

TABLE 45

## Domestic R&amp;D paid for by sources located outside the United States and performed by the company, by source of funds, industry, and company size: 2018

(Millions of U.S. dollars)

Industry and company size	NAICS code	Total	Foreign companies			Foreign government agencies	Foreign universities, colleges, and academic researchers	All other
			Subsidiaries <sup>a</sup>	Company's parent	Unaffiliated companies			
All industries	21-23, 31-33, 42-81	42,438	23,515	15,775	2,558	248	5	337
Manufacturing industries	31-33	31,065	16,101	12,871	1,752	183 - 230	*	108 - 159
Food	311	317	82	235	*	0	0	0
Beverage and tobacco products	312	118	11	106	0	0	0	0
Textile, apparel, and leather products	313-16	1	1	*	0	0	0	0
Wood products	321	4	0	4	*	0	0	*
Paper	322	1	*	1	0	0	0	0
Printing and related support activities	323	3	0	3	*	0	0	*
Petroleum and coal products	324	189	171	18	1	0	0	0
Chemicals	325	10,716	2,697	6,811	1,190	0	*	19
Basic chemicals	3251	198	18	168	12	0	0	0
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	80	1	71 - 80	0 - 7	0	0	*
Pesticide, fertilizer, and other agricultural chemicals	3253	315 - 323	0	310 - 323	0 - 7	0	0	*
Pharmaceuticals and medicines	3254	9,936	2,640	6,103	1,173	0	*	18
Soap, cleaning compound, and toilet preparation	3256	129 - 178	0 - 40	125 - 138	0 - 7	0	0	*
Paint, coating, adhesive, and other chemicals	3255, 3259	2 - 52	0 - 40	0 - 11	0 - 7	0	0	*
Plastics and rubber products	326	50	38	11	*	0	0	0
Nonmetallic mineral products	327	26	11	15	*	0	0	0
Primary metals	331	15	3	5	7	*	0	0
Fabricated metal products	332	49	3	46	*	*	0	*
Machinery	333	792	127	598 - 666	0 - 66	0	0	0
Agricultural implement	33311	17	10	0 - 8	0 - 8	0	0	0
Semiconductor machinery	333242	540	0	473 - 541	0 - 66	0	0	0
Engine, turbine, and power transmission equipment	3336	18	2	15	0	0	0	0
Other machinery	other 333	217	114	36 - 104	0 - 66	0	0	0
Computer and electronic products	334	15,492	12,418	2,645	321	0 - 47	*	59 - 110
Communications equipment	3342	3,708	3,588	109	8	*	0	3

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Semiconductor and other electronic components	3344	3,375	1,294	1,879	194	0 - 10	*	0 - 10
Navigational, measuring, electromedical, and control instruments	3345	910	129	561 - 659	23 - 121	0 - 47	0	45 - 108
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	209	57	151	* i	0	0	* i
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	488	0 - 60	210 - 417	0 - 121	0 - 47	0	45 - 108
Other measuring and controlling device	other 3345	214	13 - 73	20 - 200	0 - 121	0	0	0
Other computer and electronic products	other 334	7,499	7,406	0 - 94	0 - 94	0	0	0
Electrical equipment, appliances, and components	335	313	111	191	11	0	0	0
Transportation equipment	336	2,374	104	1,906	151	184	0	29
Motor vehicles, bodies, trailers, and parts	3361-63	2,065	87	1,882	96	0	0	*
Aerospace products and parts	3364	282 - 299	16	0 - 16	55	184	0	29
Aircraft, aircraft engine, and aircraft parts	336411-13	282 - 299	16	0 - 16	55	184	0	29
Guided missile, space vehicle, and related parts	336414-15, 336419	0	0	0	0	0	0	0
Military armored vehicle, tank, and tank component	336992	0	0	0	0	0	0	0
Other transportation	other 336	9 - 26	0	8 - 25	* i	* i	0	0
Furniture and related products	337	6	6	* i	* i	* i	0	* i
Miscellaneous	339	597	320	202 - 270 i	8 - 75	0	0	0
Medical equipment and supplies	3391	478	319	150	9	0	0	0
Other miscellaneous manufacturing	3399	119 i	*	52 - 119 i	0 - 66 i	0	0	0
Nonmanufacturing industries	21-23, 42-81	11,374	7,414	2,904	806	18 - 65	4	178 - 229 i
Mining, quarrying, oil and gas extraction, and support activities	21	550	510 - 547	0	4 - 39	0	0	0
Utilities	22	4	0	3	1	0	0	0
Wholesale trade	42	28	3	24	1	0	0	0
Electronic shopping and electronic auctions	454111-12	92 - 1,266	0 - 1,173	93	0	0	0	0
Transportation and warehousing	48-49	3	3	0	0	0	0	0
Information	51	4,895 i	4,165 i	605	124	0	0	* i
Publishing	511	1,226	803	319	104	0	0	* i
Newspaper, periodical, book, and directory publishers	5111	* i	0	0	* i	0	0	0
Software publishers	5112	1,225	803	319	104	0	0	* i



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250-499	-	1,677	352	1,084	233	* i	* i	8
500-999	-	2,298	798	909	382	* i	* i	209 i
1,000-4,999	-	9,367	2,016	6,842	493	*	*	15
5,000-9,999	-	2,728 i	1,926 i	359	443	0	0	* i
10,000-24,999	-	9,091 i	4,533 i	3,881	677	0	0	0
25,000 or more	-	13,238	12,617	243	76	214	0	87

\* = 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> Statistics are based on companies in the United States that reported to the survey. No systematic item imputation was applied. These statistics include an adjustment to the weight to account for unit nonresponse.

<sup>b</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. In all other tables, R&D costs of foreign-company subsidiaries of U.S. companies are included in company-funded U.S. domestic R&D totals. Only in this table are such R&D costs classified as being part of R&D paid for by sources located outside of the United States. 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.