

TABLE 2

Worldwide, domestic, and foreign R&D paid for by the company and others and performed by the company, by industry and company size: 2017

(Millions of U.S. dollars)

Industry and company size	NAICS code	Worldwide R&D performance			Domestic R&D performance			Foreign R&D performance		
		Total	Paid for by the company	Paid for by others	Total	Paid for by the company	Paid for by others	Total	Paid for by the company	Paid for by others
All industries	21-23, 31-33, 42-81	487,628	417,724	69,904	400,100	339,036	61,065	87,528	78,689	8,839
Manufacturing industries	31-33	314,496	271,860	42,636	257,227	216,155	41,072	57,270	55,706	1,564
Food	311	5,563	5,315	247	4,697	4,453	244	865	863	3
Beverage and tobacco products	312	1,743	1,636	107	1,076	968	107	667	667	0
Textile, apparel, and leather products	313-16	1,080	1,079	1	920	919	1	160	160	* i
Wood products	321	176	170	5	175	170	5	1	1	0
Paper	322	1,580	1,547	34	1,322	1,292	29	259	255	4
Printing and related support activities	323	235	224	11	229	218	11	5	5	0
Petroleum and coal products	324	370	355	15	316	301	15	54	54	* i
Chemicals	325	89,427	77,328	12,099	74,977	63,285	11,692	14,450	14,043	407
Basic chemicals	3251	3,133	2,949	184	2,574	2,393	181	560	557	3
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	949	933	16	628	612	16	321	321	* i
Pesticide, fertilizer, and other agricultural chemicals	3253	1,761 - 1,875	1,477	284 - 397	1,376 - 1,475	1,092	284 - 383	384 - 401	385	0 - 16
Pharmaceuticals and medicines	3254	78,178	66,815	11,363	66,202	55,229	10,973	11,976	11,587	390
Soap, cleaning compound, and toilet preparation	3256	3,383 - 3,479	3,266	118 - 213	2,605 - 2,701	2,488	118 - 213	778	778	0
Paint, coating, adhesive, and other chemicals	3255, 3259	1,910 - 1,927	1,887	23 - 39	1,495	1,471	23	415 - 432	416	0 - 16 i
Plastics and rubber products	326	4,656	4,519	137	3,754	3,637	117	902	882	20
Nonmetallic mineral products	327	1,515	1,485	30	1,334	1,303	30	181	181	0
Primary metals	331	879	869	9	749	741	8	130	129	1
Fabricated metal products	332	2,371	2,264	107	2,206	2,099	107	166	165	* i
Machinery	333	16,463	15,505	958	13,197	12,257	940	3,266	3,248	18
Agricultural implement	33311	2,137	2,077	60	1,570	1,511	59	567	566	1
Semiconductor machinery	333242	4,479	4,002	478	3,694	3,228	465	786	773	12
Engine, turbine, and power transmission equipment	3336	2,397 - 2,540	2,238 - 2,380	159	2,080	1,921	159	317 - 460	317 - 460	0
Other machinery	other 333	7,306 - 7,451	7,045 - 7,189	262	5,853	5,596	257	1,453 - 1,597	1,448 - 1,592	5 i
Computer and electronic products	334	101,223	92,184	9,038	78,575	69,942	8,633	22,648	22,242	405
Communications equipment	3342	15,819	14,098	1,721	12,687	10,972	1,715	3,132	3,126	6
Semiconductor and other electronic components	3344	41,046	38,608	2,438	30,148	27,859	2,289	10,898	10,749	149

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Navigational, measuring, electromedical, and control instruments	3345	18,350	13,686	4,664	14,509	10,089	4,420	3,842	3,597	244
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	3,773	3,623	151	2,696	2,545	150	1,078	1,077	1
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	8,257	3,953	4,304	7,297	3,214	4,083	960	738	222
Other measuring and controlling device	other 3345	6,320	6,111	209	4,516	4,329	187	1,804	1,782	22
Other computer and electronic products	other 334	26,007	25,792	216	21,231	21,022	209	4,776	4,769	7
Electrical equipment, appliances, and components	335	6,158	5,974	184	4,291	4,110	181	1,867	1,864	3
Transportation equipment	336	62,114	42,779	19,335	53,292	34,629	18,663	8,822	8,150	672
Automobiles, bodies, trailers, and parts	3361-63	30,478	27,419	3,059	23,881	21,137	2,745	6,597	6,282	315
Aerospace products and parts	3364	28,436	13,628	14,808	26,383	11,903	14,480	2,053	1,725	328
Aircraft, aircraft engine, and aircraft parts	336411-13	26,626	13,198	13,429	24,576	11,473	13,103	2,050	1,725	325
Guided missile, space vehicle, and related parts	336414-15, 336419	1,810	431	1,380	1,807	430	1,377	3	1	2
Military armored vehicle, tank, and tank component	336992	9	4	5	9	4	5	0	0	0
Other transportation	other 336	3,190	1,728	1,462	3,018	1,585	1,433	173	143	29
Furniture and related products	337	462	459	3	422	419	3	40	40	0
Miscellaneous	339	18,482	18,168	314	15,695	15,410	285	2,787	2,758	30
Medical equipment and supplies	3391	16,079	15,809	270	13,589	13,348	240	2,490	2,461	30
Other miscellaneous manufacturing	3399	2,403	2,359	44	2,106	2,062	44	297	297	* i
Nonmanufacturing industries	21-23, 42-81	173,132	145,864	27,268	142,874	122,881	19,993	30,258	22,983	7,275
Mining, extraction, and support activities	21	3,479 - 3,486	3,147	332 - 339	3,150	2,841	309	329 - 337	306	24 - 30
Utilities	22	327	290	36	317	281	36	9	9	*
Wholesale trade	42	571	540	31	534	503	31	37	37	*
Electronic shopping and electronic auctions	454111-12	11,873 - 12,096	11,873 - 12,096	0	9,318	9,318	0	2,555 - 2,779	2,555 - 2,779	0
Transportation and warehousing	48-49	1,155	1,122	32	1,147	1,116	31	7	6	1
Information	51	94,898	93,518	1,380	80,252	78,898	1,354	14,646	14,620	26
Publishing	511	43,169	42,099	1,070	34,338	33,276	1,062	8,831	8,824	7
Newspaper, periodical, book, and directory publishers	5111	81	81	0	74	74	0	7	7	0
Software publishers	5112	43,088	42,018	1,070	34,264	33,201	1,062	8,824	8,817	7

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Telecommunications	517	3,776 - 3,900	3,735	41 - 165	3,682 - 3,806	3,643	40 - 163	94	92	2
Data processing, hosting, and related services	518	18,427	18,291	135	16,155	16,037	119	2,272	2,255	17 i
Other information	other 51	29,403 - 29,527	29,392	11 - 134	25,954 - 26,077	25,943	11 - 134	3,450	3,450	0
Finance and insurance	52	8,581	8,530	51	7,616	7,565	51	965	965	0
Real estate and rental and leasing	53	909 i	899 i	10	718	708	10	191 i	191 i	0
Lessors of nonfinancial intangible assets (except copyrighted works)	533	311 i	311 i	0	138 i	138 i	0	173 i	173 i	0
Other real estate and rental and leasing	other 53	597	588	10	579	570	10	18 i	18 i	0
Professional, scientific, and technical services	54	47,987	22,864	25,123	36,922	18,972	17,951	11,064	3,892	7,172
Architectural, engineering, and related services	5413	2,761	1,611	1,149	2,708	1,561	1,147	53	51	2
Computer systems design and related services	5415	16,824	15,092	1,733	13,327	11,669	1,658	3,498	3,423	75
Scientific research and development services	5417	24,445	2,899	21,546	17,321	2,817	14,504	7,124	82	7,042
Biotechnology research and development	541711	6,444	801	5,643	4,449	795	3,653	1,996	6	1,990
Physical, engineering, and life sciences (except biotechnology) research and development	541712	17,038	2,012	15,026	11,913	1,936	9,978	5,125	76	5,048
Social sciences and humanities research and development	541720	963	86	877	959	86	873	4	0	4
Other professional, scientific, and technical services	other 54	3,957	3,261	695	3,566	2,925	641	390	336	54
Health care services	621-23	1,325 - 1,332	1,139 i	186 - 193	1,101	958 i	144	224 - 231	182	43 - 49
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	1,798 - 2,016	1,722 - 1,939	76	1,799	1,722	76	0 - 217	0 - 217	0
All companies (number of domestic employees)	-	487,628	417,724	69,904	400,100	339,036	61,065	87,528	78,689	8,839
Small companies										
10-19 ^a	-	3,447	2,530	917	3,311	2,402	909	136	128	8
20-49	-	10,011	8,162	1,850	9,435	7,593	1,842	577	569	8 i
Medium companies										
50-99	-	10,623	8,543	2,080	10,141	8,070	2,071	482	473	9
100-249	-	18,596	14,729	3,867	17,216	13,514	3,703	1,380	1,215	165
Large companies										
250-499	-	16,376	13,783	2,593	14,103	11,773	2,331	2,272	2,010	262 i

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500–999	–	20,387	18,675	1,712	17,871	16,295	1,576	2,516	2,380	136
1,000–4,999	–	80,255	66,372	13,883	65,112	52,341	12,771	15,143	14,031	1,112
5,000–9,999	–	54,428	42,209	12,219	40,198	32,701	7,497	14,230	9,508	4,722
10,000–24,999	–	87,990	77,328	10,662	73,485	63,415	10,070	14,505	13,913	592
25,000 or more	–	185,514	165,394	20,120 i	149,227	130,931	18,295 i	36,287	34,462	1,825

* = 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. Statistics are representative of companies located in the United States that performed or funded 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, 2017.