

TABLE 75

Domestic R&D paid for by the company and 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 the company and others	Depreciation	Capital expenditures related to R&D	Adjusted domestic R&D paid for by the company and others	Change	
						Amount	Percent
All industries	21-23, 31-33, 42-81	537,619	20,972	32,494	549,141	11,522	2.1
Manufacturing industries	31-33	308,445	14,372	19,727	313,800	5,355	1.7
Food	311	5,239	249	449	5,439	200	3.8
Beverage and tobacco products	312	1,177	56	115	1,235	59	5.0
Textile, apparel, and leather products	313-16	822	15	43	849	27	3.3
Wood products	321	187	3	10	193	7	3.5
Paper	322	928	6	94	1,016	88	9.5
Printing and related support activities	323	283	17	66	333	50	17.5
Petroleum and coal products	324	1,311 - 1,324	56 - 78	115	1,348 - 1,376	36 - 52	D
Chemicals	325	101,079	4,674	5,311	101,716	637	0.6
Basic chemicals	3251	2,694	157	270	2,807	113	4.2
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,234	93	106	1,246	12	1.0
Pesticide, fertilizer, and other agricultural chemicals	3253	1,060 - 1,066	57	32 - 53	1,047	-18 - -12	D
Pharmaceuticals and medicines	3254	91,776	4,185	4,619	92,210	434	0.5
Soap, cleaning compound, and toilet preparation	3256	2,665	102	194	2,757	92	3.5
Paint, coating, adhesive, and other chemicals	3255, 3259	1,643 - 1,649	80	72 - 93	1,648	0 - 6	D
Plastics and rubber products	326	2,634	83	310	2,861	227	8.6
Nonmetallic mineral products	327	1,717	78	166	1,806	89	5.2
Primary metals	331	815	21	96	890	75	9.2
Fabricated metal products	332	3,396	85	278	3,590	193	5.7
Machinery	333	16,223	678	1,298	16,843	620	3.8
Agricultural implement	33311	1,769 - 1,811	40 - 54	152	1,877 - 1,923	105 - 112	D
Semiconductor machinery	333242	4,807	367	400	4,839	32	0.7
Engine, turbine, and power transmission equipment	3336	1,645	59	109	1,695	49	3.0
Other machinery	other 333	7,959 - 8,001	199 - 213	638	8,386 - 8,434	426 - 435	D
Computer and electronic products	334	99,535	6,133	7,578	100,980	1,445	1.5
Communications equipment	3342	12,103	516	742	12,329	226	1.9
Semiconductor and other electronic components	3344	43,181	3,079	3,850	43,952	771	1.8
Navigational, measuring, electromedical, and control instruments	3345	18,505	551	1,046	18,999	494	2.7
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	2,858	82	211	2,987	129	4.5
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	10,586	231	638	10,993	407	3.8
Other measuring and controlling device	other 3345	5,061	239	197	5,019	-42	-0.8
Other computer and electronic products	other 334	25,747	1,986	1,940	25,700	-46	-0.2
Electrical equipment, appliances, and components	335	4,998	150	638	5,485	487	9.7

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Transportation equipment	336	48,796	1,286		1,924	49,434	638	1.3
Motor vehicles, bodies, trailers, and parts	3361-63	23,121	996		1,418	23,542	421	1.8
Aerospace products and parts	3364	22,914	232	i	403	23,086	171	0.7
Aircraft, aircraft engine, and aircraft parts	336411-13	21,291	199	i	318	21,410	119	0.6
Guided missile, space vehicle, and related parts	336414-15, 336419	1,623	33		85	1,675	52	3.2
Military armored vehicle, tank, and tank component	336992	11	0		1	12	1	6.6
Other transportation	other 336	2,750	57	i	102	2,795	45	i 1.6
Furniture and related products	337	496	9		35	521	25	5.1
Miscellaneous	339	18,791 - 18,809	755 - 776		1,201	19,234 - 19,255	443 - 447	D
Medical equipment and supplies	3391	16,116	700		1,020	16,437	320	2.0
Other miscellaneous manufacturing	3399	2,674 - 2,692	55 - 77		182	2,798 - 2,818	123 - 127	D
Nonmanufacturing industries	21-23, 42-81	229,174	6,600		12,767	235,341	6,167	2.7
Mining, quarrying, oil and gas extraction, and support activities	21	1,165	16		110	1,260	95	8.1
Utilities	22	264	10		362	617	353	133.4
Wholesale trade	42	1,058	18		181	1,222	164	i 15.5
Electronic shopping and electronic auctions	454111-12	3,840 - 19,390	0 - 775	i	3 - 1,643	3,853 - 19,403	5 - 15	D
Transportation and warehousing	48-49	4,957	0 - 210	i	220 - 311	5,120	163	i 3.3
Information	51	129,463	3,670		5,301	131,094	1,631	1.3
Publishing	511	35,025	438		1,091	35,678	653	1.9
Newspaper, periodical, book, and directory publishers	5111	60	*		6	67	6	i 10.2
Software publishers	5112	34,965	438		1,085	35,612	647	1.9
Telecommunications	517	3,425 - 3,437	13 - 20		205	3,612 - 3,629	187 - 193	i D
Data processing, hosting, and related services	518	41,551	843		2,130	42,839	1,288	3.1
Other information	other 51	49,449 - 49,463	2,370 - 2,377		1,874	48,946 - 48,966	-504 - -496	D
Finance and insurance	52	12,296	300		1,969	13,965	1,669	i 13.6
Real estate and rental and leasing	53	3,249	43		35	3,241	-8	-0.3
Lessors of nonfinancial intangible assets (except copyrighted works)	533	7	*		2	9	2	i 27.8
Other real estate and rental and leasing	other 53	3,242	43		33	3,232	-10	-0.3
Professional, scientific, and technical services	54	54,367	1,743		2,838	55,463	1,096	i 2.0
Architectural, engineering, and related services	5413	4,214	24		135	4,325	111	2.6
Computer systems design and related services	5415	17,935	626		1,148	18,457	522	2.9
Scientific research and development services	5417	25,600	1,018	i	1,063	25,644	44	i 0.2

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										Amount	Percent	
Research and development in nanotechnology	541713	179	i	7	i	14	i	186	i	7	i	3.8
Research and development in biotechnology (except nanobiotechnology)	541714	6,191		150		328		6,369		178		2.9
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	18,539	i	851	i	712	i	18,400	i	-139	i	-0.8
Research and development in the social sciences and humanities	541720	691		10		9		690		-1		-0.2
Other professional, scientific, and technical services	other 54	6,618		74		493	i	7,037		419	i	6.3
Health care services	621-23	1,477		29		83	i	1,530		54	i	3.6
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	1,491 - 17,041		0 - 775	i	29 - 1,669		2,430 - 17,980		939 - 944		D
All companies (number of domestic employees)	-	537,619		20,972		32,494		549,141		11,522		2.1
Small companies												
10-19 ^a	-	5,047		121		452		5,379		331		6.6
20-49	-	12,994		231		1,025		13,788		794		6.1
Medium companies												
50-99	-	12,993		286		1,152		13,859		866		6.7
100-249	-	25,411		513		1,593		26,491		1,080		4.2
Large companies												
250-499	-	20,878		728		1,295		21,445		567		2.7
500-999	-	21,264		819		1,559		22,004		740		3.5
1,000-4,999	-	88,238		2,996		6,406		91,648		3,410		3.9
5,000-9,999	-	48,397		2,246		2,803		48,953		557		1.2
10,000-24,999	-	88,567		4,534		6,249		90,282	i	1,715	i	1.9
25,000 or more	-	213,829		8,498		9,960		215,291		1,462		0.7

* = 0 < amount < \$500,000; 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.

NAICS = 2017 North American Industry Classification System.

^a 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.