Table 66. Domestic R&D paid for 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 and performed by the company	Depreciation	Capital expenditures related to R&D	Adjusted domestic R&D paid for and performed by the company	Change	
						Amount	Percent
All industries	21–23, 31–33, 42–81	679,371	29,313	44,908	694,966	15,595 r	2.3
Manufacturing industries	31–33	356,431	18,234	27,213	365,410	8,979 r	2.5
Food	311	6,020	289	563	6,294 i	274	4.6
Beverage and tobacco products	312	1,459	78	102	1,483	25	1.7
Textile, apparel, and leather products	313–16	783	18	105	870	87	11.1
Wood products	321	261	*	50 i	311 i	50 i	19.3
Paper	322	1,238	14	97	1,320 i	82	6.7
Printing and related support activities	323	253	9 i	33	277 i	24	9.6
Petroleum and coal products	324	1,004	26	52	1,030	26	2.6
Chemicals	325	131,790	4,635	8,951	136,105	4,315	3.3
Basic chemicals	3251	2,883	185	291	2,989	106	3.7
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	D	D	196	D	D	D
Pesticide, fertilizer, and other agricultural chemicals	3253	D	D	115	D	D	D
Pharmaceuticals and medicines	3254	122,656	4,160	8,021	126,517	3,861	3.1
Soap, cleaning compound, and toilet preparations	3256	2,684	80	184	2,788	104	3.9
Paint, coating, adhesive, and other chemicals	3255, 3259	D	D	144	D	D	D
Plastics and rubber products	326	2,767	100	281	2,949	181	6.5
Nonmetallic mineral products	327	1,556 i	84 i	76	1,549 i	-7 i	-0.5
Primary metals	331	1,129	28	171	1,272	142	12.6
Fabricated metal products	332	3,137	109	623 i	3,651 i	514 i	16.4
Machinery	333	19,844	808	2,314	21,350	1,506	7.6
Agricultural implement	33311	D	D	114	D	D	D
Semiconductor machinery	333242	D	D	1,184	D	D	D
Engine, turbine, and power transmission equipment	3336	D	D	360	D	D	D
Other machinery	other 333	8,060	205	656	8,511	451	5.6
Computer and electronic products	334	107,038	7,535	6,901	106,404	-634 i	-0.6
Communications equipment	3342	12,069	356	455	12,167	99	0.8
Semiconductor and other electronic components	3344	48,546	3,983	3,077 i	47,641 i	-905 i	-1.9
Navigational, measuring, electromedical, and control instruments	3345	10,736	242	783	11,277	541	5.0
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	3,046	69	211 i	3,187 i	141 i	4.6
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	3,190	40	213	3,362	173	5.4
Other measuring and controlling devices	other 3345	4,501	132	359	4,728	227	5.0
Other computer and electronic products	other 334	35,687	2,955	2,586	35,318	-369	-1.0
Electrical equipment, appliances, and components	335	6,135	215	767	6,687	552	9.0
Transportation equipment	336	47,039	3,593	4,402	47,848	809 i	1.7
Motor vehicles, bodies, trailers, and parts	3361–63	D	D	2,955	29,760	D	D
Aerospace products and parts	3364	15,130	256	1,188	16,063 i	932	6.2
Aircraft, aircraft engine, and aircraft parts	336411–13	D	D	D	11,595 i	D	D

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

Industry and company size	NAICS code	Domestic R&D paid for and performed by the company	Depreciation	Capital expenditures related to R&D	Adjusted domestic R&D paid for and performed by the company	Change	
						Amount	Percent
Guided missile, space vehicle, and related parts	336414–15, 336419	D	D	D	4,467	D	D
Military armored vehicle, tank, and tank components	336992	23	*	14	38	14	61.6
Other transportation	other 336	D	D	245 i	1,988 i	D	D
Furniture and related products	337	450	9	27	468	18	4.0
Miscellaneous	339	24,528	684	1,697	25,542	1,014	4.1
Medical equipment and supplies	3391	21,840	638	1,465	22,667	827	3.8
Other miscellaneous manufacturing	3399	2,688	46	233	2,875 i	187	7.0
Nonmanufacturing industries	21–23, 42–81	322,940	11,079	17,695	329,556	6,616 r	2.0
Mining, quarrying, oil and gas extraction, and support activities	21	1,224	24	203	1,404	180	14.7
Utilities	22	D	13	3	D	-9	D
Wholesale trade	42	D	D	198 i	D	D	D
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	D	D	701	D	D	D
Information	51	226,853	7,728	12,081	231,206	4,353 r	1.9
Publishing	511	63,085	681	4,390	66,794	3,709	5.9
Newspaper, periodical, book, and directory publishers	5111	489 i	* i	6 i	494 i	5 i	1.1
Software publishers	5112	62,597	681	4,385	66,300	3,704	5.9
Telecommunications	517	D	D	375 i	D	D	D
Data processing, hosting, and related services	518	58,017	D	2,558 i	D	D	D
Other information	other 51	D	D	4,757	D	D	D
Finance and insurance	52	25,362	1,148	249	24,463	-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	40,134	1,068	3,146	42,211	2,078 r	5.2
Architectural, engineering, and related services	5413	3,240	32	433	3,640	401	12.4
Computer systems design and related services	5415	22,353	551	899	22,701	348	1.6
Scientific research and development services	5417	5,705	240	1,286	6,752	1,046	18.3
Research and development in nanotechnology	541713	434	31	52	454	21	4.7
Research and development in biotechnology (except nanobiotechnology)	541714	1,204	58	194	1,340	136	11.3
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	4,060	150	1,039	4,949	890	21.9
Research and development in the social sciences and humanities	541720	8	1	1	9	*	2.8
Other professional, scientific, and technical services	other 54	8,835 i	245 i	528 i	9,118 i	282 i	3.2
Health care services	621–23	1,888	D	101	D	D	D

Table 66. Domestic R&D paid for 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 and performed by the company	Depreciation	Capital expenditures related to R&D	Adjusted domestic R&D paid for and performed by the company	Change	
						Amount	Percent
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	3,579	20	271 i	3,830	251 i	7.0
All companies (number of domestic employees)	–	679,371	29,313	44,908	694,966	15,595 r	2.3
Small companies							
10–19[a]	–	3,734	64	382	4,051	317	8.5
20–49	–	14,153	842	2,223 i	15,534 i	1,381 r	9.8
Medium companies							
50–99	–	14,998	349	1,291	15,940	942 r	6.3
100–249	–	26,548	764	2,100	27,884	1,336 r	5.0
Large companies							
250–499	–	26,185	788	1,993	27,390	1,205	4.6
500–999	–	40,152	1,029	2,863	41,986	1,835	4.6
1,000–4,999	–	110,612	3,037	4,960	112,535	1,923	1.7
5,000–9,999	–	55,804	2,866	4,163	57,101	1,297	2.3
10,000–24,999	–	120,991	4,918	6,956	123,029	2,038 i	1.7
25,000 or more	–	266,195	14,654	17,976	269,517	3,322	1.2

* = 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.