

TABLE 10

Domestic R&D paid for by the company and others and performed by the company, by type of cost, industry, and company size: 2017

(Millions of U.S. dollars)

Industry and company size	NAICS code	Total	Salaries, wages, and fringe benefits	Stock-based compensation	Temporary staffing	Expensed equipment	Materials and supplies	Lease and rental payments	Depreciation	Royalties and licensing fees	Other purchased services (except R&D)	Other
All industries	21-23, 31-33, 42-81	400,100	231,142	24,905	15,892	6,175	29,649	6,807	15,072	2,449	10,903	57,106
Manufacturing industries	31-33	257,227	141,985	10,100	8,915	3,662	25,324	3,733	10,815	2,235	7,141	43,317
Food	311	4,697	2,998	46	86	25	499	39	216	2	187	599
Beverage and tobacco products	312	1,076	612	15	34	2	87	13	58	*	49	205
Textile, apparel, and leather products	313-16	920	590	16	25	67	96	3	18	*	15	90
Wood products	321	175	130	*	5	2	23	1	3	0	4	7
Paper	322	1,322	703	*	42	36	422	6	40	1	8	64
Printing and related support activities	323	229	155	2	9	10	21	3	10	*	1	19
Petroleum and coal products	324	316	201	0	6	8	34	4	12	1	9	41
Chemicals	325	74,977	34,285	3,899	4,062	371	6,083	1,441	3,677	686	2,288	18,187
Basic chemicals	3251	2,574	1,513	3	50	38	270	51	153	25	107	365
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	628	408	0 - 107	25	1	44	16	26	*	5	0 - 107
Pesticide, fertilizer, and other agricultural chemicals	3253	1,376 - 1,475	687	0 - 149	187	1	89	45	161	3	6	46 - 300
Pharmaceuticals and medicines	3254	66,202	29,119	3,737	3,670	310	5,463	1,287	3,180	655	2,128	16,654
Soap, cleaning compound, and toilet preparation	3256	2,605 - 2,701	1,585	12	104	6	129	24	89	*	22	638 - 728
Paint, coating, adhesive, and other chemicals	3255, 3259	1,495	973	0 - 149	26	15	89	19	67	3	20	129 - 287
Plastics and rubber products	326	3,754	2,220	55	86	47	590	61	198	7	156	336
Nonmetallic mineral products	327	1,334	851	1	61	6	66	10	104	*	16	219
Primary metals	331	749	398	6	9	5	151	8	37	*	9	125
Fabricated metal products	332	2,206	1,410	23	47	25	384	15	32	6	32	231
Machinery	333	13,197	8,090	224	463	113	1,689	119	534	16	117	1,833
Agricultural implement	33311	1,570	935	0	107	5	281	5	40	2	4	191
Semiconductor machinery	333242	3,694	1,945	165	23	3	432	32	290	2	16	785
Engine, turbine, and power transmission equipment	3336	2,080	1,286	1	0 - 315	5	269	4	79	*	9	109 - 431
Other machinery	other 333	5,853	3,924	57	19 - 334	100	706	79	125	11	87	425 - 747

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Computer and electronic products	334	78,575	46,532	5,418	1,569	1,513	5,038	1,343	4,266	1,261	2,873	8,762
Communications equipment	3342	12,687	7,700	677	446	181	490	897	576	38	476	1,207
Semiconductor and other electronic components	3344	30,148	18,533	1,935	388	363	1,642	226	1,956	620	1,150	3,335
Navigational, measuring, electromedical, and control instruments	3345	14,509	9,528	162	498	156	1,305	116	295	247	266	1,933
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	2,696	1,525	30	95	12	195	25	68	4	93	648
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	7,297	5,060	31	290	38	704	24	130	196 - 242	110	664 - 715
Other measuring and controlling device	other 3345	4,516	2,943	101	113	106	406	67	98	1 - 47	63	571 - 622
Other computer and electronic products	other 334	21,231	10,770	2,644	237	814	1,602	104	1,439	355	980	2,287
Electrical equipment, appliances, and components	335	4,291	2,905	42	106	36	343	70	115	5	103	567
Transportation equipment	336	53,292	30,043	10	1,701	1,210	8,548	460	923	203	850	9,344
Automobiles, bodies, trailers, and parts	3361-63	23,881	13,811	6	1,311	1,027	4,090	282	657	168	311	2,219
Aerospace products and parts	3364	26,383	14,600	*	299	133	3,615	149	208	14	469	6,896
Aircraft, aircraft engine, and aircraft parts	336411-13	24,576	13,615	*	284	130	3,052	147	206	14	469	6,659
Guided missile, space vehicle, and related parts	336414-15, 336419	1,807	986	0	15	2	563	2	2	0	*	237
Military armored vehicle, tank, and tank component	336992	9	5	0	0 - 5	*	0 - 5	*	*	*	*	0 - 5
Other transportation	other 336	3,018	1,626	3	85 - 93	51	836 - 845	28	58	22	70	223 - 231
Furniture and related products	337	422	310	1	10	1	44	5	4	2	6	38
Miscellaneous	339	15,695	9,553	342	593	184	1,207	131	570	46	420	2,648
Medical equipment and supplies	3391	13,589	7,984	335	570	178	1,018	119	535	36	406	2,406

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Other miscellaneous manufacturing	3399	2,106	1,569	6	23	6	189	12	35	10	13	242
Nonmanufacturing industries	21-23, 42-81	142,874	89,157	14,805	6,977	2,513	4,325	3,074	4,257	214	3,762	13,789
Mining, extraction, and support activities	21	3,150	2,022	30	140	12	125	58	98	1	283	382
Utilities	22	317	114	1	18	4	50	1	56	4	44	26
Wholesale trade	42	534	387	1	13	2	37	6	5	21	10	52
Electronic shopping and electronic auctions	454111-12	9,318	6,122	1,369 - 1,515	58	65	16	40 - 186	544	0	3	809 - 955
Transportation and warehousing	48-49	1,147	699	6	90	51	175	11	32	0	27	57
Information	51	80,252	48,865	12,077	3,817	1,967	1,450	2,093	2,214	122	1,025	6,621
Publishing	511	34,338	23,167	3,240	1,264	201	436	550	571	98	854	3,956
Newspaper, periodical, book, and directory publishers	5111	74	51	1	2	1	3	*	5	0	0	10
Software publishers	5112	34,264	23,116	3,239	1,261	200	433	550	566	98	854	3,947
Telecommunications	517	3,682 - 3,806	2,371	168	213	9	0 - 692	162	15	5	31	13 - 836
Data processing, hosting, and related services	518	16,155	11,010	1,746	646	245	319	237	281	16	103	1,552
Other information	other 51	25,954 - 26,077	12,318	6,924	1,695	1,511	4 - 696	1,143	1,347	3	37	278 - 1,099
Finance and insurance	52	7,616	4,899	178	1,204	44	42	57	156	2	566	467
Real estate and rental and leasing	53	718	534	79	8	7	2	7	24	3	3	51
Lessors of nonfinancial intangible assets (except copyrighted works)	533	138	135	*	*	*	*	*	*	*	2	*
Other real estate and rental and leasing	other 53	579	399	78	8	7	2	6	24	3	*	51
Professional, scientific, and technical services	54	36,922	23,369	850	1,540	343	2,266	612	1,083	58	1,764	5,037
Architectural, engineering, and related services	5413	2,708	2,027	3	97	14	185	34	18	1	79	251

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Computer systems design and related services	5415	13,327	9,184	634	i 626	105	483	90	451	5	59	1,690	
Scientific research and development services	5417	17,321	9,486	151	647	146	1,281	457	579	46	1,589	i 2,940	
Biotechnology research and development	541711	4,449	2,286	47	189	7	371	84	156	22	819	i 469	
Physical, engineering, and life sciences (except biotechnology) research and development	541712	11,913	6,551	78	442	124	905	341	411	23	770	2,267	
Social sciences and humanities research and development	541720	959	649	26	16	15	5	31	12	*	*	204	i
Other professional, scientific, and technical services	other 54	3,566	2,672	63	i 170	79	318	32	35	6	37	155	
Health care services	621-23	1,101	614	i 72	i 45	i 14	i 112	i 44	i 29	i 1	i 32	i 137	i
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	1,799	1,531	0 - 137	43	6	i 50	i 3 - 142	16	2	i 3	9 - 148	
All companies (number of domestic employees)	-	400,100	231,142	24,905	15,892	6,175	29,649	6,807	15,072	2,449	10,903	57,106	
Small companies													
10-19 ^a	-	3,311	2,205	53	168	33	243	73	49	32	i 58	397	
20-49	-	9,435	6,084	167	378	100	836	262	231	98	200	1,079	
Medium companies													
50-99	-	10,141	6,302	278	515	72	850	262	220	139	304	1,200	
100-249	-	17,216	10,424	690	686	186	1,574	430	407	249	314	2,257	
Large companies													
250-499	-	14,103	8,737	624	586	162	1,093	309	324	118	308	1,844	
500-999	-	17,871	10,887	1,147	705	351	1,329	317	541	139	426	2,028	
1,000-4,999	-	65,112	37,435	4,236	2,271	729	3,968	939	2,477	399	1,748	i 10,911	
5,000-9,999	-	40,198	24,071	1,875	1,763	304	2,424	510	1,616	39	1,135	6,461	
10,000-24,999	-	73,485	42,247	4,780	2,460	986	6,383	1,072	3,524	192	2,356	9,484	
25,000 or more	-	149,227	82,748	11,055	6,360	3,253	10,950	2,633	5,686	1,044	4,053	21,446	

* = 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.