

TABLE 11

## Domestic R&amp;D paid for by the company and others and performed by the company, by industry and company size: 2018

(Millions of U.S. dollars)

Industry	NAICS code	Company size (domestic employees)										
		All companies	10-19 <sup>a</sup>	20-49	50-99	100-249	250-499	500-999	1,000-4,999	5,000-9,999	10,000-24,999	25,000 or more
All industries	21-23, 31-33, 42-81	441,036	4,390	11,252	12,321	18,547	19,645	17,657	68,578	45,337	84,420	158,889
Manufacturing industries	31-33	274,075	1,686	5,369	6,852	10,153	11,500	11,223	42,270	28,990	59,556	96,476
Food	311	4,654	4	87	68	285	270	194	472	182	2,196	895
Beverage and tobacco products	312	1,113	3	42	12	16	108	34	10	208	173	507
Textile, apparel, and leather products	313-16	989	10	5	12	29	50	48	271	294	79	190
Wood products	321	203	*	15	22	14	4	31	19	59	40	0
Paper	322	934	0	2	12	34	23	4	140	189	308	223
Printing and related support activities	323	242	0	8	13	30	71	31	42	28	19	0
Petroleum and coal products	324	1,269	3	12	23	25	42	60	26	24	131	924
Chemicals	325	84,137	816	2,629	3,509	4,380	4,980	3,436	13,596	7,905	31,683	11,203
Basic chemicals	3251	2,443	16	90	53	156	174	105	1,317	193	339	0
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,653	0 - 64	0 - 80	0 - 112	44	46	58	157	0	1,091 - 1,351	0
Pesticide, fertilizer, and other agricultural chemicals	3253	1,460	6	31	10	26	15	3	510	166	694	0
Pharmaceuticals and medicines	3254	74,592	732	2,387	3,318	3,984	4,552	3,113	10,595	7,332	27,608	10,972
Soap, cleaning compound, and toilet preparation	3256	2,710	0 - 64	44	19	94	83	50	543	214	1,363 - 1,667	0 - 232
Paint, coating, adhesive, and other chemicals	3255, 3259	1,278	0 - 64	0 - 80	0 - 112	77	110	107	474	0	23 - 512	0 - 232
Plastics and rubber products	326	2,751	5	94	126	199	277	302	857	538	354	0
Nonmetallic mineral products	327	1,385	4	18	20	48	14	73	99	164	946	0
Primary metals	331	839	0	17	22	92	48	50	188	123	290	9
Fabricated metal products	332	2,327	35	140	156	463	226	450	483	163	211	0
Machinery	333	14,799	163	405	621	909	650	709	3,109	3,062	2,033	3,137
Agricultural implement	33311	1,872	4	52	31	69	19	79	366	14	0	1,237
Semiconductor machinery	333242	4,166	6	6	29	61	116	67 - 569	1,131	2,245 - 2,747	0	0
Engine, turbine, and power transmission equipment	3336	2,483	6	11	17	44	45	63	300	0 - 502	0 - 2,001	0 - 1,901
Other machinery	other 333	6,278	147	336	543	735	470	0 - 502	1,312	303	32 - 2,034	0 - 1,901
Computer and electronic products	334	83,697	338	1,010	1,175	1,980	2,827	3,662	13,706	9,891	10,220	38,888
Communications equipment	3342	13,107	19	101	218	399	461	774	2,935	993	2,035	5,171
Semiconductor and other electronic components	3344	31,052	58	400	372	745	1,895	1,621	5,537	5,311	4,465	10,648

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Navigational, measuring, electromedical, and control instruments	3345	16,727	61 - 263	439	468	694	219 - 473	729	3,868	580	2,920	6,290 - 6,751
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	3,208	49	156	154	236	178	405	1,178	0	852	i 0
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	8,843	13	60	79	131	37	0 - 265	821	137 - 580	998 - 1,714	5,855
Other measuring and controlling device	other 3345	4,675	0 - 202	222	235	327	5 - 259	59 - 325	1,869	0 - 444	353 - 1,071	i 435 - 897
Other computer and electronic products	other 334	22,811	0 - 202	69	117	141	0 - 253	538	1,367	3,006	800	16,316 - 16,777
Electrical equipment, appliances, and components	335	4,487	48	253	319	244	237	430	1,344	502	625	485
Transportation equipment	336	52,629	175	181	191	566	1,000	1,071	4,448	3,558	6,131	35,309
Motor vehicles, bodies, trailers, and parts	3361-63	25,586	0 - 12	65	88	377	769	563 - 677	3,348	1,314	4,573	14,360 - 14,492
Aerospace products and parts	3364	24,291	164	51	84	145	158	286	931	1,718	1,558	19,196
Aircraft, aircraft engine, and aircraft parts	336411-13	22,968	135	35	52	134	139	286	654	778	1,558	19,196
Guided missile, space vehicle, and related parts	336414-15, 336419	1,323	28	16	32	10	19	0	278	940	0	0
Military armored vehicle, tank, and tank component	336992	11	0	0 - 6	1 - 12	0 - 6	0 - 11	0	0	0	0	0
Other transportation	other 336	2,741	0 - 12	57 - 67	6 - 19	37 - 45	62 - 75	109 - 223	169	527	0	1,620 - 1,754
Furniture and related products	337	410	0	17	24	38	24	9	79	205	14	0
Miscellaneous	339	17,209	81	438	527	800	648	628	3,384	1,895	4,103	4,705
Medical equipment and supplies	3391	14,531	74	387	288	564	318	517	2,346	1,484	3,982	4,569
Other miscellaneous manufacturing	3399	2,678	7	51	239	236	330	112	1,037	411	i 121	i 136
Nonmanufacturing industries	21-23, 42-81	166,961	2,704	5,882	5,469	8,395	8,145	6,435	26,307	16,347	24,864	62,413
Mining, quarrying, oil and gas extraction, and support activities	21	1,905	9	17	42	51	68	44	i 65	i 277	1,332	0
Utilities	22	275	5	12	*	8	0	0 - 94	48	0 - 94	67	41 - 137
Wholesale trade	42	906	i 35	143	118	i 273	i 118	i 172	i 47	0	*	0
Electronic shopping and electronic auctions	454111-12	11,652	i 1 - 39	0 - 83	3	i 113	0 - 219	0 - 231	0 - 485	0 - 1,076	i 0	9,418 - 10,738
Transportation and warehousing	48-49	942	2	i 11	7	39	2	268	157	18	20	419

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Information	51	94,349	704	1,197	1,531	3,067	3,818	3,585	17,847	6,758	15,494	40,347	
Publishing	511	32,770	206	499	478	984	815	778	7,898	4,892	1,854	14,367	
Newspaper, periodical, book, and directory publishers	5111	131	0	7	7	*	52	i 15	0	0	50	i 0	
Software publishers	5112	32,639	206	492	471	984	762	763	7,898	4,892	1,804	14,367	
Telecommunications	517	3,696	9 - 488	31 - 698	22 - 204	0 - 421	265	0 - 535	0 - 2,676	0 - 444	0 - 3,367	0 - 3,367	
Data processing, hosting, and related services	518	23,306	0 - 490	1 - 668	851	1,565	2,133	2,273	7,272	1,423	1,767 - 2,931	4,861	
Other information	other 51	34,576	0 - 490	0 - 665	0 - 181	98 - 520	606	0 - 536	2 - 2,678	0 - 444	7,341 - 11,874	17,751 - 21,120	
Finance and insurance	52	7,471	249	11	33	150	461	182	1,133	i 1,086	1,753	2,413	
Real estate and rental and leasing	53	1,022	0	2	8	14	2	57	938	0	0	0	
Lessors of nonfinancial intangible assets (except copyrighted works)	533	6	0	0	*	6	0	0	0	0	0	0	
Other real estate and rental and leasing	other 53	1,016	0	2	8	9	2	57	938	0	0	0	
Professional, scientific, and technical services	54	44,860	1,648	4,359	3,436	4,414	2,783	1,622	5,504	7,120	5,648	8,327	
Architectural, engineering, and related services	5413	3,961	283	512	388	568	394	378	i 298	398	271	471	
Computer systems design and related services	5415	15,923	407	1,700	1,232	1,002	642	624	2,767	479	3,143	3,927	
Scientific research and development services	5417	20,185	844	1,424	1,353	2,181	1,288	379	1,891	6,178	1,992	2,656	
Research and development in biotechnology	541711	5,857	236	240	353	66 - 161	132 - 142	71	210 - 314	0	1,791	2,656	
Research and development in the physical, engineering, and life sciences (except biotechnology)	541712	13,657	603	1,166	1,000	2,021	1,135	308	1,045	6,178	201	0	
Research and development in the social sciences and humanities	541720	671	5	18	*	0 - 95	12 - 20	0	533 - 635	0	0	0	
Other professional, scientific, and technical services	other 54	4,791	114	722	463	663	459	241	549	66	i 242	1,273	
Health care services	621-23	1,476	15	46	180	i 87	678	278	62	3	0	128	i

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Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	2,103	0 - 39	5 - 89	111	178	0 - 219	0 - 231	26 - 511	12 - 1,088	i	549	0 - 1,221

\* = 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.

<sup>a</sup> 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.