

Table 65. 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: 2024

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

Industry and company size	NAICS code	Domestic R&D paid for by the company and others and performed by the company	Depreciation	Capital expenditures related to R&D	Adjusted domestic R&D paid for by the company and others and performed by the company	Change	
						Amount	Percent
All industries	21–23, 31–33, 42–81	765,082	31,920	44,908	778,069	12,987	r 1.7
Manufacturing industries	31–33	405,092	19,423	27,213	412,881	7,790	r 1.9
Food	311	6,288	i 297	563	6,553	i 266	4.2
Beverage and tobacco products	312	1,459	78	102	1,483	24	1.7
Textile, apparel, and leather products	313–16	788	18	105	876	87	11.1
Wood products	321	267	*	50	i 318	i 50	i 18.8
Paper	322	1,240	14	97	1,322	i 82	6.6
Printing and related support activities	323	255	9	i 33	279	i 24	9.5
Petroleum and coal products	324	1,006	26	52	1,032	26	2.6
Chemicals	325	143,745	5,094	8,951	147,601	3,856	2.7
Basic chemicals	3251	3,120	201	291	3,210	90	2.9
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,354	111	i 196	1,438	84	6.2
Pesticide, fertilizer, and other agricultural chemicals	3253	1,253	86	115	1,281	i 29	i 2.3
Pharmaceuticals and medicines	3254	133,627	4,553	8,021	137,095	3,468	2.6
Soap, cleaning compound, and toilet preparations	3256	2,956	91	184	3,049	93	3.1
Paint, coating, adhesive, and other chemicals	3255, 3259	1,435	52	144	1,528	93	6.4
Plastics and rubber products	326	2,908	108	281	3,081	173	6.0
Nonmetallic mineral products	327	1,578	i 85	i 76	1,569	i -8	i -0.5
Primary metals	331	1,174	28	171	1,316	142	12.1
Fabricated metal products	332	3,230	110	623	i 3,743	i 513	i 15.9
Machinery	333	22,035	911	2,314	23,438	1,403	6.4
Agricultural implement	33311	2,561	134	114	2,540	-21	i -0.8
Semiconductor machinery	333242	6,851	382	1,184	7,653	802	11.7
Engine, turbine, and power transmission equipment	3336	4,230	179	360	4,411	i 181	4.3
Other machinery	other 333	8,394	216	656	8,834	440	5.2
Computer and electronic products	334	115,599	7,805	6,901	114,695	i -904	i -0.8
Communications equipment	3342	12,839	359	455	12,935	95	0.7
Semiconductor and other electronic components	3344	52,358	4,138	3,077	i 51,297	i -1,061	i -2.0
Navigational, measuring, electromedical, and control instruments	3345	14,083	336	783	14,530	447	3.2
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	3,245	72	211	i 3,383	i 139	i 4.3
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	6,161	131	213	6,243	82	1.3
Other measuring and controlling devices	other 3345	4,677	133	359	4,903	226	4.8
Other computer and electronic products	other 334	36,318	2,972	2,586	35,933	-386	-1.1
Electrical equipment, appliances, and components	335	6,999	229	767	7,538	538	7.7
Transportation equipment	336	71,231	3,915	4,402	71,719	i 488	i 0.7
Motor vehicles, bodies, trailers, and parts	3361–63	31,812	3,341	2,955	31,426	-386	i -1.2

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Aerospace products and parts	3364	35,904	486	1,188	36,607 i	703 i	2.0
Aircraft, aircraft engine, and aircraft parts	336411-13	D	D	D	26,543 i	D	D
Guided missile, space vehicle, and related parts	336414-15, 336419	D	D	D	10,064	D	D
Military armored vehicle, tank, and tank components	336992	33	*	14	48	14	42.7
Other transportation	other 336	3,481	88 i	245 i	3,638 i	157	4.5
Furniture and related products	337	450	9	27	468	18	4.0
Miscellaneous	339	24,840	687	1,697	25,850	1,010	4.1
Medical equipment and supplies	3391	22,126	641	1,465	22,949	824	3.7
Other miscellaneous manufacturing	3399	2,715	46	233	2,901 i	186	6.9
Nonmanufacturing industries	21-23, 42-81	359,990	12,497	17,695	365,188	5,198 r	1.4
Mining, quarrying, oil and gas extraction, and support activities	21	1,862	110 i	203	1,955 i	93 i	5.0
Utilities	22	613	13	3	604	-9	-1.5
Wholesale trade	42	1,692 i	29 i	198 i	1,860 i	169 i	10.0
Electronic shopping and electronic auctions	454111-12	7,898 i	97 i	722 i	8,523 i	625 i	7.9
Transportation and warehousing	48-49	11,341	831	701	11,211 i	-129 r	-1.1
Information	51	228,174	7,734	12,081	232,521	4,347 r	1.9
Publishing	511	63,596	684	4,390	67,303	3,706	5.8
Newspaper, periodical, book, and directory publishers	5111	489 i	* i	6 i	494 i	5 i	1.1
Software publishers	5112	63,108	684	4,385	66,809	3,701	5.9
Telecommunications	517	3,323	18	375 i	3,680 i	357 i	10.7
Data processing, hosting, and related services	518	58,772	1,478	2,558 i	59,852	1,080 i	1.8
Other information	other 51	102,484	5,554	4,757	101,687	-797	-0.8
Finance and insurance	52	25,463	1,148	249	24,564	-899 i	-3.5
Real estate and rental and leasing	53	2,750	47	18 i	2,722	-28	-1.0
Lessors of nonfinancial intangible assets (except copyrighted works)	533	23	4	* i	20	-3	-14.9
Other real estate and rental and leasing	other 53	2,727	43	18 i	2,702	-25	-0.9
Professional, scientific, and technical services	54	74,548	2,385	3,146	75,309	761 r	1.0
Architectural, engineering, and related services	5413	3,893	36	433	4,291	398	10.2
Computer systems design and related services	5415	26,764	625	899	27,038	274	1.0
Scientific research and development services	5417	33,942	1,477	1,286	33,752	-190	-0.6
Research and development in nanotechnology	541713	548	31	52	568	20	3.7
Research and development in biotechnology (except nanobiotechnology)	541714	6,751	242	194	6,702	-48	-0.7
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	25,931	1,198	1,039	25,773 i	-158	-0.6
Research and development in the social sciences and humanities	541720	712	5	1	708	-4	-0.6

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Other professional, scientific, and technical services	other 54	9,949 i		248 i		528 i		10,229 i	280 i	2.8
Health care services	621–23	2,020		81		101		2,040	20	1.0
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	3,628		22		271 i		3,877	249 i	6.9
All companies (number of domestic employees)	–	765,082		31,920		44,908		778,069	12,987 r	1.7
Small companies										
10–19 ^a	–	4,790		75		382		5,096	306	6.4
20–49	–	16,179		880		2,223 i		17,522	1,343 r	8.3
Medium companies										
50–99	–	17,078		373		1,291		17,996	918 r	5.4
100–249	–	29,325		808		2,100		30,618	1,292 r	4.4
Large companies										
250–499	–	28,852		873		1,993		29,973	1,120	3.9
500–999	–	44,697		1,244		2,863		46,316	1,619	3.6
1,000–4,999	–	123,813		3,474		4,960		125,299	1,486	1.2
5,000–9,999	–	62,950		3,157		4,163		63,956	1,006	1.6
10,000–24,999	–	140,348		5,747		6,956		141,557 i	1,209 i	0.9
25,000 or more	–	297,050		15,289		17,976		299,737	2,687	0.9

* = 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; r = relative standard error or standard error is more than 50%.

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. To enable comparisons between U.S. statistics from the BERD Survey and statistics from 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. R&D from the BERD Survey, and adding capital expenditures relating to R&D operations, which is excluded from U.S. R&D from the BERD Survey.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2024.