

TABLE 67

Domestic R&D paid for and performed by the company, depreciation, capital expenditures, and adjusted domestic R&D, by industry and company size: 2022

(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 by the company and others	Change	
						Amount	Percent
All industries	21-23, 31-33, 42-81	608,058	20,232	36,069	623,895	15,837	r 2.6
Manufacturing industries	31-33	326,998	12,995	23,717	337,720	10,722	r 3.3
Food	311	D	D	544	7,081	D	D
Beverage and tobacco products	312	660	27	76	708	48	i 7.3
Textile, apparel, and leather products	313-16	D	D	44	651	D	D
Wood products	321	254	3	40	291	38	i 14.8
Paper	322	1,004	7	266	1,263	259	i 25.8
Printing and related support activities	323	164	10	12	166	2	i 1.2
Petroleum and coal products	324	856	36	142	962	106	12.4
Chemicals	325	113,518	3,765	6,121	115,874	2,356	2.1
Basic chemicals	3251	D	D	392	2,888	D	D
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,413	D	171	D	D	D
Pesticide, fertilizer, and other agricultural chemicals	3253	D	D	55	D	D	D
Pharmaceuticals and medicines	3254	104,720	3,332	5,234	106,623	1,903	1.8
Soap, cleaning compound, and toilet preparations	3256	D	D	195	2,761	D	D
Paint, coating, adhesive, and other chemicals	3255, 3259	1,195	49	73	1,219	24	i 2.0
Plastics and rubber products	326	3,251	102	320	3,468	218	i 6.7
Nonmetallic mineral products	327	1,435	74	70	1,431	-4	i -0.3
Primary metals	331	1,099	31	225	1,293	193	17.6
Fabricated metal products	332	3,304	88	300	3,516	212	6.4
Machinery	333	18,246	720	1,788	19,315	1,068	5.9
Agricultural implement	33311	D	D	141	2,211	D	D
Semiconductor machinery	333242	5,390	397	581	5,574	184	3.4
Engine, turbine, and power transmission equipment	3336	D	D	144	2,792	D	D
Other machinery	other 333	7,987	172	922	8,738	751	9.4
Computer and electronic products	334	99,234	5,530	8,444	102,148	2,914	i 2.9
Communications equipment	3342	10,870	376	482	10,976	106	i 1.0
Semiconductor and other electronic components	3344	47,380	2,668	4,981	49,692	2,312	i 4.9
Navigational, measuring, electromedical, and control instruments	3345	10,105	244	479	10,339	234	i 2.3
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	3,959	105	149	4,003	43	i 1.1
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	2,170	11	134	2,293	123	i 5.7
Other measuring and controlling devices	other 3345	3,976	128	195	4,043	67	i 1.7

TABLE 67

Domestic R&D paid for and performed by the company, depreciation, capital expenditures, and adjusted domestic R&D, by industry and company size: 2022

(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 by the company and others	Change	
						Amount	Percent
Other computer and electronic products	other 334	30,879	2,241	2,503	31,140	261	0.8
Electrical equipment, appliances, and components	335	6,657	166	675	7,165	i 509	7.6
Transportation equipment	336	46,468	1,273	3,128	48,323	1,855	4.0
Motor vehicles, bodies, trailers, and parts	3361-63	30,722	990	2,159	31,891	1,169	3.8
Aerospace products and parts	3364	13,786	241	819	14,365	579	4.2
Aircraft, aircraft engine, and aircraft parts	336411-13	9,303	107	408	9,604	i 301	i 3.2
Guided missile, space vehicle, and related parts	336414-15, 336419	4,483	134	411	4,761	277	6.2
Military armored vehicle, tank, and tank components	336992	26	*	* i	26	* i	-0.1
Other transportation	other 336	1,935	43	150	2,041	i 107	5.5
Furniture and related products	337	405	9	19	415	10	2.5
Miscellaneous	339	23,032	886	1,503	23,649	617	2.7
Medical equipment and supplies	3391	20,112	796	1,259	20,575	463	2.3
Other miscellaneous manufacturing	3399	2,921	90	244	3,074	i 154	5.3
Nonmanufacturing industries	21-23, 42-81	281,060	7,237	12,353	286,175	5,116	r 1.8
Mining, quarrying, oil and gas extraction, and support activities	21	D	D	D	D	D	D
Utilities	22	D	D	D	D	245	i D
Wholesale trade	42	D	D	49	1,778	i D	D
Electronic shopping and electronic auctions	454111-12	D	D	D	D	D	D
Transportation and warehousing	48-49	D	325	303	D	-21	i D
Information	51	181,392	4,011	7,889	185,270	3,878	2.1
Publishing	511	49,674	620	2,916	51,970	2,296	4.6
Newspaper, periodical, book, and directory publishers	5111	72	0	1 i	73	1	i 1.6
Software publishers	5112	49,602	620	2,915	51,897	2,295	4.6
Telecommunications	517	3,614	30	i 487	i 4,072	i 458	i 12.7
Data processing, hosting, and related services	518	49,270	557	1,053	49,767	496	1.0
Other information	other 51	78,834	2,805	3,433	i 79,462	i 628	i 0.8
Finance and insurance	52	17,173	738	59	i 16,494	i -679	i -4.0
Real estate and rental and leasing	53	2,398	i 48	145	i 2,495	i 97	i 4.0
Lessors of nonfinancial intangible assets (except copyrighted works)	533	5	i 0	* i	5	* i	7.2
Other real estate and rental and leasing	other 53	2,393	i 48	145	i 2,490	i 97	i 4.0
Professional, scientific, and technical services	54	38,633	985	2,370	40,019	1,386	3.6
Architectural, engineering, and related services	5413	2,912	19	91	i 2,983	i 72	i 2.5

TABLE 67

Domestic R&D paid for and performed by the company, depreciation, capital expenditures, and adjusted domestic R&D, by industry and company size: 2022

(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 by the company and others	Change	
						Amount	Percent
Computer systems design and related services	5415	18,878	566	528	18,839	-38	-0.2
Scientific research and development services	5417	9,297	295	1,423	10,425	1,128	12.1
Research and development in nanotechnology	541713	179	8	21	192	13	7.1
Research and development in biotechnology (except nanobiotechnology)	541714	2,916	101	345	3,159	243	8.3
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	6,176	185	1,055	7,046	870	14.1
Research and development in the social sciences and humanities	541720	27	*	2	29	2	7.0
Other professional, scientific, and technical services	other 54	7,547	104	329	7,771	225	3.0
Health care services	621-23	D	D	38	2,683	D	D
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	3,300	D	D	D	D	D
All companies (number of domestic employees)	-	608,058	20,232	36,069	623,895	15,837	2.6
Small companies							
10-19 ^a	-	4,009	59	204	4,154	145	3.6
20-49	-	12,788	240	847	13,396	607	4.7
Medium companies							
50-99	-	13,274	227	887	13,934	660	5.0
100-249	-	24,844	544	1,540	25,840	996	4.0
Large companies							
250-499	-	26,469	693	1,322	27,098	629	2.4
500-999	-	29,007	928	1,729	29,807	800	2.8
1,000-4,999	-	94,615	2,347	4,944	97,212	2,597	2.7
5,000-9,999	-	54,018	2,265	3,152	54,905	887	1.6
10,000-24,999	-	96,071	4,017	7,313	99,366	3,295	3.4
25,000 or more	-	252,964	8,912	14,131	258,183	5,219	2.1

* = -\$500,000 < 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 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, 2022.