

TABLE 5

Worldwide R&D paid for by the company 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	521,611	468,235	53,377
Manufacturing industries	31-33	347,224	298,082	49,142
Food	311	5,569	5,273	296
Beverage and tobacco products	312	1,858	1,520	338
Textile, apparel, and leather products	313-16	1,220	1,202	18
Wood products	321	214	202	13
Paper	322	1,032	1,012	20
Printing and related support activities	323	245	242	3
Petroleum and coal products	324	1,734	1,438	296
Chemicals	325	129,242	90,043	39,198
Basic chemicals	3251	2,963	2,853	111
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	2,349 - 2,379	2,343	6 - 36
Pesticide, fertilizer, and other agricultural chemicals	3253	1,620	1,457	164
Pharmaceuticals and medicines	3254	116,951	78,480	38,471
Soap, cleaning compound, and toilet preparation	3256	3,805	3,420	385
Paint, coating, adhesive, and other chemicals	3255, 3259	1,525 - 1,555	1,492	33 - 63
Plastics and rubber products	326	3,176	3,090	86
Nonmetallic mineral products	327	1,613	1,542	70
Primary metals	331	1,012	967	45
Fabricated metal products	332	2,515	2,426	89
Machinery	333	18,796	18,197	599
Agricultural implement	33311	2,996	2,717	279
Semiconductor machinery	333242	4,522 - 4,591	4,521	1 - 69
Engine, turbine, and power transmission equipment	3336	3,316	3,246	70
Other machinery	other 333	7,895 - 7,964	7,713	182 - 250
Computer and electronic products	334	104,263	101,666	2,597
Communications equipment	3342	16,034	15,191	843
Semiconductor and other electronic components	3344	43,760	42,905	855
Navigational, measuring, electromedical, and control instruments	3345	15,274	14,707	568
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	4,298	4,212	86
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	4,581	4,246	335
Other measuring and controlling device	other 3345	6,395	6,249	146
Other computer and electronic products	other 334	29,195	28,863	332
Electrical equipment, appliances, and components	335	6,041	5,909	132
Transportation equipment	336	46,942	42,884	4,058
Motor vehicles, bodies, trailers, and parts	3361-63	32,651	29,286	3,365
Aerospace products and parts	3364	12,392	11,759	633
Aircraft, aircraft engine, and aircraft parts	336411-13	11,846	11,345	501
Guided missile, space vehicle, and related parts	336414-15, 336419	547	414	133
Military armored vehicle, tank, and tank component	336992	6	6	0
Other transportation	other 336	1,893	1,833	60
Furniture and related products	337	448	428	20
Miscellaneous	339	21,304	20,040	1,263
Medical equipment and supplies	3391	18,168	17,114	1,054
Other miscellaneous manufacturing	3399	3,136	2,926	210
Nonmanufacturing industries	21-23, 42-81	174,387	170,153	4,234

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Mining, quarrying, oil and gas extraction, and support activities	21	2,127	1,936	191
Utilities	22	444	232	212
Wholesale trade	42	954	913	41
Electronic shopping and electronic auctions	454111-12	11,620 - 15,552	11,620 - 15,422	0 - 131
Transportation and warehousing	48-49	980	949	31
Information	51	113,020	110,612	2,408
Publishing	511	40,879	39,462	1,416
Newspaper, periodical, book, and directory publishers	5111	155	150	5
Software publishers	5112	40,724	39,313	1,411
Telecommunications	517	4,116	3,763	352
Data processing, hosting, and related services	518	28,083	27,840	243
Other information	other 51	39,942	39,546	397
Finance and insurance	52	8,779	8,311	468
Real estate and rental and leasing	53	1,073	1,073	*
Lessors of nonfinancial intangible assets (except copyrighted works)	533	6	6	*
Other real estate and rental and leasing	other 53	1,067	1,067	*
Professional, scientific, and technical services	54	27,916	27,247	669
Architectural, engineering, and related services	5413	2,406	2,303	103
Computer systems design and related services	5415	18,078	17,934	145
Scientific research and development services	5417	2,806	2,487	319
Research and development in biotechnology	541711	968	855	114
Research and development in the physical, engineering, and life sciences (except biotechnology)	541712	1,810	1,605	205
Research and development in the social sciences and humanities	541720	28	28	* i
Other professional, scientific, and technical services	other 54	4,625	4,523	102
Health care services	621-23	1,501	1,421	80
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	2,043 - 5,978	2,040 - 5,842	3 - 139
All companies (number of domestic employees)	-	521,611	468,235	53,377
Small companies				
10-19 ^a	-	3,949	3,462	487
20-49	-	11,899	10,114	1,785
Medium companies				
50-99	-	13,245	11,103	2,142
100-249	-	18,673	16,324	2,349
Large companies				
250-499	-	21,486	18,739	2,747
500-999	-	19,124	17,710	1,413
1,000-4,999	-	80,422	73,402	7,020
5,000-9,999	-	53,735	46,307	7,428
10,000-24,999	-	114,116	95,269	18,847
25,000 or more	-	184,963	175,805	9,158

* = 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. This change has affected the comparability of these estimates 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 U.S. Census Bureau, Business Research and Development Survey, 2018.