

TABLE 47

## Domestic R&amp;D paid for by the company and performed by others, by type of performer, industry, and company size: 2017

(Millions of U.S. dollars)

Industry and company size	NAICS code	Total	Companies in the United States	Companies outside the United States		U.S. federal government agencies	U.S. state government agencies	U.S. universities, colleges, and academic researchers	All other	
				Company's parent	Other				In the United States	Outside the United States
All industries	21-23, 31-33, 42-81	42,704	36,081	1,727	i 3,444	88	i 10	498	588	267
Manufacturing industries	31-33	39,185	33,218	1,704	i 3,086	65	i 3	422	465	220
Food	311	150	119	0	11	0	0	8	8	4
Beverage and tobacco products	312	218	170	0	39	0	0	3	5	* i
Textile, apparel, and leather products	313-16	22	21	0	1	i 0	0	* i	0-2	i 0-2
Wood products	321	9	8	0	0	0-2	*	0-2	*	0
Paper	322	42	39	*	i 1	i 0	0	1	0-3	0-3
Printing and related support activities	323	4	4	i 0	0	0	0	0	*	0
Petroleum and coal products	324	63	33	*	i 2	* i	0	1	26	2
Chemicals	325	31,294	27,809	223	2,606	4	* i	237	250	164
Basic chemicals	3251	77-90	63	*	i 6	0	0	5	i 0-10	i 5
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	17	12	*	i 1	i 0	0	1	3	*
Pesticide, fertilizer, and other agricultural chemicals	3253	116	90	i 1	i 12	i *	i *	10	i 0-6	i 0-4
Pharmaceuticals and medicines	3254	30,755	27,361	216	2,572	4	* i	215	231	154
Soap, cleaning compound, and toilet preparation	3256	264	247	*	i 5	i *	i *	* i	8	3
Paint, coating, adhesive, and other chemicals	3255, 3259	55-68	36	5	i 10	i *	i *	6	i 0-10	i 0-4
Plastics and rubber products	326	160	86	17	i 27	0-7	1	16	10	0-7
Nonmetallic mineral products	327	19	14	*	i 3	i 0	0	* i	*	2
Primary metals	331	54	50	1	i *	i 0-4	0	1	i 0-4	i *
Fabricated metal products	332	91	78	3	i 3	i *	i *	1	i 3	i 2
Machinery	333	482	417	10	i 37	*	* i	7	i 0-14	0-14
Agricultural implement	33311	176-193	170	0	3	0	0	5	i 0	0-14
Semiconductor machinery	333242	0-22	1	0	0-21	0	0	* i	* i	0
Engine, turbine, and power transmission equipment	3336	51-69	49	i *	i 3	0	0	1	0-14	* i
Other machinery	other 333	215-254	197	10	i 8-33	*	* i	1	i 0-14	i *

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Computer and electronic products	334	1,886	1,044	541	i 138	0 - 20	*	i 72	74	i 0 - 20	i
Communications equipment	3342	754	i 181	485 - 541	i 32	*	i *	i 2	i 0 - 32	i 0 - 20	i
Semiconductor and other electronic components	3344	394	331	0 - 21	i 42	0 - 20	0	2	0 - 21	i 0	
Navigational, measuring, electromedical, and control instruments	3345	345	278	*	i 24	*	i 0	0 - 2	43	0 - 2	i
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	97	52	0	5	*	0	*	39	*	
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	131 - 154	i 132	i *	i 0 - 20	*	i 0	0 - 2	*	0 - 2	i
Other measuring and controlling device	other 3345	95 - 117	93	0	0 - 20	0	0	0 - 2	i 3	i 0 - 2	i
Other computer and electronic products	other 334	392	255	0 - 34	i 40	0 - 20	i *	i 64 - 70	0 - 32	i 0 - 20	
Electrical equipment, appliances, and components	335	210	191	i 0	16	0	0	2	i 1	i 0	
Transportation equipment	336	3,427	2,239	899	i 142	26 - 60	i 2	39	41	2 - 36	
Automobiles, bodies, trailers, and parts	3361-63	2,714	1,680	871	i 108	3	2	33	0 - 21	i 0 - 21	
Aerospace products and parts	3364	670	519	27	i 31	22 - 57	i 0	6	i 19 - 42	0 - 36	i
Aircraft, aircraft engine, and aircraft parts	336411-13	559	427	27	i 31	22 - 57	i 0	5	i 0 - 23	0 - 36	i
Guided missile, space vehicle, and related parts	336414-15, 336419	111	91	*	i *	0	0	*	19	0	
Military armored vehicle, tank, and tank components	336992	1	*	i *	i *	0	0	*	i *	i *	i
Other transportation	other 336	43	39	*	i 3	0	0	*	*	0	
Furniture and related products	337	19	16	*	i 3	*	i 0	*	i *	i *	i
Miscellaneous manufacturing	339	1,034	880	9	57	3	*	33 - 38	36	13 - 18	
Medical equipment and supplies	3391	909	762	9	53	3	*	34	35	14	
Other miscellaneous manufacturing	3399	125	118	*	i 5	*	i *	i 0 - 3	i 1	i 0 - 3	i
Nonmanufacturing industries	21-23, 42-81	3,519	2,863	23	357	23	7	76	123	47	

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				Company's parent	Other				In the United States	Outside the United States						
Mining, extraction, and support activities	21	300	180	0	24	7	0	38	42-50	1-8						
Utilities	22	200	132	0	8	*	7	3	51	*						
Wholesale trade	42	108	104	i	*	i	2	i	*	0						
Electronic shopping and electronic auctions	454111-12	3	3	0	0	0	0	0	0	0						
Transportation and warehousing	48-49	44	44	0	0	0	0	0	0	0						
Information	51	1,814	1,590	0	173	0	0	5	11	34						
Publishing	511	1,088	975	0	66	0	0	5	10	32						
Newspaper, periodical, book, and directory publishers	5111	10	6	i	0	*	i	0	0	*	i	1	i	2	i	
Software publishers	5112	1,078	968	0	66	0	0	4	10	30						
Telecommunications	517	237	234	0	3	0	0	*	0	0						
Data processing, hosting, and related services	518	239	137	0	99	0	0	*	0	2						
Other information	other 51	250	245	0	5	0	0	*	i	1	*	i				
Finance and insurance	52	362	256	21	79	0	0	4	3	0						
Real estate and rental and leasing	53	4	4	i	0	0	0	0	0	0						
Lessors of nonfinancial intangible assets (except copyrighted works)	533	2	2	i	0	0	0	0	0	0						
Other real estate and rental and leasing	other 53	1	1	i	0	0	0	0	0	0						
Professional, scientific, and technical services	54	557	426	2	72	17	*	i	24	11	7	i				
Architectural, engineering, and related services	5413	85	78	*	i	3	2	i	0	1	i	*	i	*	i	
Computer systems design and related services	5415	120	88	i	*	i	19	i	4	i	*	i	3	i	5	i
Scientific research and development services	5417	332	244	1	45	11	*	22	8	1						
Biotechnology research and development	541711	117	90	1	5	1	0	19	1	0						
Physical, engineering, and life sciences (except biotechnology) research and development	541712	216	154	0	40	10	*	4	7	1						
Social sciences and humanities research and development	541720	*	*	i	*	i	*	i	0	*	i	*	i	*	i	
Other professional, scientific, and technical services	other 54	20	15	*	i	4	*	i	0	*	i	*	i	*	i	
Health care services	621-23	34	33	i	0	*	0	0	*	i	0	*				
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	93	91	0	1	0	0	0	1	0-2	0-2					

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				Company's parent	Other				In the United States	Outside the United States
All companies (number of domestic employees)	-	42,704	36,081	1,727	i 3,444	88	i 10	498	588	267
Small companies										
10-19 <sup>a</sup>	-	449	356	0 - 16	i 62	2	i *	i 16	0 - 16	i 0 - 14
20-49	-	1,245	989	12	i 141	5	i *	46	33	18
Medium companies										
50-99	-	1,468	1,234	0 - 18	i 162	3	*	i 28	26	0 - 14
100-249	-	3,048	2,473	20	350	10	*	i 49	12	133
Large companies										
250-499	-	1,189	1,018	16	85	1	i *	i 15	i 45	8
500-999	-	2,237	1,206	31	850	1	i *	i 58	51	39
1,000-4,999	-	8,357	8,020	56	82	2	1	86	99	12
5,000-9,999	-	3,213	2,552	519 - 549	i 81	1	0	13	18 - 43	2
10,000-24,999	-	11,816	10,194	266	1,128	5	i 6	47	i 143	27
25,000 or more	-	9,681	8,041	780	i 501	58	i 3	139	141	19

\* = amount &lt; \$500,000; i = &gt; 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. Statistics are representative of companies located in the United States that performed or funded R&D. The "undistributed" column shown in prior years is no longer necessary because of processing improvements implemented beginning in 2017. 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.