

TABLE 87

**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: 2020**

(Millions of U.S. dollars and percent change)

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 <sup>a</sup>	Adjusted domestic R&D paid for by the company and others	Change	
						Amount	Percent
All industries	21-23, 31-33, 42-81	71,457	2,414	0	69,043	-2,414	-3.4
Manufacturing industries	31-33	43,848	1,426	0	42,423	-1,426	-3.3
Food	311	254	13	0	241	-13	-5.2
Beverage and tobacco products	312	121	7	0	114	-7	-5.7
Textile, apparel, and leather products	313-16	9	1	0	9	-1	-5.6
Wood products	321	3	*	0	3	0	-0.8
Paper	322	1	0	0	1	0	0
Printing and related support activities	323	1	*	i	1	*	i
Petroleum and coal products	324	89 - 103	0 - 21	0	69 - 97	-22 - -5	D
Chemicals	325	11,675	746	0	10,929	-746	-6.4
Basic chemicals	3251	171	11	0	160	-11	-6.3
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	73	9	0	64	-9	-12.4
Pesticide, fertilizer, and other agricultural chemicals	3253	284 - 291	18	0	266 - 273	-18	D
Pharmaceuticals and medicines	3254	10,918	694	0	10,224	-694	-6.4
Soap, cleaning compound, and toilet preparation	3256	189	14	0	174	-14	-7.6
Paint, coating, adhesive, and other chemicals	3255, 3259	32 - 39	1	0	32 - 39	-1	D
Plastics and rubber products	326	26	1	0	25	-1	-3.3
Nonmetallic mineral products	327	98	8	0	91	-8	-7.6
Primary metals	331	20	*	0	20	0	-0.3
Fabricated metal products	332	60	1	0	59	-1	-1.5
Machinery	333	1,152	63	0	1,089	-63	-5.5
Agricultural implement	33311	10 - 52	0 - 13	0	6 - 52	-5 - 0	D
Semiconductor machinery	333242	686	50	0	635	-50	-7.3
Engine, turbine, and power transmission equipment	3336	122	2	0	120	-2	-2.0
Other machinery	other 333	292 - 334	0 - 13	i	281 - 329	-11 - -3	i
Computer and electronic products	334	11,030	305	0	10,726	-305	-2.8
Communications equipment	3342	996	i	12	i	984	i
Semiconductor and other electronic components	3344	2,380	130	0	2,250	-130	-5.5
Navigational, measuring, electromedical, and control instruments	3345	7,493	157	0	7,336	-157	-2.1
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	251	6	0	245	-6	-2.4
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	7,025	i	145	0	6,879	i
Other measuring and controlling device	other 3345	217	5	0	212	-5	-2.4
Other computer and electronic products	other 334	161	6	0	155	-6	-3.7
Electrical equipment, appliances, and components	335	506	20	0	485	-20	-4.0
Transportation equipment	336	18,564	241	i	0	18,323	i

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							Amount	Percent		
Motor vehicles, bodies, trailers, and parts	3361-63	3,599	130	i	0	3,469	i	-130	i	-3.6
Aerospace products and parts	3364	13,803	87	i	0	13,716	i	-87	i	-0.6
Aircraft, aircraft engine, and aircraft parts	336411-13	13,011	87	i	0	12,923	i	-87	i	-0.7
Guided missile, space vehicle, and related parts	336414-15, 336419	793	0		0	793		0		0
Military armored vehicle, tank, and tank component	336992	6	0		0	6		0		0
Other transportation	other 336	1,155	23	i	0	1,132	i	-23	i	-2.0
Furniture and related products	337	3	*		0	3		0		-5.8
Miscellaneous	339	215-233	5-26		0	208-227		-8--5		D
Medical equipment and supplies	3391	173	5		0	167		-5		-3.1
Other miscellaneous manufacturing	3399	42-60	0-21		0	40-60		-2-0		D
Nonmanufacturing industries	21-23, 42-81	27,608	988	i	0	26,620		-988	i	-3.6
Mining, quarrying, oil and gas extraction, and support activities	21	45	1	i	0	44		-1	i	-1.3
Utilities	22	40	0		0	40		0		0
Wholesale trade	42	58	3		0	55		-3		-4.9
Electronic shopping and electronic auctions	454111-12	2-50	0-7		0	2-49		-8-0		D
Transportation and warehousing	48-49	3	1		0	3		-1		-18.2
Information	51	1,113	27		0	1,087		-27		-2.4
Publishing	511	509	19		0	490		-19		-3.8
Newspaper, periodical, book, and directory publishers	5111	0	0		0	0		0		NA
Software publishers	5112	509	19		0	490		-19		-3.8
Telecommunications	517	54-66	0-7		0	50-66		-4-0		D
Data processing, hosting, and related services	518	446	2		0	444		-2		-0.4
Other information	other 51	91-105	0-7		0	86-105		-7-0		D
Finance and insurance	52	92	0		0	92		0		0
Real estate and rental and leasing	53	*	0		0	*		0		0
Lessors of nonfinancial intangible assets (except copyrighted works)	533	*	0		0	*		0		0
Other real estate and rental and leasing	other 53	0	0		0	0		0		NA
Professional, scientific, and technical services	54	26,045	950	i	0	25,096		-950	i	-3.6
Architectural, engineering, and related services	5413	2,001	7		0	1,994		-7		-0.3
Computer systems design and related services	5415	3,643	87		0	3,555		-87		-2.4
Scientific research and development services	5417	19,354	852	i	0	18,501		-852	i	-4.4
Research and development in nanotechnology	541713	53	*	i	0	53	i	0	i	-0.4
Research and development in biotechnology (except nanobiotechnology)	541714	5,014	113		0	4,901		-113		-2.3
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	13,632	729	i	0	12,904	i	-729	i	-5.3

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							Amount	Percent
Research and development in the social sciences and humanities	541720	654	10		0	644	-10	-1.5
Other professional, scientific, and technical services	other 54	1,048	4		0	1,045	-4	-0.3
Health care services	621-23	103	3		0	99	-3	-3.1
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	62-109	0-7		0	59-106	-3-0	D
All companies (number of domestic employees)	-	71,457	2,414		0	69,043	-2,414	-3.4
Small companies								
10-19 <sup>b</sup>	-	1,029	13		0	1,016	-13	-1.3
20-49	-	2,025	33		0	1,992	-33	-1.6
Medium companies								
50-99	-	1,816	35		0	1,781	-35	-1.9
100-249	-	3,280	69		0	3,211	-69	-2.1
Large companies								
250-499	-	2,811	72		0	2,739	-72	-2.6
500-999	-	2,807	101		0	2,705	-101	-3.6
1,000-4,999	-	12,322	636		0	11,685	-636	-5.2
5,000-9,999	-	5,945	377		0	5,568	-377	-6.3
10,000-24,999	-	15,739 <sup>i</sup>	718 <sup>i</sup>		0	15,022 <sup>i</sup>	-718 <sup>i</sup>	-4.6
25,000 or more	-	23,684	360		0	23,324 <sup>i</sup>	-360	-1.5

\* =  $-\$500,000 < \text{amount} < \$500,000$  (or  $-0.05\% < \text{amount} < 0.05\%$ ); 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 = 2017 North American Industry Classification System.

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

<sup>b</sup> The Business Enterprise Research and Development (BERD) 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 \$50,000 or more of R&D. 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. BERD 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 is *included* in U.S. BERD domestic R&D, and adding capital expenditures relating to R&D operations, which is *excluded* from U.S. BERD domestic R&D.

**Source(s):**

National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2020.