

TABLE 85

Domestic R&D paid for by others and performed by the company, depreciation, capital expenditures, and adjusted domestic R&D, by industry and company size: 2018

(Millions of U.S. dollars and percent)

Industry and company size	NAICS code	Domestic R&D paid for by others and performed by the company	Depreciation	Capital expenditures related to R&D ^a	Adjusted domestic R&D paid for by the company and others	Change	
						Amount	Percent
All industries	21-23, 31-33, 42-81	63,230	1,638	0	61,593	-1,638	-2.6
Manufacturing industries	31-33	39,393	979	0	38,414	-979	-2.5
Food	311	242	11	0	231	-11	-4.5
Beverage and tobacco products	312	109	8	0	100	-8	-7.5
Textile, apparel, and leather products	313-16	4	*	i	0	4	* i -0.4
Wood products	321	4	*	0	4	*	-2.2
Paper	322	2	*	i	0	2	* i -2.3
Printing and related support activities	323	4	*	i	0	4	* i -0.1
Petroleum and coal products	324	23	1	0	22	-1	-4.4
Chemicals	325	10,553	514	0	10,038	-514	i -4.9
Basic chemicals	3251	192	10	0	182	i	-10 i -5.4
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	85	0 - 16	0	D	D	D
Pesticide, fertilizer, and other agricultural chemicals	3253	326	21	0	305	i	-21 i -6.4
Pharmaceuticals and medicines	3254	9,792	465	0	9,326	-465	i -4.8
Soap, cleaning compound, and toilet preparation	3256	137	0 - 20	0	D	D	D
Paint, coating, adhesive, and other chemicals	3255, 3259	21	*	0	21	*	-0.2
Plastics and rubber products	326	83	1	0	83	i	-1 -1.1
Nonmetallic mineral products	327	24	1	0	23	-1	-6.1
Primary metals	331	22	i	*	i	0	22 i * i -0.4
Fabricated metal products	332	105	5	0	100	-5	-5.1
Machinery	333	1,034	47	0	987	-47	-4.5
Agricultural implement	33311	10	*	0	10	*	-2.6
Semiconductor machinery	333242	543	44	0	500	-44	-8.0
Engine, turbine, and power transmission equipment	3336	173	2	0	171	-2	-1.2
Other machinery	other 333	307	1	0	307	-1	-0.3
Computer and electronic products	334	9,775	250	0	9,525	-250	-2.6
Communications equipment	3342	1,285	i	30	i	0	1,254 i -30 i -2.4
Semiconductor and other electronic components	3344	2,410	102	0	2,308	-102	-4.2
Navigational, measuring, electromedical, and control instruments	3345	5,863	109	0	5,754	-109	-1.9
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	163	3	0	159	-3	i -2.0
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	5,455	84	0	5,371	-84	-1.5
Other measuring and controlling device	other 3345	245	21	0	224	-21	-8.7
Other computer and electronic products	other 334	217	8	0	209	-8	-3.9
Electrical equipment, appliances, and components	335	266	12	0	254	-12	-4.4
Transportation equipment	336	16,735	121	0	16,614	i	-121 -0.7

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Motor vehicles, bodies, trailers, and parts	3361-63	2,506	79	0	2,426	-79	-3.2
Aerospace products and parts	3364	13,131 i	30	0	13,101 i	-30	-0.2
Aircraft, aircraft engine, and aircraft parts	336411-13	12,222 i	30	0	12,192 i	-30	-0.2
Guided missile, space vehicle, and related parts	336414-15, 336419	909	*	0	909	*	*
Military armored vehicle, tank, and tank component	336992	6	0 - 5	0	D	D	D
Other transportation	other 336	1,092	6 - 14 i	0	D	D	D
Furniture and related products	337	5	*	0	5	*	-3.2
Miscellaneous	339	402	6 i	0	396 i	-6 i	-1.6
Medical equipment and supplies	3391	264	2	0	262	-2	-0.6
Other miscellaneous manufacturing	3399	138 i	5 i	0	133 i	-5 i	-3.4
Nonmanufacturing industries	21-23, 42-81	23,838	659	0	23,179	-659	-2.8
Mining, quarrying, oil and gas extraction, and support activities	21	130	0 - 52 i	0	D	D	D
Utilities	22	51	0	0	51	0	0
Wholesale trade	42	25	0 - 4	0	D	D	D
Electronic shopping and electronic auctions	454111-12	94	0 - 88	0	D	D	D
Transportation and warehousing	48-49	7	0 - 8	0	D	D	D
Information	51	862	16	0	847	-16	-1.8
Publishing	511	489	9	0	480	-9	-1.9
Newspaper, periodical, book, and directory publishers	5111	*	0	0	*	0	0
Software publishers	5112	489	9	0	480	-9	-1.9
Telecommunications	517	65	0 - 7	0	D	D	D
Data processing, hosting, and related services	518	191	1	0	190	-1	-0.4
Other information	other 51	117	0 - 7	0	D	D	D
Finance and insurance	52	45	0	0	45	0	0
Real estate and rental and leasing	53	0	0	0	0	0	NA
Lessors of nonfinancial intangible assets (except copyrighted works)	533	0	0	0	0	0	NA
Other real estate and rental and leasing	other 53	0	0	0	0	0	NA
Professional, scientific, and technical services	54	22,486	556 - 644	0	D	D	D
Architectural, engineering, and related services	5413	1,684	0 - 65 i	0	D	D	D
Computer systems design and related services	5415	2,291	18	0	2,273	-18	-0.8
Scientific research and development services	5417	17,761	539	0	17,222	-539	-3.0
Research and development in biotechnology	541711	5,037	57 - 137	0	D	D	D
Research and development in the physical, engineering, and life sciences (except biotechnology)	541712	12,080	403	0	11,677	-403	-3.3
Research and development in the social sciences and humanities	541720	644	0 - 78	0	D	D	D
Other professional, scientific, and technical services	other 54	750	0 - 61	0	D	D	D

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Health care services	621-23	75	0 - 21	i	0	D	D
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	62	0 - 63		0	D	D
All companies (number of domestic employees)	-	63,230	1,638	0	61,593	-1,638	-2.6
Small companies							
10-19 ^b	-	1,050	26	0	1,024	-26	-2.5
20-49	-	1,695	24	0	1,671	-24	-1.4
Medium companies							
50-99	-	1,875	32	0	1,844	-32	-1.7
100-249	-	3,921	94	0	3,828	-94	-2.4
Large companies							
250-499	-	3,041	75	0	2,965	-75	-2.5
500-999	-	2,096	90	i	2,006	-90	i -4.3
1,000-4,999	-	10,068	489	0	9,579	-489	-4.9
5,000-9,999	-	9,063	417	0	8,646	-417	-4.6
10,000-24,999	-	9,997	173	i	9,825	-173	i -1.7
25,000 or more	-	20,423	218	0	20,206	i -218	-1.1

* = -\$500,000 < amount < \$500,000 (or -0.05% < amount < 0.05%); D = data withheld to avoid disclosing operations of individual companies; i = more than 50% of the estimate is a combination of imputation and reweighting to account for nonresponse; NA = not available.

NAICS = 2012 North American Industry Classification System.

^a Capital expenditures related to R&D are assumed to be \$0 for domestic R&D paid for by others and performed by the company.

^b The Business Research and Development Survey did 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. To enable comparisons between U.S. Business Enterprise Research and Development (BERD) Survey statistics and those of other nations, in this table an internationally comparable adjusted domestic R&D estimate is calculated by subtracting depreciation relating to R&D operations, which was *included* in U.S. BERD domestic R&D, and adding capital expenditures relating to R&D operations, which was *excluded* from U.S. BERD domestic R&D.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, Business Research and Development Survey, 2018.