Basic chemicals	3251	194	194	1
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	90 - 182	84 - 102	6 - 86
Pesticide, fertilizer, and other agricultural chemicals	3253	339	332 - 340	0 - 7
Pharmaceuticals and medicines	3254	14,771	10,057	4,714
Soap, cleaning compound, and toilet preparation	3256	136 - 216	137	0 - 79
Paint, coating, adhesive, and other chemicals	3255, 3259	21 - 112	21 - 38	0 - 79
Plastics and rubber products	326	149	89	60
Nonmetallic mineral products	327	24	24	0
Primary metals	331	23	23 i	1
Fabricated metal products	332	118	118	1
Machinery	333	1,180	1,122	57
Agricultural implement	33311	15	13	2
Semiconductor machinery	333242	588 - 599	556	32 - 42
Engine, turbine, and power transmission equipment	3336	193	172 - 194	0 - 21
Other machinery	other 333	372 - 385	358 - 382	0 - 24
Computer and electronic products	334	10,792	10,353	438
Communications equipment	3342	1,356 i	1,292 i	64 i
Semiconductor and other electronic components	3344	2,655	2,634	20
Navigational, measuring, electromedical, and control instruments	3345	6,536	6,192	344
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	166	166	*
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	6,081	5,751	330
Other measuring and controlling device	other 3345	289	275	14
Other computer and electronic products	other 334	245	235	9
Electrical equipment, appliances, and components	335	323	272	51
Transportation equipment	336	20,860	17,191	3,669
Motor vehicles, bodies, trailers, and parts	3361-63	3,032	2,839	193
Aerospace products and parts	3364	16,696 i	13,218 - 13,242 i	3,454 - 3,477 i
Aircraft, aircraft engine, and aircraft parts	336411-13	15,787 i	12,309 - 12,333 i	3,454 - 3,477 i
Guided missile, space vehicle, and related parts	336414-15, 336419	909	909	0
Military armored vehicle, tank, and tank component	336992	6	6	0
Other transportation	other 336	1,127	1,104 - 1,128	0 - 23
Furniture and related products	337	7	7	* i
Miscellaneous	339	483	438 - 443	40 - 46
Medical equipment and supplies	3391	328	301	27
Other miscellaneous manufacturing	3399	155	137 - 142 i	14 - 18 i

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Industry and company size	NAICS code	Total	Performed by the company	Performed by others
Nonmanufacturing industries	21-23, 42-81	34,008	32,307	1,701
Mining, quarrying, oil and gas extraction, and support activities	21	131	131	*
Utilities	22	62	51	12
Wholesale trade	42	29	25	4
Electronic shopping and electronic auctions	454111-12	94	94	0
Transportation and warehousing	48-49	7	7	0
Information	51	979	893	86
Publishing	511	585	503	82
Newspaper, periodical, book, and directory publishers	5111	1	*	1
Software publishers	5112	584	502	82
Telecommunications	517	66 - 72	64 - 70	2
Data processing, hosting, and related services	518	207	205	2
Other information	other 51	117 - 122	117 - 122	*
Finance and insurance	52	47	45	2 i
Real estate and rental and leasing	53	0	0	0
Lessors of nonfinancial intangible assets (except copyrighted works)	533	0	0	0
Other real estate and rental and leasing	other 53	0	0	0
Professional, scientific, and technical services	54	32,439	30,921	1,518
Architectural, engineering, and related services	5413	2,038	1,714 - 1,723	315 - 323
Computer systems design and related services	5415	2,386	2,353	32
Scientific research and development services	5417	27,165	26,068 - 26,077	1,088 - 1,096
Research and development in biotechnology	541711	7,592 - 7,749	7,593	0 - 156
Research and development in the physical, engineering, and life sciences (except biotechnology)	541712	18,771	17,830	941
Research and development in the social sciences and humanities	541720	645 - 803	645 - 655	0 - 150
Other professional, scientific, and technical services	other 54	851	775	75
Health care services	621-23	133	77	56 i
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	86	62	23
All companies (number of domestic employees)	-	84,016	73,178	10,838
Small companies				
10-19 ^a	-	1,177	1,056	121
20-49	-	2,121	1,707	414
Medium companies				
50-99	-	2,094	1,910	184
100-249	-	4,780	4,096	684
Large companies				
250-499	-	3,769	3,085	684
500-999	-	2,773	2,504	268
1,000-4,999	-	12,020	10,359	1,661
5,000-9,999	-	15,352	14,568	784
10,000-24,999	-	13,430	11,508	1,922 i
25,000 or more	-	26,501	22,385	4,116

* = amount < \$500,000; i = > 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

NAICS = 2012 North American Industry Classification System.

^a Business 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. Beginning in survey year 2018, statistics are representative of companies located in the United States that performed or funded \$50,000 or more of R&D. 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 U.S. Census Bureau, Business Research and Development Survey, 2018.