



National Center for Science and
Engineering Statistics

Data Tables Report

Annual Business Survey: 2024 (Data Year 2023)

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General Notes

This report provides data from the 2024 Annual Business Survey (ABS) (data year 2023). The ABS is the primary source of data on research and development of for-profit, nonfarm businesses with one to nine employees operating in the 50 U.S. states and the District of Columbia. The ABS also collects data on innovation, technology, intellectual property, and business owner characteristics of businesses of all sizes. The ABS is designed to incorporate new content each survey year based on topics of relevance. The 2024 ABS is the seventh year of the ABS. The ABS is cosponsored by the National Center for Science and Engineering Statistics within the U.S. National Science Foundation and the Census Bureau.

The National Center for Science and Engineering Statistics has reviewed this product for unauthorized disclosure of confidential information and approved its release (NCSES-DRN26-022).

This report is initially published with a selection of tables containing the core data of the survey. The report will be updated with additional tables as more detailed data become available. In some instances, the initial selection of tables may also be updated from a preliminary version to add further data.

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Table 1. Annual Business Survey aggregate R&D estimates, by questionnaire reference and company size, for companies with 1–9 employees in selected industries: 2023

(Thousands of U.S. dollars)

Company and financial information	All companies	1–4 employees	5–9 employees
Number of companies	18,579	12,048	6,531
Total R&D cost	8,283,032	4,022,872	4,260,160
Foreign R&D costs	1,164,450	710,089	454,361
Domestic R&D costs	7,118,582	3,312,783	3,805,799
Domestic R&D costs for salaries, wages, and fringe benefits	4,006,505	1,808,677	2,197,827
Domestic R&D costs for expensed machinery and equipment (not capitalized)	169,182	88,902	80,279
Domestic R&D costs for materials and supplies	545,264	268,839	276,425
Domestic R&D costs for payments to others for R&D	1,174,829	510,057	664,772
Domestic R&D costs for depreciation on R&D property and equipment	48,708	21,983	26,725
Domestic R&D costs for other costs	1,174,095	614,325	559,770
Domestic R&D performance	5,943,753	2,802,726	3,141,027
Domestic R&D performance paid for by the company	4,644,201	2,122,661	2,521,541
Domestic R&D performance paid for by foreign owner	164,699	94,832	69,867
Domestic R&D performance paid for by another U.S. business	375,984	222,009	153,975
Domestic R&D performance paid for by other businesses located outside the United States	35,146	22,995	12,151
Domestic R&D performance paid for by U.S. university or college	36,493	26,819	9,673
Domestic R&D performance paid for by U.S. nonprofit organization	22,029	13,125	8,904
Domestic R&D performance paid for by U.S. federal government	650,113	291,297	358,816
Domestic R&D performance paid for by U.S. state or local government	14,650	8,850	5,800
Domestic R&D performance paid for by all other organizations outside the United States	438	138	300
Domestic R&D performance for basic research	654,970	292,173	362,796
Domestic R&D performance for applied research	1,936,389	903,972	1,032,417
Domestic R&D performance for development	3,352,394	1,606,581	1,745,813
Domestic R&D performance paid for by U.S. federal government for basic research	52,236	20,871	31,365
Domestic R&D performance paid for by U.S. federal government for applied research	314,323	130,522	183,801
Domestic R&D performance paid for by U.S. federal government for development	283,555	139,904	143,651
Total capital expenditures	2,597,146	1,327,408	1,269,738
Total capital expenditures for R&D operations	472,195	292,873	179,322
Capital expenditures for R&D operations for land acquisition	644	644	0
Capital expenditures for R&D operations for buildings and land improvement	21,184	6,202	14,982
Capital expenditures for R&D operations for machinery and equipment	149,031	79,552	69,479
Capital expenditures for R&D operations for capitalized software	84,365	54,138	30,227
Capital expenditures for R&D operations for other intellectual property	58,895	52,387	6,508
Capital expenditures for R&D operations for all other costs	158,075	99,950	58,126

r = relative standard error > 50%.

Note(s):

Detail may not add to total because of rounding. Statistics are representative of companies located in the United States that performed or funded R&D. Selected industries include the 2022 North American Industry Classification System sectors 31, 32, 33, 42, and 51 and industries 5413, 5415, and 5417.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 2. Total R&D cost, by selected industry and company size, for companies with 1–9 employees: 2023

(Number and thousands of U.S. dollars)

Industry	NAICS code	All companies		1–4 employees		5–9 employees	
		Companies (number)	Amount (\$thousands)	Companies (number)	Amount (\$thousands)	Companies (number)	Amount (\$thousands)
All selected industries	31–33, 42, 51, 5413, 5415, 5417	18,579	8,283,032	12,048	4,022,872	6,531	4,260,160
Manufacturing industries	31–33	2,085	780,797	1,133	363,781	953	417,015
Food, beverage, and tobacco products	311–12	30	11,110	18	5,355 r	12	5,755
Textile, apparel, and leather products	313–16	40 r	9,493 r	2	131	37 r	9,362 r
Wood products	321	56 r	10,390 r	53 r	9,573 r	3 r	817 r
Paper	322	0	0	0	0	0	0
Printing and related support activities	323	1 r	91	1 r	91	0	0
Petroleum and coal products	324	0	0	0	0	0	0
Chemicals	325	383	200,577	228	48,468	155	152,109 r
Pharmaceuticals and medicines	3254	141	65,684	85	22,193	56	43,490
Chemicals, excluding pharmaceuticals	other 325	242	134,893 r	143	26,274	99	108,619 r
Plastics and rubber products	326	94 r	23,495 r	5	1,493 r	89 r	22,002 r
Nonmetallic mineral products	327	24	4,085	17 r	2,101	8 r	1,984 r
Primary metals	331	9	1,226	3	806	6	419
Fabricated metal products	332	29	7,852	4 r	1,142 r	25	6,711 r
Machinery	333	197	47,071	68	12,309	130	34,762
Computer and electronic products	334	855	362,793	501	225,802	354	136,991
Semiconductor and other electronic components	3344	232	154,157 r	164	128,737 r	68	25,420
Navigational, measuring, electromedical, and control instruments	3345	521	172,275	290	87,763	231	84,513
Other computer and electronic products	other 334	103	36,361	48	9,302	55	27,058
Electrical equipment, appliances, and components	335	99	23,705	66	8,888	33	14,817
Transportation equipment	336	42	17,415	17	5,214	25	12,201
Aerospace products and parts	3364	19	6,827	13	4,754	6 r	2,072
Other transportation equipment	other 336	23	10,588	4 r	460 r	19	10,128
Furniture and related products	337	3	307	0	0	3	307
Miscellaneous manufacturing	339	223	61,188	149	42,409	75	18,779
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	16,493	7,502,235	10,916	3,659,091	5,578	3,843,144
Wholesale trade	42	1,077	227,906	517	123,259	560	104,647
Information	51	2,822	1,153,109	1,748	485,861	1,074	667,248
Software publishers	5112	2,199	949,010	1,310	407,996	888	541,014
Information, excluding software publishers	51 less 5112	623	204,099	437	77,866	186	126,234
Architectural, engineering, and related services	5413	2,373	664,122	1,657	316,772	715	347,350
Computer systems design and related services	5415	6,529	1,969,675	4,439	1,090,682	2,090	878,992
Scientific research and development services	5417	3,693	3,487,423	2,555	1,642,516	1,138	1,844,907
Research and development in nanotechnology	541713	224	123,696	153	79,296	71	44,399
Research and development in biotechnology (except nanobiotechnology)	541714	1,246	1,685,456	893	702,580	353	982,875

Table 2. Total R&D cost, by selected industry and company size, for companies with 1–9 employees: 2023

(Number and thousands of U.S. dollars)

Industry	NAICS code	All companies		1–4 employees		5–9 employees	
		Companies (number)	Amount (\$thousands)	Companies (number)	Amount (\$thousands)	Companies (number)	Amount (\$thousands)
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	2,185	1,662,175	1,482	853,900	702	808,276
Social sciences and humanities research and development	541720	39	16,096	27	6,740	11	9,357

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):
Detail may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):
National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 3. Total R&D cost, by selected industry and company size, for companies with 1–9 employees: 2019–23

(Thousands of U.S. dollars)

Industry	NAICS code	2019			2020			2021			2022			2023		
		All companies	1–4 employees	5–9 employees	All companies	1–4 employees	5–9 employees	All companies	1–4 employees	5–9 employees	All companies	1–4 employees	5–9 employees	All companies	1–4 employees	5–9 employees
All selected industries	31–33, 42, 51, 5413, 5415, 5417	7,247,880	3,217,255	4,030,625	7,522,839	3,623,592	3,899,247	8,131,847	3,659,817	4,472,030	7,616,415	3,573,847	4,042,568	8,283,032	4,022,872	4,260,160
Manufacturing industries	31–33	891,188	415,797	475,391	822,687	359,533	463,154	990,325	415,218	575,107	907,975	298,997	608,978	780,797	363,781	417,015
Food, beverage, and tobacco products	311–12	6,315	4,218	2,096	20,378	16,061	4,317	19,097	7,987	11,109	18,222	6,932	11,289	11,110	5,355	5,755
Textile, apparel, and leather products	313–16	236	236	0	472	472	0	7,096	7,096	0	9,268	1,264	8,005	9,493	131	9,362
Wood products	321	4,065	0	4,065	0	0	0	138	138	0	0	0	0	10,390	9,573	817
Paper	322	0	0	0	0	0	0	0	0	0	912	0	912	0	0	0
Printing and related support activities	323	555	141	414	0	0	0	0	0	0	0	0	0	91	91	0
Petroleum and coal products	324	0	0	0	0	0	0	739	0	739	202	202	0	0	0	0
Chemicals	325	345,503	163,854	181,649	201,214	96,869	104,345	224,348	113,915	110,433	269,478	105,857	163,621	200,577	48,468	152,109
Pharmaceuticals and medicines	3254	259,782	110,653	149,129	104,539	64,689	39,850	178,387	93,401	84,986	219,793	80,128	139,665	65,684	22,193	43,490
Chemicals, excluding pharmaceuticals	other 325	85,721	53,201	32,520	96,675	32,181	64,495	45,962	20,514	25,447	49,685	25,730	23,956	134,893	26,274	108,619
Plastics and rubber products	326	6,397	3,340	3,057	23,004	18,051	4,953	6,700	2,703	3,997	14,698	6,552	8,145	23,495	1,493	22,002
Nonmetallic mineral products	327	12,945	216	12,729	133	133	0	3,935	3,485	450	3,642	183	3,459	4,085	2,101	1,984
Primary metals	331	2,568	2,568	0	9,299	9,299	0	2,240	591	1,648	3,983	2,645	1,338	1,226	806	419
Fabricated metal products	332	20,594	9,950	10,644	59,474	387	59,087	16,827	10,196	6,631	46,559	10,043	36,516	7,852	1,142	6,711
Machinery	333	33,020	23,556	9,464	94,664	37,612	57,052	85,202	34,750	50,452	55,687	21,179	34,508	47,071	12,309	34,762
Computer and electronic products	334	279,725	146,657	133,068	237,090	101,714	135,376	372,243	109,934	262,308	198,193	74,439	123,754	362,793	225,802	136,991
Semiconductor and other electronic components	3344	44,841	26,337	18,504	40,558	24,002	16,556	124,080	35,134	88,946	52,464	24,163	28,300	154,157	128,737	25,420
Navigational, measuring, electromedical, and control instruments	3345	205,358	115,084	90,274	175,504	67,481	108,022	194,535	51,119	143,416	111,441	37,485	73,956	172,275	87,763	84,513
Other computer and electronic products	other 334	29,526	5,235	24,291	21,029	10,231	10,798	53,628	23,681	29,947	34,289	12,791	21,498	36,361	9,302	27,058
Electrical equipment, appliances, and components	335	13,243	8,404	4,839	32,026	27,642	4,383	42,416	8,593	33,824	17,504	6,195	11,309	23,705	8,888	14,817
Transportation equipment	336	31,730	24,976	6,754	40,780	12,035	28,745	36,232	21,551	14,681	44,175	12,672	31,503	17,415	5,214	12,201
Aerospace products and parts	3364	15,341	10,107	5,234	21,446	11,007	10,439	13,976	8,486	5,489	24,809	7,025	17,784	6,827	4,754	2,072
Other transportation equipment	other 336	16,389	14,869	1,520	19,333	1,028	18,305	22,257	13,065	9,192	19,366	5,647	13,719	10,588	460	10,128
Furniture and related products	337	0	0	0	124	0	124	1,471	1,094	377	212	0	212	307	0	307
Miscellaneous manufacturing	339	134,291	27,680	106,611	104,028	39,257	64,770	171,640	93,184	78,456	225,239	50,831	174,407	61,188	42,409	18,779

Table 3. Total R&D cost, by selected industry and company size, for companies with 1–9 employees: 2019–23

(Thousands of U.S. dollars)

Industry	NAICS code	2019			2020			2021			2022			2023		
		All companies	1–4 employees	5–9 employees	All companies	1–4 employees	5–9 employees	All companies	1–4 employees	5–9 employees	All companies	1–4 employees	5–9 employees	All companies	1–4 employees	5–9 employees
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	6,356,692	2,801,458	3,555,234	6,700,152	3,264,059	3,436,093	7,141,522	3,244,599	3,896,923	6,708,439	3,274,850	3,433,589	7,502,235	3,659,091	3,843,144
Wholesale trade	42	407,800	105,774	302,027	517,963	188,633	329,331	172,456	40,464	131,992	457,568	213,937	243,631	227,906	123,259	104,647
Information	51	708,356	314,081	394,274	829,283	373,836	455,448	961,919	295,126	666,793	907,155	419,883	487,271	1,153,109	485,861	667,248
Software publishers	5112	396,626	204,864	191,763	571,286	242,501	328,785	657,405	219,923	437,482	665,064	271,918	393,146	949,010	407,996	541,014
Information, excluding software publishers	51 less 5112	311,729	109,218	202,512	257,998	131,335	126,663	304,514	75,204	229,310	242,091	147,965	94,126	204,099	77,866	126,234
Architectural, engineering, and related services	5413	507,143	303,247	203,896	628,231	286,122	342,109	667,715	278,295	389,420	432,941	188,162	244,779	664,122	316,772	347,350
Computer systems design and related services	5415	1,848,184	910,765	937,419	1,473,927	879,174	594,753	1,975,063	1,043,298	931,765	1,739,815	904,152	835,663	1,969,675	1,090,682	878,992
Scientific research and development services	5417	2,885,208	1,167,591	1,717,617	3,250,748	1,536,295	1,714,453	3,364,369	1,587,415	1,776,953	3,170,961	1,548,716	1,622,245	3,487,423	1,642,516	1,844,907
Research and development in nanotechnology	541713	208,662	96,559	112,103	196,107	91,949	104,158	216,133	99,765	116,368	192,203	93,523	98,680	123,696	79,296	44,399
Research and development in biotechnology (except nanobiotechnology)	541714	1,174,789	496,758	678,031	1,548,115	757,706	790,409	1,491,139	731,902	759,238	1,523,931	753,460	770,471	1,685,456	702,580	982,875
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	1,462,446	560,509	901,937	1,479,130	677,617	801,514	1,627,199	730,715	896,484	1,432,454	689,629	742,825	1,662,175	853,900	808,276
Social sciences and humanities research and development	541720	37,089	11,544	25,546	27,396	9,023	18,373	19,297	14,434	4,864	22,373	12,104	10,269	16,096	6,740	9,357

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):
Detail may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):
National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 4. Domestic R&D performed by the company, by selected industry and company size, for companies with 1–9 employees: 2023

(Number and thousands of U.S. dollars)

Industry	NAICS code	All companies		1–4 employees		5–9 employees	
		Companies (number)	Amount (\$thousands)	Companies (number)	Amount (\$thousands)	Companies (number)	Amount (\$thousands)
All selected industries	31–33, 42, 51, 5413, 5415, 5417	17,777	5,943,753	11,493	2,802,726	6,284	3,141,027
Manufacturing industries	31–33	1,942	557,276	1,009	213,877	934	343,399
Food, beverage, and tobacco products	311–12	18	5,438	6 r	538	12	4,900 r
Textile, apparel, and leather products	313–16	40 r	5,748 r	2	131	37 r	5,617 r
Wood products	321	56 r	10,390 r	53 r	9,573 r	3 r	817 r
Paper	322	0	0	0	0	0	0
Printing and related support activities	323	1 r	91	1 r	91	0	0
Petroleum and coal products	324	0	0	0	0	0	0
Chemicals	325	358	171,118	203	34,253	155	136,865 r
Pharmaceuticals and medicines	3254	117	42,297	61	10,277	56	32,020
Chemicals, excluding pharmaceuticals	other 325	241	128,821 r	142	23,976	99	104,845 r
Plastics and rubber products	326	89 r	20,770 r	5	809 r	84 r	19,961 r
Nonmetallic mineral products	327	24	4,070	17 r	2,086	8 r	1,984 r
Primary metals	331	9	855	3	435	6	419
Fabricated metal products	332	22	6,362 r	0	0	22	6,362 r
Machinery	333	197	39,207	68	11,855	130	27,352
Computer and electronic products	334	779	216,085	432	110,719	348	105,366
Semiconductor and other electronic components	3344	229	58,730	164	35,849	65	22,881
Navigational, measuring, electromedical, and control instruments	3345	453	127,231	225	66,505 r	229	60,725
Other computer and electronic products	other 334	97	30,125	43	8,365	54	21,760
Electrical equipment, appliances, and components	335	97	16,905	65	6,297	31	10,608
Transportation equipment	336	38	14,188	13	4,054	25	10,135
Aerospace products and parts	3364	19	5,483	13	4,054	6 r	1,429
Other transportation equipment	other 336	19	8,706	0	0	19	8,706
Furniture and related products	337	3	293	0	0	3	293
Miscellaneous manufacturing	339	210	45,755	139	33,035	70	12,720
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	15,835	5,386,477	10,484	2,588,849	5,351	2,797,628
Wholesale trade	42	1,007	174,079	448	83,532	559	90,547
Information	51	2,761	912,856	1,714	366,913	1,047	545,943
Software publishers	5112	2,153	747,100	1,284	312,219	869	434,882
Information, excluding software publishers	51 less 5112	608	165,755	430	54,694	178	111,061
Architectural, engineering, and related services	5413	2,338	595,681	1,623	287,334	715	308,347
Computer systems design and related services	5415	6,146	1,556,103	4,230	833,615	1,917	722,488
Scientific research and development services	5417	3,582	2,147,759	2,469	1,017,456	1,113	1,130,303
Research and development in nanotechnology	541713	216	96,618	145	58,260	71	38,358
Research and development in biotechnology (except nanobiotechnology)	541714	1,190	883,444	854	402,990	336	480,454

Table 4. Domestic R&D performed by the company, by selected industry and company size, for companies with 1–9 employees: 2023

(Number and thousands of U.S. dollars)

Industry	NAICS code	All companies		1–4 employees		5–9 employees	
		Companies (number)	Amount (\$thousands)	Companies (number)	Amount (\$thousands)	Companies (number)	Amount (\$thousands)
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	2,138	1,155,371	1,444	552,422	694	602,949
Social sciences and humanities research and development	541720	38	12,326	26	3,784	11	8,542

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):
Detail may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):
National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 5. Domestic R&D performed by the company, by selected industry and R&D program size, for companies with 1–9 employees: 2023

(Thousands of U.S. dollars)

Industry	NAICS code	R&D program size (total)							
		Total	\$50,000–\$99,999	\$100,000–\$499,999	\$500,000–\$999,999	\$1 million or more			
All selected industries	31–33, 42, 51, 5413, 5415, 5417	5,943,753	217,590	1,806,103	1,414,493	2,505,567			
Manufacturing industries	31–33	557,276	32,418	192,272	119,910	212,676			
Food, beverage, and tobacco products	311–12	5,438	0	1,583	3,855	0	r		
Textile, apparel, and leather products	313–16	5,748	131	5,617	0	0	r		
Wood products	321	10,390	0	10,390	0	0	r		
Paper	322	0	0	0	0	0			
Printing and related support activities	323	91	91	0	0	0			
Petroleum and coal products	324	0	0	0	0	0			
Chemicals	325	171,118	5,764	28,767	21,145	115,441		r	
Pharmaceuticals and medicines	3254	42,297	1,383	9,967	9,231	21,716	r		
Chemicals, excluding pharmaceuticals	other 325	128,821	4,381	18,801	11,915	93,725	r		
Plastics and rubber products	326	20,770	125	18,274	2,371	0	r		
Nonmetallic mineral products	327	4,070	170	3,899	0	0	r		
Primary metals	331	855	259	595	0	0	r		
Fabricated metal products	332	6,362	260	4,910	1,193	0	r		
Machinery	333	39,207	6,320	10,877	4,214	17,795			
Computer and electronic products	334	216,085	14,549	68,594	74,806	58,135			
Semiconductor and other electronic components	3344	58,730	4,129	25,511	5,888	23,201			
Navigational, measuring, electromedical, and control instruments	3345	127,231	8,747	33,136	60,146	25,202	r		
Other computer and electronic products	other 334	30,125	1,674	9,947	8,771	9,732	r		
Electrical equipment, appliances, and components	335	16,905	2,087	6,773	3,307	4,738	r		
Transportation equipment	336	14,188	703	4,150	2,416	6,920			
Aerospace products and parts	3364	5,483	115	2,951	2,416	0	r		
Other transportation equipment	other 336	8,706	587	1,199	0	6,920	r		
Furniture and related products	337	293	55	238	0	0			
Miscellaneous manufacturing	339	45,755	1,903	27,603	6,603	9,646		r	
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	5,386,477	185,172	1,613,831	1,294,583	2,292,891			
Wholesale trade	42	174,079	15,278	118,325	22,145	18,332	r		
Information	51	912,856	19,867	287,634	270,674	334,681			
Software publishers	5112	747,100	13,785	241,304	243,587	248,424			
Information, excluding software publishers	51 less 5112	165,755	6,082	46,330	27,087	86,257		r	
Architectural, engineering, and related services	5413	595,681	35,361	242,070	81,279	236,971			
Computer systems design and related services	5415	1,556,103	91,853	605,973	474,940	383,337			
Scientific research and development services	5417	2,147,759	22,814	359,830	445,546	1,319,569			
Research and development in nanotechnology	541713	96,618	1,623	29,476	23,490	42,030			
Research and development in biotechnology (except nanobiotechnology)	541714	883,444	5,613	100,582	178,988	598,262			
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	1,155,371	14,584	228,486	238,981	673,319			

Table 5. Domestic R&D performed by the company, by selected industry and R&D program size, for companies with 1–9 employees: 2023

(Thousands of U.S. dollars)

Industry	NAICS code	R&D program size (total)						
		Total	\$50,000–\$99,999	\$100,000–\$499,999	\$500,000–\$999,999	\$1 million or more		
Social sciences and humanities research and development	541720	12,326	994 r	1,286 r	4,087 r	5,959 r		

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):
Detail may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):
National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 6-1. Domestic R&D costs, by selected industry and type of cost, for companies with 1–9 employees: 2023

(Thousands of U.S. dollars)

Industry	NAICS code	Total	Salaries, wages, and fringe benefits			Expensed machinery and equipment		Materials and supplies		Payments to others for R&D		Depreciation on R&D property and equipment	All other costs	
All selected industries	31–33, 42, 51, 5413, 5415, 5417	7,118,582	4,006,505			169,182		545,264		1,174,829		48,708	1,174,095	
Manufacturing industries	31–33	617,406	300,531			30,077		76,400		60,131		6,480	143,788	
Food, beverage, and tobacco products	311–12	7,617	3,082 r			419 r		1,441 r		2,179		0	496	
Textile, apparel, and leather products	313–16	5,748	r	2,896 r		0		1,916 r		0		0	936 r	
Wood products	321	10,390	r	5,547 r		0		163 r		0		0	4,680 r	
Paper	322	0	0			0		0		0		0	0	
Printing and related support activities	323	91	61			0		30		0		0	0	
Petroleum and coal products	324	0	0			0		0		0		0	0	
Chemicals	325	188,629	87,990			5,958		22,221		17,511		1,578	53,372 r	
Pharmaceuticals and medicines	3254	54,548	21,996			1,209		8,796		12,251		737	9,560	
Chemicals, excluding pharmaceuticals	other 325	134,081	r	65,994 r		4,749		13,425 r		5,259		841	43,812 r	
Plastics and rubber products	326	22,811	r	10,773 r		5,647 r		2,552 r		2,041 r		29 r	1,769 r	
Nonmetallic mineral products	327	4,070	2,877 r			792 r		276 r		0		0	125	
Primary metals	331	1,226	688			130		37		371		0	0	
Fabricated metal products	332	6,546	r	3,321		311 r		1,429 r		184		45	1,256 r	
Machinery	333	40,561	23,979			2,283 r		5,198		1,354 r		236	7,511	
Computer and electronic products	334	239,993	117,247			8,982		24,710		23,908		1,594	63,552 r	
Semiconductor and other electronic components	3344	69,842	35,969			1,385		6,719		11,112 r		377	14,280	
Navigational, measuring, electromedical, and control instruments	3345	138,980	58,435			5,802		14,919		11,749		1,091	46,983 r	
Other computer and electronic products	other 334	31,171	22,844			1,795 r		3,072		1,046		125	2,289	
Electrical equipment, appliances, and components	335	19,464	9,690			1,646 r		2,989		2,559		708	1,872	
Transportation equipment	336	17,245	4,856			1,340		3,124		3,057		1,781	3,088	
Aerospace products and parts	3364	6,727	2,058			823 r		1,205		1,244		125 r	1,272	
Other transportation equipment	other 336	10,518	2,798			517		1,918		1,812		1,656	1,816	
Furniture and related products	337	307	174			79		40		14		0	0	
Miscellaneous manufacturing	339	52,709	27,350			2,489 r		10,276		6,953		509	5,131	
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	6,501,176	3,705,974			139,104		468,864		1,114,699		42,228	1,030,307	
Wholesale trade	42	186,364	119,346			12,111 r		17,743		12,285		1,655 r	23,225	
Information	51	944,298	761,867			15,179		38,615		31,442		1,812	95,383	
Software publishers	5112	770,221	647,291			8,669		24,544		23,120 r		1,088	65,508	
Information, excluding software publishers	51 less 5112	174,077	114,575			6,510		14,071 r		8,322 r		724 r	29,875 r	
Architectural, engineering, and related services	5413	632,387	368,609			22,057		108,077 r		36,706		5,109	91,828	
Computer systems design and related services	5415	1,635,359	1,250,738			26,552		52,706		79,256		4,399	221,708	
Scientific research and development services	5417	3,102,768	1,205,413			63,206		251,723		955,009		29,254	598,163	
Research and development in nanotechnology	541713	113,214	54,244			6,779		12,063		16,596		1,890	21,642	
Research and development in biotechnology (except nanobiotechnology)	541714	1,466,282	488,830			19,516		110,894		582,839		13,349	250,854	

Table 6-1. Domestic R&D costs, by selected industry and type of cost, for companies with 1–9 employees: 2023

(Thousands of U.S. dollars)

Industry	NAICS code	Total	Salaries, wages, and fringe benefits		Expensed machinery and equipment		Materials and supplies		Payments to others for R&D		Depreciation on R&D property and equipment		All other costs	
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	1,509,868		654,709		36,708		127,962		354,497		14,016		321,976
Social sciences and humanities research and development	541720	13,404		7,629		202	r	805	r	1,078		0		3,690

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):
Detail may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):
National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 6-2. Domestic R&D costs, by selected industry and type of cost, for companies with 1–4 employees: 2023

(Thousands of U.S. dollars)

Industry	NAICS code	Total	Salaries, wages, and fringe benefits	Expensed machinery and equipment	Materials and supplies	Payments to others for R&D	Depreciation on R&D property and equipment	All other costs
All selected industries	31–33, 42, 51, 5413, 5415, 5417	3,312,783	1,808,677	88,902	268,839	510,057	21,983	614,325
Manufacturing industries	31–33	242,475	102,525	11,519	28,483	28,598	1,379	69,971
Food, beverage, and tobacco products	311–12	1,875	260	0	47	1,337 r	0	231
Textile, apparel, and leather products	313–16	131	88	0	44	0	0	0
Wood products	321	9,573 r	4,893 r	0	0	0	0	4,680 r
Paper	322	0	0	0	0	0	0	0
Printing and related support activities	323	91	61	0	30	0	0	0
Petroleum and coal products	324	0	0	0	0	0	0	0
Chemicals	325	41,939	18,215	2,990	3,864	7,686	582	8,603
Pharmaceuticals and medicines	3254	16,477	6,269	758 r	1,403	6,200	249	1,597
Chemicals, excluding pharmaceuticals	other 325	25,462	11,946	2,232	2,460	1,485	332	7,006
Plastics and rubber products	326	809 r	426 r	238 r	60 r	0	3	82 r
Nonmetallic mineral products	327	2,086	1,195	513 r	276 r	0	0	103
Primary metals	331	806	386	25	25	371	0	0
Fabricated metal products	332	0	0	0	0	0	0	0
Machinery	333	12,253	5,706	607 r	803	398	64	4,675
Computer and electronic products	334	122,812	46,967	3,281	13,431	12,093 r	455	46,585 r
Semiconductor and other electronic components	3344	44,724	20,851	587 r	4,308	8,875 r	172	9,931
Navigational, measuring, electromedical, and control instruments	3345	69,575 r	19,400	2,213	8,453 r	3,070 r	233	36,206 r
Other computer and electronic products	other 334	8,512	6,716	481 r	670	147	50 r	448 r
Electrical equipment, appliances, and components	335	7,704	2,739	1,113 r	1,121	1,406 r	137 r	1,187
Transportation equipment	336	5,114	1,546	823 r	570	1,061 r	120 r	995
Aerospace products and parts	3364	4,655	1,546	823 r	570	601 r	120 r	995
Other transportation equipment	other 336	460 r	0	0	0	460 r	0	0
Furniture and related products	337	0	0	0	0	0	0	0
Miscellaneous manufacturing	339	37,283	20,045	1,929 r	8,214	4,247	17	2,831
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	3,070,308	1,706,152	77,384	240,356	481,459	20,604	544,354
Wholesale trade	42	91,446	52,941	1,580 r	12,224	7,914	1,233 r	15,555 r
Information	51	383,189	310,534	5,639	4,175	16,277	1,220	45,345
Software publishers	5112	322,593	268,689	3,600	2,205	10,374 r	609	37,116
Information, excluding software publishers	51 less 5112	60,596	41,846	2,040	1,970	5,902 r	611 r	8,228
Architectural, engineering, and related services	5413	305,024	145,834	19,281	77,487 r	17,690	3,072	41,661
Computer systems design and related services	5415	849,647	633,703	17,858	35,728	16,033	2,964	143,361
Scientific research and development services	5417	1,441,001	563,140	33,026	110,741	423,546	12,115	298,434
Research and development in nanotechnology	541713	71,513	32,464	4,675 r	6,359	13,254	1,307	13,455
Research and development in biotechnology (except nanobiotechnology)	541714	620,076	216,017	10,585	45,294	217,086	5,129	125,966

Table 6-2. Domestic R&D costs, by selected industry and type of cost, for companies with 1–4 employees: 2023

(Thousands of U.S. dollars)

Industry	NAICS code	Total		Salaries, wages, and fringe benefits		Expensed machinery and equipment	Materials and supplies		Payments to others for R&D		Depreciation on R&D property and equipment	All other costs	
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	745,365		312,406		17,737	59,015		192,942		5,680	157,585	
Social sciences and humanities research and development	541720	4,047		2,253	r	28	75		263	r	0	1,428	r

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):
Detail may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):
National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 6-3. Domestic R&D costs, by selected industry and type of cost, for companies with 5–9 employees: 2023

(Thousands of U.S. dollars)

Industry	NAICS code	Total	Salaries, wages, and fringe benefits		Expensed machinery and equipment	Materials and supplies	Payments to others for R&D	Depreciation on R&D property and equipment	All other costs
All selected industries	31–33, 42, 51, 5413, 5415, 5417	3,805,799	2,197,827		80,279	276,425	664,772	26,725	559,770
Manufacturing industries	31–33	374,931	198,006		18,559	47,917	31,532	5,101	73,817
Food, beverage, and tobacco products	311–12	5,742	2,822	r	419	r	1,394	r	842
Textile, apparel, and leather products	313–16	5,617	r	2,809	r	0	1,872	r	0
Wood products	321	817	r	654	r	0	163	r	0
Paper	322	0		0		0	0		0
Printing and related support activities	323	0		0		0	0		0
Petroleum and coal products	324	0		0		0	0		0
Chemicals	325	146,690	r	69,775	r	2,968	18,357		9,825
Pharmaceuticals and medicines	3254	38,071		15,726		451	r	7,393	6,051
Chemicals, excluding pharmaceuticals	other 325	108,619	r	54,049	r	2,517	10,964	r	3,774
Plastics and rubber products	326	22,002	r	10,348	r	5,409	r	2,492	r
Nonmetallic mineral products	327	1,984	r	1,682	r	279	r	0	0
Primary metals	331	419		302		105		13	r
Fabricated metal products	332	6,546	r	3,321		311	r	1,429	r
Machinery	333	28,308		18,273		1,676	r	4,395	956
Computer and electronic products	334	117,181		70,280		5,702		11,279	11,815
Semiconductor and other electronic components	3344	25,118		15,118		798		2,411	2,237
Navigational, measuring, electromedical, and control instruments	3345	69,405		39,035		3,589		6,466	8,679
Other computer and electronic products	other 334	22,658		16,127		1,314	r	2,402	899
Electrical equipment, appliances, and components	335	11,760		6,951		533		1,867	1,153
Transportation equipment	336	12,131		3,310		517		2,554	1,996
Aerospace products and parts	3364	2,072		512		0		636	r
Other transportation equipment	other 336	10,058		2,798		517		1,918	1,353
Furniture and related products	337	307		174		79		40	14
Miscellaneous manufacturing	339	15,426		7,305		560		2,062	2,706
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	3,430,868		1,999,822		61,721		228,509	633,240
Wholesale trade	42	94,918		66,406		10,531	r	5,519	4,371
Information	51	561,109		451,332		9,540		34,440	r
Software publishers	5112	447,628		378,603		5,069		22,339	r
Information, excluding software publishers	51 less 5112	113,481		72,730		4,470		12,101	r
Architectural, engineering, and related services	5413	327,363		222,775		2,777		30,590	r
Computer systems design and related services	5415	785,712		617,035		8,694		16,978	63,224
Scientific research and development services	5417	1,661,766		642,273		30,180		140,982	531,463
Research and development in nanotechnology	541713	41,700		21,781		2,104		5,704	3,342
Research and development in biotechnology (except nanobiotechnology)	541714	846,206		272,813		8,931		65,600	365,752

Table 6-3. Domestic R&D costs, by selected industry and type of cost, for companies with 5–9 employees: 2023

(Thousands of U.S. dollars)

Industry	NAICS code	Total		Salaries, wages, and fringe benefits		Expensed machinery and equipment		Materials and supplies		Payments to others for R&D		Depreciation on R&D property and equipment		All other costs	
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	764,503		342,303		18,971		68,947		161,554		8,336		164,392	
Social sciences and humanities research and development	541720	9,357	r	5,376	r	174	r	730	r	815	r	0		2,262	r

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):
Detail may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):
National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 7. Domestic R&D performed by the company, by selected industry and source of funds, for companies with 1–9 employees: 2023

(Thousands of U.S. dollars)

Industry	NAICS code	Total	Paid for by the company	Foreign owner	Another U.S. company	Other businesses outside the United States	U.S. university or college	U.S. nonprofit organization	U.S. federal government	U.S. state or local government	All other organizations outside the United States
All selected industries	31–33, 42, 51, 5413, 5415, 5417	5,943,753	4,644,201	164,699	375,984	35,146	36,493	22,029	650,113	14,650	438
Manufacturing industries	31–33	557,276	354,105	11,288	93,058	30	3,702	574	93,413	1,092	14
Food, beverage, and tobacco products	311–12	5,438	5,282	0	156	0	0	0	0	0	0
Textile, apparel, and leather products	313–16	5,748	5,748	0	0	0	0	0	0	0	0
Wood products	321	10,390	10,390	0	0	0	0	0	0	0	0
Paper	322	0	0	0	0	0	0	0	0	0	0
Printing and related support activities	323	91	61	0	0	30	0	0	0	0	0
Petroleum and coal products	324	0	0	0	0	0	0	0	0	0	0
Chemicals	325	171,118	107,969	0	38,925	0	0	154	23,845	225	0
Pharmaceuticals and medicines	3254	42,297	31,267	0	2,686	0	0	74	8,220	50	0
Chemicals, excluding pharmaceuticals	other 325	128,821	76,702	0	36,239	0	0	80	15,625	176	0
Plastics and rubber products	326	20,770	20,466	0	304	0	0	0	0	0	0
Nonmetallic mineral products	327	4,070	3,899	0	170	0	0	0	0	0	0
Primary metals	331	855	419	0	0	0	0	0	435	0	0
Fabricated metal products	332	6,362	5,170	0	83	0	325	0	785	0	0
Machinery	333	39,207	19,121	0	2,458	0	50	0	17,465	113	0
Computer and electronic products	334	216,085	136,554	2,485	37,603	0	2,111	420	36,428	470	14
Semiconductor and other electronic components	3344	58,730	34,043	2,485	833	0	343	0	20,973	53	0
Navigational, measuring, electromedical, and control instruments	3345	127,231	73,698	0	36,492	0	1,768	420	14,437	417	0
Other computer and electronic products	other 334	30,125	28,814	0	279	0	0	0	1,018	0	14
Electrical equipment, appliances, and components	335	16,905	9,814	292	322	0	297	0	6,181	0	0
Transportation equipment	336	14,188	10,123	0	434	0	0	0	3,631	0	0
Aerospace products and parts	3364	5,483	1,417	0	434	0	0	0	3,631	0	0
Other transportation equipment	other 336	8,706	8,706	0	0	0	0	0	0	0	0
Furniture and related products	337	293	293	0	0	0	0	0	0	0	0
Miscellaneous manufacturing	339	45,755	18,796	8,512	12,603	0	918	0	4,644	283	0
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	5,386,477	4,290,097	153,410	282,926	35,116	32,791	21,455	556,700	13,559	423
Wholesale trade	42	174,079	158,788	0	0	8,826	109	0	6,357	0	0
Information	51	912,856	857,986	1,498	23,090	5,357	530	54	22,049	2,270	22
Software publishers	5112	747,100	704,088	926	13,425	5,016	282	0	21,565	1,776	22
Information, excluding software publishers	51 less 5112	165,755	153,898	572	9,665	341	247	54	484	494	0
Architectural, engineering, and related services	5413	595,681	457,784	10,906	71,773	1,146	0	420	52,698	955	0
Computer systems design and related services	5415	1,556,103	1,362,029	3,474	87,490	12,521	18,307	32	71,755	496	0
Scientific research and development services	5417	2,147,759	1,453,510	137,532	100,573	7,267	13,846	20,950	403,842	9,838	402
Research and development in nanotechnology	541713	96,618	41,136	6,353	8,572	983	2,032	267	36,697	346	232

Table 7. Domestic R&D performed by the company, by selected industry and source of funds, for companies with 1–9 employees: 2023

(Thousands of U.S. dollars)

Industry	NAICS code	Total	Paid for by the company	Foreign owner	Another U.S. company	Other businesses outside the United States	U.S. university or college	U.S. nonprofit organization	U.S. federal government	U.S. state or local government	All other organizations outside the United States
Research and development in biotechnology (except nanobiotechnology)	541714	883,444	649,887	55,080	37,561	2,444	5,269	r 9,024	122,325	1,783	71
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	1,155,371	754,141	76,099	53,691	3,840	6,544	11,463	242,353	7,141	98
Social sciences and humanities research and development	541720	12,326	8,346	r 0	748	0	0	196	r 2,467	r 568	0

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):
Detail may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):
National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 8. Domestic R&D performed by the company and funded by the federal government, by selected industry and company size, for companies with 1–9 employees: 2023

(Number and thousands of U.S. dollars)

Industry	NAICS code	All companies		1–4 employees		5–9 employees	
		Companies with federally funded R&D (number)	Amount (\$thousands)	Companies with federally funded R&D (number)	Amount (\$thousands)	Companies with federally funded R&D (number)	Amount (\$thousands)
All selected industries	31–33, 42, 51, 5413, 5415, 5417	1,855	650,113	1,070	291,297	785	358,816
Manufacturing industries	31–33	290	93,413	163	38,358	126	55,055
Food, beverage, and tobacco products	311–12	0	0	0	0	0	0
Textile, apparel, and leather products	313–16	0	0	0	0	0	0
Wood products	321	0	0	0	0	0	0
Paper	322	0	0	0	0	0	0
Printing and related support activities	323	0	0	0	0	0	0
Petroleum and coal products	324	0	0	0	0	0	0
Chemicals	325	97	23,845	36	9,068	61	14,777
Pharmaceuticals and medicines	3254	20	8,220	6	604	14	7,616
Chemicals, excluding pharmaceuticals	other 325	76	15,625	30	8,464	47	7,161
Plastics and rubber products	326	0	0	0	0	0	0
Nonmetallic mineral products	327	0	0	0	0	0	0
Primary metals	331	3	435	3	435	0	0
Fabricated metal products	332	1	785	0	0	1	785
Machinery	333	43	17,465	24	7,208	19	10,257
Computer and electronic products	334	113	36,428	84	16,992	29	19,436
Semiconductor and other electronic components	3344	60	20,973	54	13,083	6	7,890
Navigational, measuring, electromedical, and control instruments	3345	52	14,437	31	3,909	21	10,528
Other computer and electronic products	other 334	1	1,018	0	0	1	1,018
Electrical equipment, appliances, and components	335	9	6,181	3	977	5	5,204
Transportation equipment	336	9	3,631	9	2,778	1	853
Aerospace products and parts	3364	9	3,631	9	2,778	1	853
Other transportation equipment	other 336	0	0	0	0	0	0
Furniture and related products	337	0	0	0	0	0	0
Miscellaneous manufacturing	339	15	4,644	4	899	11	3,744
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	1,566	556,700	907	252,940	659	303,761
Wholesale trade	42	45	6,357	3	1,091	41	5,265
Information	51	90	22,049	11	2,653	80	19,396
Software publishers	5112	90	21,565	11	2,653	79	18,912
Information, excluding software publishers	51 less 5112	1	484	0	0	1	484
Architectural, engineering, and related services	5413	248	52,698	159	28,529	89	24,169
Computer systems design and related services	5415	221	71,755	91	11,927	130	59,828
Scientific research and development services	5417	962	403,842	642	208,739	319	195,103
Research and development in nanotechnology	541713	70	36,697	48	26,839	22	9,858

Table 8. Domestic R&D performed by the company and funded by the federal government, by selected industry and company size, for companies with 1–9 employees: 2023

(Number and thousands of U.S. dollars)

Industry	NAICS code	All companies				1–4 employees				5–9 employees			
		Companies with federally funded R&D (number)		Amount (\$thousands)		Companies with federally funded R&D (number)		Amount (\$thousands)		Companies with federally funded R&D (number)		Amount (\$thousands)	
Research and development in biotechnology (except nanobiotechnology)	541714	313		122,325		215		68,596		99		53,728	
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	572		242,353		378		113,143		194		129,210	
Social sciences and humanities research and development	541720	6	r	2,467	r	2	r	160	r	4	r	2,307	r

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):
Detail may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):
National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 9. Domestic R&D performed by the company, by selected industry and type of R&D, for companies with 1–9 employees: 2023

(Thousands of U.S. dollars)

Industry	NAICS code	Total	Basic research	Applied research	Development
All selected industries	31–33, 42, 51, 5413, 5415, 5417	5,943,753	654,970	1,936,389	3,352,394
Manufacturing industries	31–33	557,276	40,778	263,086	253,412
Food, beverage, and tobacco products	311–12	5,438	149	2,207	3,082
Textile, apparel, and leather products	313–16	5,748	2,896	0	2,852
Wood products	321	10,390	1,330	2,659	6,401
Paper	322	0	0	0	0
Printing and related support activities	323	91	0	45	45
Petroleum and coal products	324	0	0	0	0
Chemicals	325	171,118	9,225	110,763	51,130
Pharmaceuticals and medicines	3254	42,297	1,781	14,863	25,653
Chemicals, excluding pharmaceuticals	other 325	128,821	7,444	95,900	25,477
Plastics and rubber products	326	20,770	422	90	20,257
Nonmetallic mineral products	327	4,070	513	713	2,844
Primary metals	331	855	0	356	498
Fabricated metal products	332	6,362	1,962	1,691	2,710
Machinery	333	39,207	2,957	15,085	21,165
Computer and electronic products	334	216,085	14,147	97,134	104,803
Semiconductor and other electronic components	3344	58,730	4,178	29,397	25,154
Navigational, measuring, electromedical, and control instruments	3345	127,231	5,374	61,946	59,911
Other computer and electronic products	other 334	30,125	4,595	5,791	19,739
Electrical equipment, appliances, and components	335	16,905	1,709	5,360	9,836
Transportation equipment	336	14,188	1,214	5,555	7,420
Aerospace products and parts	3364	5,483	772	1,832	2,878
Other transportation equipment	other 336	8,706	442	3,722	4,541
Furniture and related products	337	293	0	55	238
Miscellaneous manufacturing	339	45,755	4,253	21,373	20,130
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	5,386,477	614,192	1,673,303	3,098,982
Wholesale trade	42	174,079	17,192	47,497	109,390
Information	51	912,856	115,012	235,753	562,091
Software publishers	5112	747,100	77,161	191,509	478,430
Information, excluding software publishers	51 less 5112	165,755	37,851	44,244	83,660
Architectural, engineering, and related services	5413	595,681	48,135	257,453	290,093
Computer systems design and related services	5415	1,556,103	179,177	373,309	1,003,616
Scientific research and development services	5417	2,147,759	254,676	759,291	1,133,792
Research and development in nanotechnology	541713	96,618	9,366	44,949	42,303
Research and development in biotechnology (except nanobiotechnology)	541714	883,444	104,259	278,488	500,697
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	1,155,371	138,738	430,737	585,896
Social sciences and humanities research and development	541720	12,326	2,312	5,117	4,896

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):

Detail may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 10. Domestic R&D performed by the company that was paid for by the U.S. federal government, by selected industry and type of R&D, for companies with 1–9 employees: 2023

(Thousands of U.S. dollars)

Industry	NAICS code	Total	Basic research	Applied research	Development
All selected industries	31–33, 42, 51, 5413, 5415, 5417	650,113	52,236	314,323	283,555
Manufacturing industries	31–33	93,413	4,215	54,810	34,388
Food, beverage, and tobacco products	311–12	0	0	0	0
Textile, apparel, and leather products	313–16	0	0	0	0
Wood products	321	0	0	0	0
Paper	322	0	0	0	0
Printing and related support activities	323	0	0	0	0
Petroleum and coal products	324	0	0	0	0
Chemicals	325	23,845	314	13,363	10,168
Pharmaceuticals and medicines	3254	8,220	153	3,496	4,572
Chemicals, excluding pharmaceuticals	other 325	15,625	162	9,867	5,597
Plastics and rubber products	326	0	0	0	0
Nonmetallic mineral products	327	0	0	0	0
Primary metals	331	435	0	196	239
Fabricated metal products	332	785	0	0	785
Machinery	333	17,465	1,803	9,075	6,587
Computer and electronic products	334	36,428	974	26,942	8,512
Semiconductor and other electronic components	3344	20,973	142	17,405	3,426
Navigational, measuring, electromedical, and control instruments	3345	14,437	831	8,555	5,051
Other computer and electronic products	other 334	1,018	0	983	35
Electrical equipment, appliances, and components	335	6,181	444	1,760	3,978
Transportation equipment	336	3,631	602	990	2,039
Aerospace products and parts	3364	3,631	602	990	2,039
Other transportation equipment	other 336	0	0	0	0
Furniture and related products	337	0	0	0	0
Miscellaneous manufacturing	339	4,644	79	2,484	2,081
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	556,700	48,020	259,513	249,167
Wholesale trade	42	6,357	235	3,573	2,549
Information	51	22,049	6,271	11,095	4,683
Software publishers	5112	21,565	6,271	10,612	4,683
Information, excluding software publishers	51 less 5112	484	0	484	0
Architectural, engineering, and related services	5413	52,698	5,955	15,905	30,838
Computer systems design and related services	5415	71,755	554	43,204	27,998
Scientific research and development services	5417	403,842	35,007	185,736	183,100
Research and development in nanotechnology	541713	36,697	3,404	14,386	18,907
Research and development in biotechnology (except nanobiotechnology)	541714	122,325	16,809	51,449	54,066
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	242,353	14,792	118,886	108,676
Social sciences and humanities research and development	541720	2,467	2	1,014	1,451

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):

Detail may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 11. Domestic R&D performed by the company, by selected industry, for companies with 1–9 employees: 2019–23

(Thousands of U.S. dollars)

Industry	NAICS code	2019	2020	2021	2022	2023
All selected industries	31–33, 42, 51, 5413, 5415, 5417	5,218,911	5,600,668	6,124,669	5,710,570	5,943,753
Manufacturing industries	31–33	622,220	627,387	747,124	694,247	557,276
Food, beverage, and tobacco products	311–12	5,896	9,614	18,270 r	17,426	5,438
Textile, apparel, and leather products	313–16	236	472 r	7,096 r	9,268 r	5,748 r
Wood products	321	4,065	0	134	0	10,390 r
Paper	322	0	0	0	898 r	0
Printing and related support activities	323	555	0	0	0	91
Petroleum and coal products	324	0	0	739	159	0
Chemicals	325	178,170	160,031	132,255	168,564	171,118
Pharmaceuticals and medicines	3254	117,508	77,054	96,666	125,474	42,297
Chemicals, excluding pharmaceuticals	other 325	60,661	82,977	35,589	43,090	128,821 r
Plastics and rubber products	326	6,261	18,099	6,427	14,467	20,770 r
Nonmetallic mineral products	327	5,860	133	3,638 r	3,608	4,070
Primary metals	331	2,353	9,077 r	2,117	3,214	855
Fabricated metal products	332	20,518	37,292 r	11,983 r	44,875	6,362 r
Machinery	333	22,057	62,840	64,109	44,334	39,207
Computer and electronic products	334	227,158	189,225	279,203	171,928	216,085
Semiconductor and other electronic components	3344	38,305	36,372	71,280	46,427	58,730
Navigational, measuring, electromedical, and control instruments	3345	161,373	135,652	164,799	94,814	127,231
Other computer and electronic products	other 334	27,480	17,201	43,124	30,686	30,125
Electrical equipment, appliances, and components	335	9,592	24,958 r	40,032	14,597	16,905
Transportation equipment	336	24,577	38,247	33,911	36,738	14,188
Aerospace products and parts	3364	11,859	19,307	13,003	19,882	5,483
Other transportation equipment	other 336	12,718	18,940 r	20,908	16,856	8,706
Furniture and related products	337	0	124	1,471 r	212	293
Miscellaneous manufacturing	339	114,922	77,276	145,741	163,959	45,755
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	4,596,691	4,973,281	5,377,544	5,016,323	5,386,477
Wholesale trade	42	225,813	392,416	143,063	305,962	174,079
Information	51	598,684	689,766	756,657	653,665	912,856
Software publishers	5112	327,921	468,557	535,950	478,466	747,100
Information, excluding software publishers	51 less 5112	270,764	221,209	220,707	175,199	165,755
Architectural, engineering, and related services	5413	454,913	574,367	606,186	388,846	595,681
Computer systems design and related services	5415	1,435,159	1,122,622	1,616,190	1,414,970	1,556,103
Scientific research and development services	5417	1,882,122	2,194,110	2,255,449	2,252,879	2,147,759
Research and development in nanotechnology	541713	175,639	162,996	172,582	137,272	96,618
Research and development in biotechnology (except nanobiotechnology)	541714	645,887	913,514	868,580	1,010,361	883,444
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	1,026,911	1,099,371	1,193,678	1,085,263	1,155,371
Social sciences and humanities research and development	541720	31,464	18,229	12,047	19,984	12,326

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):

Detail may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 12. Domestic sales and domestic R&D performed by the company as a percentage of domestic sales, by selected industry and company size, for companies with 1–9 employees: 2023

(Thousands of U.S. dollars and percent)

Industry	NAICS code	All companies				1–4 employees				5–9 employees			
		Total sales (\$thousands)		R&D as percentage of sales		Total sales (\$thousands)		R&D as percentage of sales		Total sales (\$thousands)		R&D as percentage of sales	
All selected industries	31–33, 42, 51, 5413, 5415, 5417	18,899,461		31		8,307,320		34		10,592,141		30	
Manufacturing industries	31–33	2,776,981		20		893,502		24		1,883,480		18	
Food, beverage, and tobacco products	311–12	50,522		11	r	7,356		7		43,166		11	r
Textile, apparel, and leather products	313–16	176,215	r	3	r	5,606		2		170,610	r	3	r
Wood products	321	53,749	r	19		45,578	r	21	r	8,171	r	10	r
Paper	322	0		0		0		0		0		0	
Printing and related support activities	323	3,604		3		3,604		3		0		0	
Petroleum and coal products	324	0		0		0		0		0		0	
Chemicals	325	476,096		36	r	136,420		25		339,676		40	r
Pharmaceuticals and medicines	3254	141,178		30	r	33,340		31	r	107,838		30	r
Chemicals, excluding pharmaceuticals	other 325	334,918		38	r	103,080		23	r	231,838		45	r
Plastics and rubber products	326	113,392	r	18	r	7,286	r	11	r	106,106	r	19	r
Nonmetallic mineral products	327	42,101		10	r	22,490		9	r	19,611	r	10	r
Primary metals	331	15,171		6		2,082		21		13,089		3	r
Fabricated metal products	332	77,110	r	8		0		0		77,110	r	8	
Machinery	333	463,585		8		71,384	r	17	r	392,201		7	r
Computer and electronic products	334	850,270		25		408,036		27		442,234		24	
Semiconductor and other electronic components	3344	155,706		38	r	75,046		48	r	80,660		28	r
Navigational, measuring, electromedical, and control instruments	3345	482,704		26		267,563	r	25		215,141		28	r
Other computer and electronic products	other 334	211,860		14		65,428	r	13	r	146,432		15	r
Electrical equipment, appliances, and components	335	137,263		12		65,977		10	r	71,286		15	r
Transportation equipment	336	99,722		14	r	7,546		54	r	92,176		11	
Aerospace products and parts	3364	12,752		43	r	7,546		54	r	5,205		27	r
Other transportation equipment	other 336	86,971		10		0		0		86,971		10	
Furniture and related products	337	4,280		7		0		0		4,280		7	
Miscellaneous manufacturing	339	213,901		21		110,136		30		103,765		12	
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	16,122,480		33		7,413,818		35		8,708,661		32	
Wholesale trade	42	2,760,065		6		806,684		10	r	1,953,381		5	
Information	51	2,833,995		32		1,354,752		27		1,479,243		37	
Software publishers	5112	2,122,476		35		1,003,686		31	r	1,118,790		39	
Information, excluding software publishers	51 less 5112	711,519		23	r	351,066		16	r	360,453		31	r
Architectural, engineering, and related services	5413	2,316,117		26		1,039,855		28		1,276,262		24	r
Computer systems design and related services	5415	5,808,894		27		3,106,061		27		2,702,833		27	
Scientific research and development services	5417	2,403,409		89		1,106,466		92		1,296,943		87	
Research and development in nanotechnology	541713	139,727		69		70,265		83		69,461		55	
Research and development in biotechnology (except nanobiotechnology)	541714	942,139		94		383,219		105		558,920		86	r

Table 12. Domestic sales and domestic R&D performed by the company as a percentage of domestic sales, by selected industry and company size, for companies with 1–9 employees: 2023

(Thousands of U.S. dollars and percent)

Industry	NAICS code	All companies				1–4 employees				5–9 employees			
		Total sales (\$thousands)		R&D as percentage of sales		Total sales (\$thousands)		R&D as percentage of sales		Total sales (\$thousands)		R&D as percentage of sales	
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	1,306,438		88		647,933		85		658,505		92	
Social sciences and humanities research and development	541720	15,104		82		5,048	r	75	r	10,056	r	85	

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):
Detail may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):
National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 13. Domestic R&D performed by the company, by state and company size, for companies with 1–9 employees: 2023

(Number and thousands of U.S. dollars)

State	All companies				1–4 employees				5–9 employees			
	Companies (number)		Amount (\$thousands)		Companies (number)		Amount (\$thousands)		Companies (number)		Amount (\$thousands)	
All states	17,777		5,943,753		11,493		2,802,726		6,284		3,141,027	
Alabama	212		66,365		170		41,997	r	42	r	24,367	
Alaska	11	r	1,926	r	11	r	1,926	r	0		0	
Arizona	324		128,242		141		47,746		183		80,496	
Arkansas	57		10,011		43		5,058		15		4,953	
California	4,333		1,621,043		2,886		705,719		1,447		915,324	
Colorado	652		134,326		468		69,863		185		64,462	
Connecticut	298		73,507		206		36,145		92	r	37,362	r
Delaware	111		53,264		87		31,384		23		21,880	
District of Columbia	30		6,092		30		6,092		0		0	
Florida	865		232,873		538		120,096		327		112,777	
Georgia	418		80,386		277		40,984		140	r	39,402	r
Hawaii	11		1,995		10		1,267		1	r	728	
Idaho	54		20,950		32		3,843		21		17,106	
Illinois	571		120,483		306		47,571		265		72,912	
Indiana	226		61,476		182		23,926		44		37,551	r
Iowa	81		14,678		46		7,203		35		7,475	
Kansas	127		20,271		92	r	8,240		34		12,030	
Kentucky	122		20,740		99		14,461		23	r	6,279	
Louisiana	24		19,095		9		14,819	r	14		4,276	
Maine	20		3,364		6	r	1,066		14		2,299	
Maryland	554		190,712		410		107,433		144		83,279	
Massachusetts	828		569,536		570		286,981		259		282,555	
Michigan	391		102,906		246		62,077		145		40,829	
Minnesota	305		196,891		153		76,632		151		120,259	r
Mississippi	26		5,198		15	r	1,151		11	r	4,047	r
Missouri	183		97,866	r	89	r	16,623		94	r	81,243	r
Montana	115	r	23,416	r	110	r	21,338	r	5		2,078	
Nebraska	36		9,819		22		2,446		13		7,372	r
Nevada	182		39,635		105		21,743		77	r	17,892	r
New Hampshire	75		14,995		61		10,614		14		4,381	
New Jersey	548		186,195		133		44,689		415		141,506	
New Mexico	101		37,105		66		20,555		35		16,550	
New York	811		202,927		510		97,140		301		105,788	
North Carolina	436		127,547		363		97,408		73		30,139	
North Dakota	10		5,229		2		90		8		5,139	
Ohio	314		126,108		142		27,763		172		98,345	r

Table 13. Domestic R&D performed by the company, by state and company size, for companies with 1–9 employees: 2023

(Number and thousands of U.S. dollars)

State	All companies				1–4 employees				5–9 employees			
	Companies (number)		Amount (\$thousands)		Companies (number)		Amount (\$thousands)		Companies (number)		Amount (\$thousands)	
Oklahoma	42		14,680		20		3,022		21		11,657	
Oregon	367		94,392		182		34,272		185		60,120	
Pennsylvania	493		174,158		357		85,631		136		88,527	
Rhode Island	65	r	26,849	r	9		1,064		56	r	25,784	r
South Carolina	124		18,818		89	r	11,201		34		7,616	
South Dakota	1		1,183		0		0		1		1,183	
Tennessee	180		79,311		154		60,292	r	26		19,019	
Texas	1,281		376,426		1,022		246,434		260		129,992	
Utah	250		61,716		215		44,325		34		17,391	
Vermont	7		3,066		5		2,839		1	r	226	
Virginia	516		165,570		294		64,279		222		101,292	
Washington	598		183,105		350		80,854		248		102,251	
West Virginia	30	r	18,631	r	30	r	18,631	r	0		0	
Wisconsin	315		66,519		101	r	20,092		214		46,427	
Wyoming	19		6,830		15		3,056		4	r	3,775	
Undistributed	28		25,330		8		2,644		19		22,686	

r = relative standard error > 50%.

Note(s):
Detail may not add to total because of rounding. A company with establishments in multiple states is counted only in the state where the survey was addressed. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):
National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 14. Domestic R&D performed by the company, by state and source of funds, for companies with 1–9 employees: 2023

(Thousands of U.S. dollars)

State	Total	Paid for by the company		Foreign owner	Another U.S. company	Other businesses outside the United States	U.S. university or college	U.S. nonprofit organization	U.S. federal government	U.S. state or local government	All other organizations outside the United States		
All states	5,943,753	4,644,201		164,699	375,984	35,146	36,493	22,029	650,113	14,650	438		
Alabama	66,365	51,610	r	0	2,676	610	r	363	10,306	800	r	0	
Alaska	1,926	1,607	r	0	68	7	r	0	243	0	r	0	
Arizona	128,242	116,624		0	1,242	0	r	117	9,904	146		0	
Arkansas	10,011	6,969		0	0	0		0	2,949	93	r	0	
California	1,621,043	1,277,980		65,414	118,234	10,163	r	8,989	119,602	3,065		22	
Colorado	134,326	91,151		6,505	12,703	18	r	323	22,862	14		0	
Connecticut	73,507	58,600		1,058	1,406	0		808	10,737	884	r	14	
Delaware	53,264	37,000		4,148	893	893	r	0	10,328	0		0	
District of Columbia	6,092	5,393		279	0	0		0	420	0		0	
Florida	232,873	213,024		0	14,639	50	r	0	5,036	0		17	
Georgia	80,386	66,396		3,474	6,086	687	r	0	3,743	0		0	
Hawaii	1,995	1,587		0	113	0		0	295	0		0	
Idaho	20,950	15,229		4,782	516	1		55	63	14		67	
Illinois	120,483	88,329		0	916	5,934	r	0	24,610	0		0	
Indiana	61,476	52,820		711	2,894	0	r	0	4,888	163	r	0	
Iowa	14,678	10,093		0	1,223	474	r	43	2,790	55	r	0	
Kansas	20,271	16,529		0	947	0		0	2,717	0		0	
Kentucky	20,740	16,292		0	0	0	r	0	4,028	0		0	
Louisiana	19,095	5,217		0	659	0	r	0	11,269	0		0	
Maine	3,364	3,364		0	0	0		0	0	0		0	
Maryland	190,712	122,985		2,658	5,559	768	r	997	56,456	597		0	
Massachusetts	569,536	440,983		21,004	65,274	2,168	r	461	35,749	1,794		50	r
Michigan	102,906	87,522		2,358	2,938	455		0	9,181	189		0	
Minnesota	196,891	171,689		13,146	1,357	0		618	9,881	200	r	0	
Mississippi	5,198	4,951		0	247	0		0	0	0		0	
Missouri	97,866	94,543	r	0	0	0		196	2,559	568	r	0	
Montana	23,416	2,790	r	0	15,056	12		0	5,061	496	r	0	
Nebraska	9,819	7,177		0	89	0		0	2,552	0		0	
Nevada	39,635	33,623		0	1,084	0	r	54	4,863	0		0	
New Hampshire	14,995	13,991		278	234	0		0	486	2		0	
New Jersey	186,195	163,525		0	4,145	0	r	231	16,460	1,272		0	
New Mexico	37,105	20,748		0	3,536	145		0	12,601	75		0	
New York	202,927	149,014		2,700	3,727	1,526	r	3,911	40,700	928		0	
North Carolina	127,547	83,779		6,031	13,423	272	r	482	22,632	205	r	4	r
North Dakota	5,229	3,459	r	0	1,719	32		0	0	0		0	
Ohio	126,108	107,016		0	4,735	168	r	12	13,860	16		264	r

Table 14. Domestic R&D performed by the company, by state and source of funds, for companies with 1–9 employees: 2023

(Thousands of U.S. dollars)

State	Total	Paid for by the company		Foreign owner	Another U.S. company		Other businesses outside the United States		U.S. university or college		U.S. nonprofit organization		U.S. federal government		U.S. state or local government		All other organizations outside the United States			
Oklahoma	14,680		6,470		0		6,194	r		0		0		1,903		113		0		
Oregon	94,392		67,326		980		3,092	r		187	r	59	r	106	r	22,242		399	r	0
Pennsylvania	174,158		119,344		17,590	r	3,187			0		6,179	r	1,815		25,737		305	r	0
Rhode Island	26,849	r	25,384	r	0		0			0		0		0		1,465		0		0
South Carolina	18,818		11,051		1,939	r	1,745	r		118	r	0		80		3,885		0		0
South Dakota	1,183		1,183		0		0			0		0		0		0		0		0
Tennessee	79,311		58,242	r	0		6,804	r		4,026	r	0		884	r	8,365		991		0
Texas	376,426		311,568		2,226		38,190			0		268	r	684	r	23,490		0		0
Utah	61,716		45,324		0		9,285	r		0		1,828	r	0		5,278		0		0
Vermont	3,066		524		0		114			0		0		0		2,428		0		0
Virginia	165,570		105,188		510		12,587	r		2,303	r	33		0		44,420	r	531		0
Washington	183,105		155,807		4,409		4,600			719		348		0		17,081		140	r	0
West Virginia	18,631	r	17,005	r	0		0			0		0		0		1,626		0		0
Wisconsin	66,519		50,423		2,497		1,639			428		996	r	801		9,392		343	r	0
Wyoming	6,830		4,173		0		0			0		0		0		2,404		253		0
Undistributed	25,330		21,576		0		209			2,981		0		0		565		0		0

r = relative standard error > 50%.

Note(s):
Detail may not add to total because of rounding. A company with establishments in multiple states is counted only in the state where the survey was addressed. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):
National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 15. Domestic R&D employees, by selected industry and company size, for companies with 1–9 employees: 2023

(Number)

Industry	NAICS code	All companies	1–4 employees	5–9 employees
All selected industries	31–33, 42, 51, 5413, 5415, 5417	40,836	18,410	22,426
Manufacturing industries	31–33	4,302	1,565	2,737
Food, beverage, and tobacco products	311–12	47	3	44
Textile, apparel, and leather products	313–16	77	2	75
Wood products	321	70	53	16
Paper	322	0	0	0
Printing and related support activities	323	2	2	0
Petroleum and coal products	324	0	0	0
Chemicals	325	1,069	305	764
Pharmaceuticals and medicines	3254	287	66	221
Chemicals, excluding pharmaceuticals	other 325	782	239	543
Plastics and rubber products	326	203	6	197
Nonmetallic mineral products	327	42	34	8
Primary metals	331	13	7	6
Fabricated metal products	332	78	0	78
Machinery	333	386	108	277
Computer and electronic products	334	1,671	714	957
Semiconductor and other electronic components	3344	463	265	198
Navigational, measuring, electromedical, and control instruments	3345	962	365	597
Other computer and electronic products	other 334	245	84	161
Electrical equipment, appliances, and components	335	170	77	93
Transportation equipment	336	80	35	46
Aerospace products and parts	3364	46	35	12
Other transportation equipment	other 336	34	0	34
Furniture and related products	337	3	0	3
Miscellaneous manufacturing	339	392	219	172
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	36,535	16,845	19,690
Wholesale trade	42	1,621	598	1,023
Information	51	6,895	2,453	4,442
Software publishers	5112	5,790	1,998	3,792
Information, excluding software publishers	51 less 5112	1,105	455	650
Architectural, engineering, and related services	5413	4,699	2,436	2,263
Computer systems design and related services	5415	13,204	6,647	6,557
Scientific research and development services	5417	10,115	4,711	5,404
Research and development in nanotechnology	541713	613	314	299
Research and development in biotechnology (except nanobiotechnology)	541714	3,398	1,643	1,755
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	6,002	2,720	3,282
Social sciences and humanities research and development	541720	101	33	69

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):

Detail may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Detail across columns have been adjusted to add to total. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 16. Domestic R&D employees, by selected industry and sex, for companies with 1–9 employees: 2023

(Number)

Industry	NAICS code	Total	Male	Female
All selected industries	31–33, 42, 51, 5413, 5415, 5417	40,836	32,111	8,726
Manufacturing industries	31–33	4,302	3,463	839
Food, beverage, and tobacco products	311–12	47	28	19
Textile, apparel, and leather products	313–16	77	2	75
Wood products	321	70	70	0
Paper	322	0	0	0
Printing and related support activities	323	2	2	0
Petroleum and coal products	324	0	0	0
Chemicals	325	1,069	745	324
Pharmaceuticals and medicines	3254	287	172	115
Chemicals, excluding pharmaceuticals	other 325	782	574	209
Plastics and rubber products	326	203	174	30
Nonmetallic mineral products	327	42	42	0
Primary metals	331	13	13	0
Fabricated metal products	332	78	66	12
Machinery	333	386	344	41
Computer and electronic products	334	1,671	1,424	246
Semiconductor and other electronic components	3344	463	404	60
Navigational, measuring, electromedical, and control instruments	3345	962	807	155
Other computer and electronic products	other 334	245	214	31
Electrical equipment, appliances, and components	335	170	154	16
Transportation equipment	336	80	75	5
Aerospace products and parts	3364	46	43	4
Other transportation equipment	other 336	34	32	2
Furniture and related products	337	3	3	0
Miscellaneous manufacturing	339	392	321	71
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	36,535	28,648	7,886
Wholesale trade	42	1,621	1,259	363
Information	51	6,895	5,888	1,007
Software publishers	5112	5,790	4,903	887
Information, excluding software publishers	51 less 5112	1,105	985	120
Architectural, engineering, and related services	5413	4,699	3,821	878
Computer systems design and related services	5415	13,204	10,735	2,469
Scientific research and development services	5417	10,115	6,945	3,170
Research and development in nanotechnology	541713	613	503	110
Research and development in biotechnology (except nanobiotechnology)	541714	3,398	2,112	1,285
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	6,002	4,286	1,716
Social sciences and humanities research and development	541720	101	44	58

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):

Detail across rows may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Detail across columns have been adjusted to add to total. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 17. Domestic R&D employees, by selected industry and R&D work activity, for companies with 1–9 employees: 2023

(Number)

Industry	NAICS code	All R&D employees	Researchers (including R&D scientists, engineers, and their managers)	R&D technicians and equivalent staff	R&D support staff (clerical and other)
All selected industries	31–33, 42, 51, 5413, 5415, 5417	40,836	28,934	9,073	2,829
Manufacturing industries	31–33	4,302	3,008	1,044	250
Food, beverage, and tobacco products	311–12	47	30	8 r	8 r
Textile, apparel, and leather products	313–16	77 r	0	39 r	37 r
Wood products	321	70 r	0	70 r	0
Paper	322	0	0	0	0
Printing and related support activities	323	2	2	0	0
Petroleum and coal products	324	0	0	0	0
Chemicals	325	1,069	883	121	66
Pharmaceuticals and medicines	3254	287	215	42	29
Chemicals, excluding pharmaceuticals	other 325	782	667 r	78	37
Plastics and rubber products	326	203 r	152 r	51 r	0
Nonmetallic mineral products	327	42	21	10 r	10 r
Primary metals	331	13	12	2	0
Fabricated metal products	332	78 r	25	48 r	4
Machinery	333	386	261	115	10
Computer and electronic products	334	1,671	1,275	326	70
Semiconductor and other electronic components	3344	463	334	94	35 r
Navigational, measuring, electromedical, and control instruments	3345	962	765	170	27
Other computer and electronic products	other 334	245	176	62	7 r
Electrical equipment, appliances, and components	335	170	109	43	18
Transportation equipment	336	80	37	31	12 r
Aerospace products and parts	3364	46	31	9 r	6 r
Other transportation equipment	other 336	34	6	21	6 r
Furniture and related products	337	3	2	2	0
Miscellaneous manufacturing	339	392	199	178	14
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	36,535	25,926	8,029	2,580
Wholesale trade	42	1,621	1,145	221	255 r
Information	51	6,895	5,332	1,300	263
Software publishers	5112	5,790	4,614	1,014	162
Information, excluding software publishers	51 less 5112	1,105	718	286	101
Architectural, engineering, and related services	5413	4,699	3,627	777	295
Computer systems design and related services	5415	13,204	8,190	3,936	1,079
Scientific research and development services	5417	10,115	7,632	1,795	688
Research and development in nanotechnology	541713	613	489	106	18
Research and development in biotechnology (except nanobiotechnology)	541714	3,398	2,637	550	211
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	6,002	4,439	1,127	436
Social sciences and humanities research and development	541720	101	67	12 r	23 r

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):

Detail across rows may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Detail across columns have been adjusted to add to total. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 18. Domestic R&D researchers with PhDs, by selected industry, for companies with 1–9 employees: 2023

(Number)

Industry	NAICS code	All researchers (including R&D scientists, engineers, and their managers)	Researchers with PhD (excluding MD, JD, and EdD)
All selected industries	31–33, 42, 51, 5413, 5415, 5417	28,934	7,895
Manufacturing industries	31–33	3,008	934
Food, beverage, and tobacco products	311–12	30	9
Textile, apparel, and leather products	313–16	0	0
Wood products	321	0	0
Paper	322	0	0
Printing and related support activities	323	2	0
Petroleum and coal products	324	0	0
Chemicals	325	883	389
Pharmaceuticals and medicines	3254	215	111
Chemicals, excluding pharmaceuticals	other 325	667	279
Plastics and rubber products	326	152	3
Nonmetallic mineral products	327	21	0
Primary metals	331	12	3
Fabricated metal products	332	25	16
Machinery	333	261	71
Computer and electronic products	334	1,275	344
Semiconductor and other electronic components	3344	334	158
Navigational, measuring, electromedical, and control instruments	3345	765	173
Other computer and electronic products	other 334	176	13
Electrical equipment, appliances, and components	335	109	8
Transportation equipment	336	37	8
Aerospace products and parts	3364	31	8
Other transportation equipment	other 336	6	0
Furniture and related products	337	2	0
Miscellaneous manufacturing	339	199	84
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	25,926	6,961
Wholesale trade	42	1,145	193
Information	51	5,332	609
Software publishers	5112	4,614	548
Information, excluding software publishers	51 less 5112	718	61
Architectural, engineering, and related services	5413	3,627	888
Computer systems design and related services	5415	8,190	965
Scientific research and development services	5417	7,632	4,305
Research and development in nanotechnology	541713	489	314
Research and development in biotechnology (except nanobiotechnology)	541714	2,637	1,716
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	4,439	2,251
Social sciences and humanities research and development	541720	67	24

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):

Detail may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 19. Domestic full-time equivalent R&D employees and researchers, by selected industry and work activity, for companies with 1–9 employees: 2023

(Number)

Industry	NAICS code	R&D employees: full-time equivalent		Researchers: full-time equivalent	
All selected industries	31–33, 42, 51, 5413, 5415, 5417	32,940		22,345	
Manufacturing industries	31–33	3,359		2,223	
Food, beverage, and tobacco products	311–12	41	r	24	
Textile, apparel, and leather products	313–16	20	r	0	
Wood products	321	43	r	0	
Paper	322	0		0	
Printing and related support activities	323	2		2	
Petroleum and coal products	324	0		0	
Chemicals	325	914		695	r
Pharmaceuticals and medicines	3254	233		130	
Chemicals, excluding pharmaceuticals	other 325	681	r	566	r
Plastics and rubber products	326	195	r	146	r
Nonmetallic mineral products	327	33	r	5	
Primary metals	331	12		5	
Fabricated metal products	332	72	r	25	
Machinery	333	242		152	
Computer and electronic products	334	1,279		931	
Semiconductor and other electronic components	3344	384		256	
Navigational, measuring, electromedical, and control instruments	3345	725		562	
Other computer and electronic products	other 334	170		113	
Electrical equipment, appliances, and components	335	143		68	
Transportation equipment	336	43		27	
Aerospace products and parts	3364	27		23	
Other transportation equipment	other 336	16		4	
Furniture and related products	337	0		0	
Miscellaneous manufacturing	339	321		142	
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	29,581		20,122	
Wholesale trade	42	1,192		762	
Information	51	6,003		4,370	
Software publishers	5112	5,036		3,808	
Information, excluding software publishers	51 less 5112	967		562	
Architectural, engineering, and related services	5413	3,473		2,496	
Computer systems design and related services	5415	10,531		6,167	
Scientific research and development services	5417	8,381		6,327	
Research and development in nanotechnology	541713	461		362	
Research and development in biotechnology (except nanobiotechnology)	541714	2,938		2,280	
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	4,910		3,626	
Social sciences and humanities research and development	541720	73		58	

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):

Detail may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 20. Tax credit for research activities, by industry, for companies with R&D expenditures and 1–9 employees: 2023

(Percent)

Industry	NAICS code	Total (number)	Yes, filed Form 6765 in 2023	No, did not file Form 6765 in 2023
All selected industries	31–33, 42, 51, 5413, 5415, 5417	18,579	18.8	81.2
Manufacturing industries	31–33	2,085	17.7	82.3
Food, beverage, and tobacco products	311–12	30	40.0 r	60.0 r
Textile, apparel, and leather products	313–16	40	5.0 r	92.5 r
Wood products	321	56	0.0 r	100.0
Paper	322	0	0.0	0.0
Printing and related support activities	323	1	0.0 r	100.0
Petroleum and coal products	324	0	0.0	0.0
Chemicals	325	383	33.7 r	66.3
Pharmaceuticals and medicines	3254	141	24.1 r	75.9
Chemicals, excluding pharmaceuticals	other 325	242	39.3 r	60.7
Plastics and rubber products	326	94	2.1 r	97.9
Nonmetallic mineral products	327	24	0.0	100.0
Primary metals	331	9	33.3 r	66.7
Fabricated metal products	332	29	0.0	100.0
Machinery	333	197	25.9 r	74.1
Computer and electronic products	334	855	15.2 r	84.8
Semiconductor and other electronic components	3344	232	24.6 r	75.4
Navigational, measuring, electromedical, and control instruments	3345	521	10.4	89.6
Other computer and electronic products	other 334	103	18.4 r	80.6
Electrical equipment, appliances, and components	335	99	12.1	87.9
Transportation equipment	336	42	14.3 r	85.7
Aerospace products and parts	3364	19	10.5	94.7
Other transportation equipment	other 336	23	17.4 r	78.3
Furniture and related products	337	3	0.0	100.0
Miscellaneous manufacturing	339	223	9.9	90.6
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	16,493	19.0	81.0
Wholesale trade	42	1,077	14.8 r	85.1
Information	51	2,822	36.4	63.6
Software publishers	5112	2,199	43.4	56.6
Information, excluding software publishers	51 less 5112	623	11.9	88.1
Architectural, engineering, and related services	5413	2,373	13.2	86.8
Computer systems design and related services	5415	6,529	11.3	88.7
Scientific research and development services	5417	3,693	24.0	76.0
Research and development in nanotechnology	541713	224	21.0	79.0
Research and development in biotechnology (except nanobiotechnology)	541714	1,246	25.4	74.7
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	2,185	23.8	76.2
Social sciences and humanities research and development	541720	39	10.3 r	87.2

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):

Detail across rows may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Detail across columns have been adjusted to add to total. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D..

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 21. Domestic employees, by selected industry and company size, for R&D-active companies with 1–9 employees: 2023

(Number)

Industry	NAICS code	All companies	1–4 employees	5–9 employees
All selected industries	31–33, 42, 51, 5413, 5415, 5417	71,050	26,364	44,686
Manufacturing industries	31–33	9,676	2,944	6,732
Food, beverage, and tobacco products	311–12	133	34	98
Textile, apparel, and leather products	313–16	266	4	262
Wood products	321	129	106	23
Paper	322	0	0	0
Printing and related support activities	323	2	2	0
Petroleum and coal products	324	0	0	0
Chemicals	325	1,831	668	1,163
Pharmaceuticals and medicines	3254	550	199	350
Chemicals, excluding pharmaceuticals	other 325	1,282	469	813
Plastics and rubber products	326	644	9	635
Nonmetallic mineral products	327	105	37	68
Primary metals	331	43	7	36
Fabricated metal products	332	146	4	142
Machinery	333	1,142	187	955
Computer and electronic products	334	3,696	1,269	2,426
Semiconductor and other electronic components	3344	774	323	450
Navigational, measuring, electromedical, and control instruments	3345	2,331	809	1,522
Other computer and electronic products	other 334	591	137	454
Electrical equipment, appliances, and components	335	397	159	238
Transportation equipment	336	231	50	182
Aerospace products and parts	3364	84	38	45
Other transportation equipment	other 336	148	11	136
Furniture and related products	337	18	0	18
Miscellaneous manufacturing	339	895	408	487
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	61,374	23,421	37,953
Wholesale trade	42	5,284	1,229	4,055
Information	51	11,273	3,822	7,451
Software publishers	5112	9,063	2,843	6,220
Information, excluding software publishers	51 less 5112	2,210	979	1,231
Architectural, engineering, and related services	5413	7,881	3,461	4,421
Computer systems design and related services	5415	23,342	8,943	14,398
Scientific research and development services	5417	13,594	5,966	7,628
Research and development in nanotechnology	541713	838	372	466
Research and development in biotechnology (except nanobiotechnology)	541714	4,586	2,137	2,449
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	8,047	3,406	4,641
Social sciences and humanities research and development	541720	122	50	72

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):

Detail across rows may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Detail across columns have been adjusted to add to total. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 22. Product innovating companies, by industry: 2021–23

(Number and percent)

Industry	NAICS code	Companies (number)	Product innovation			
			Number		Percent	
			Yes	No	Yes	No
All industries	11, 21–23, 31–33, 42–81	5,033,879	575,463	4,458,416	11.4	88.6
Manufacturing industries	31–33	207,352	36,058	171,294	17.4	82.6
Food	311	18,929	3,862	15,067	20.4	79.6
Beverage and tobacco products	312	9,236	2,094	7,141	22.7	77.3
Textile, apparel, and leather products	313–16	9,223	1,292	7,931	14.0	86.0
Wood products	321	9,572	1,103	8,469	11.5	88.5
Paper	322	2,042	303	1,739	14.8	85.2
Printing and related support activities	323	18,767	2,457	16,310	13.1	86.9
Petroleum and coal products	324	222	37	185	16.7	83.3
Chemicals	325	7,878	2,265	5,613	28.8	71.2
Pesticide, fertilizer, and other agricultural chemicals	3253	499	92	407	18.4	81.6
Pharmaceuticals and medicines	3254	1,702	554	1,147	32.5	67.4
Soap, cleaning compound, and toilet preparation	3256	1,817	661	1,156	36.4	63.6
Other chemicals	other 325	3,860	958	2,902	24.8	75.2
Plastics and rubber products	326	6,787	1,607	5,181	23.7	76.3
Nonmetallic mineral products	327	7,659	924	6,735	12.1	87.9
Primary metals	331	1,933	182	1,751	9.4	90.6
Fabricated metal products	332	47,168	5,167	42,001	11.0	89.0
Machinery	333	17,417	3,771	13,646	21.7	78.3
Computer and electronic products	334	8,108	2,985	5,123	36.8	63.2
Communications equipment	3342	973	425	548	43.7	56.3
Semiconductor and other electronic components	3344	2,583	661	1,922	25.6	74.4
Navigational, measuring, electromedical, and control instruments	3345	3,674	1,558	2,115	42.4	57.6
Other computer and electronic products	other 334	878	340	538	38.7	61.3
Electrical equipment, appliances, and components	335	4,012	1,047	2,965	26.1	73.9
Transportation equipment	336	7,200	1,798	5,403	25.0	75.0
Automobiles, bodies, trailers, and parts	3361–63	4,517	1,020	3,497	22.6	77.4
Aerospace products and parts	3364	907	180	727	19.8	80.2
Other transportation	other 336	1,776	598	1,179	33.7	66.4
Furniture and related products	337	11,432	1,248	10,185	10.9	89.1
Miscellaneous	339	19,766	3,916	15,850	19.8	80.2
Medical equipment and supplies	3391	7,071	1,328	5,743	18.8	81.2
Other miscellaneous manufacturing	3399	12,695	2,588	10,107	20.4	79.6
Nonmanufacturing industries	11, 21–23, 42–81	4,826,527	539,405	4,287,121	11.2	88.8
Agriculture, forestry, fishing, and hunting	11	18,408	706	17,703	3.8	96.2
Mining, extraction, and support activities	21	14,212	704	13,508	5.0	95.0
Utilities	22	3,367	283	3,084	8.4	91.6
Construction	23	697,532	44,894	652,638	6.4	93.6
Wholesale trade	42	236,689	39,161	197,528	16.5	83.5
Retail trade	44–45	542,047	78,596	463,451	14.5	85.5
Transportation and warehousing	48–49	184,207	11,850	172,356	6.4	93.6
Information	51	67,109	16,471	50,638	24.5	75.5
Publishing	511	19,008	6,724	12,283	35.4	64.6
Newspaper, periodical, book, and directory publishers	5111	8,557	1,365	7,192	16.0	84.0
Software publishers	5112	10,451	5,360	5,091	51.3	48.7
Telecommunications	517	6,886	1,511	5,375	21.9	78.1
Data processing, hosting, and related services	518	8,312	2,694	5,618	32.4	67.6
Other information	other 51	32,903	5,541	27,362	16.8	83.2
Finance and insurance	52	195,489	15,244	180,245	7.8	92.2

Table 22. Product innovating companies, by industry: 2021–23

(Number and percent)

Industry	NAICS code	Companies (number)	Product innovation			
			Number		Percent	
			Yes	No	Yes	No
Real estate and rental and leasing	53	282,087	15,045	267,042	5.3	94.7
Lessors of nonfinancial intangible assets (except copyrighted works)	533	1,783	146 r	1,637	8.2 r	91.8
Other real estate and rental and leasing	other 53	280,304	14,899	265,405	5.3	94.7
Professional, scientific, and technical services	54	730,285	98,265	632,020	13.5	86.5
Legal services	5411	153,500	6,382	147,118	4.2	95.8
Accounting, tax preparation, bookkeeping, and payroll services	5412	108,031	6,819	101,212	6.3	93.7
Architectural, engineering, and related services	5413	88,454	12,052	76,402	13.6	86.4
Specialized design services	5414	28,137	4,383	23,755	15.6	84.4
Computer systems design and related services	5415	99,385	25,038	74,348	25.2	74.8
Management, scientific, and technical consulting services	5416	156,771	26,657	130,114	17.0	83.0
Scientific research and development services	5417	11,544	2,830	8,715	24.5	75.5
Advertising, public relations, and related services	5418	27,216	3,702	23,514	13.6	86.4
Other professional, scientific, and technical services	5419	57,246	10,403	46,843	18.2	81.8
Management of companies and enterprises	55	2,682	263	2,419	9.8	90.2
Administrative and support and waste management and remediation services	56	305,400	27,520	277,879	9.0	91.0
Educational services	61	61,684	11,993	49,691	19.4	80.6
Health care and social assistance	62	549,826	66,653	483,173	12.1	87.9
Health care services	621–23	482,098	58,080	424,018	12.0	88.0
Social assistance	624	67,728	8,573	59,155	12.7	87.3
Arts, entertainment, and recreation	71	97,837	14,289	83,548	14.6	85.4
Accommodation and food services	72	492,801	59,453	433,348	12.1	87.9
Other services	81	344,866	38,016	306,850	11.0	89.0

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):

Detail across rows may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Detail across columns have been adjusted to add to total. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 23. Product innovating companies, by company size: 2021–23

(Number and percent)

Company size (number of employees)	Companies (number)	Product innovation			
		Number		Percent	
		Yes	No	Yes	No
All companies	5,033,879	575,463	4,458,416	11.4	88.6
Micro companies					
1–4	2,859,754	296,787	2,562,967	10.4	89.6
5–9	941,906	122,594	819,312	13.0	87.0
Small companies					
10–19	601,238	77,538	523,700	12.9	87.1
20–49	409,021	50,794	358,226	12.4	87.6
Medium companies					
50–99	120,787	14,000	106,787	11.6	88.4
100–249	67,846	8,456	59,390	12.5	87.5
Large companies					
250–499	18,154	2,436	15,718	13.4	86.6
500–999	7,356	1,168	6,187	15.9	84.1
1,000–4,999	5,942	1,140	4,802	19.2	80.8
5,000–9,999	922	259	662	28.1	71.8
10,000–24,999	594	188	406	31.6	68.4
25,000 or more	360	103	257	28.6	71.4

r = relative standard error > 50%.

Note(s):

Detail across rows may not add to total because of rounding. Detail across columns have been adjusted to add to total. Statistics are representative of companies located in the United States.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 24. Business process innovating companies, by industry: 2021–23

(Number and percent)

Industry	NAICS code	Companies (number)	Business process innovation			
			Number		Percent	
			Yes	No	Yes	No
All industries	11, 21–23, 31–33, 42–81	5,033,879	993,214	4,040,665	19.7	80.3
Manufacturing industries	31–33	207,352	54,071	153,282	26.1	73.9
Food	311	18,929	5,547	13,382	29.3	70.7
Beverage and tobacco products	312	9,236	2,679	6,557	29.0	71.0
Textile, apparel, and leather products	313–16	9,223	2,093	7,130	22.7	77.3
Wood products	321	9,572	1,865	7,707	19.5	80.5
Paper	322	2,042	497	1,545	24.3	75.7
Printing and related support activities	323	18,767	4,112	14,655	21.9	78.1
Petroleum and coal products	324	222	39	182	17.6	82.0
Chemicals	325	7,878	2,799	5,079	35.5	64.5
Pesticide, fertilizer, and other agricultural chemicals	3253	499	126	373	25.3	74.7
Pharmaceuticals and medicines	3254	1,702	685	1,017	40.2	59.8
Soap, cleaning compound, and toilet preparation	3256	1,817	682	1,135	37.5	62.5
Other chemicals	other 325	3,860	1,306	2,554	33.8	66.2
Plastics and rubber products	326	6,787	2,251	4,537	33.2	66.8
Nonmetallic mineral products	327	7,659	1,470	6,189	19.2	80.8
Primary metals	331	1,933	453	1,480	23.4	76.6
Fabricated metal products	332	47,168	10,915	36,253	23.1	76.9
Machinery	333	17,417	5,319	12,097	30.5	69.5
Computer and electronic products	334	8,108	2,963	5,145	36.5	63.5
Communications equipment	3342	973	352	621	36.2	63.8
Semiconductor and other electronic components	3344	2,583	806	1,777	31.2	68.8
Navigational, measuring, electromedical, and control instruments	3345	3,674	1,520	2,153	41.4	58.6
Other computer and electronic products	other 334	878	284	594	32.3	67.7
Electrical equipment, appliances, and components	335	4,012	1,307	2,705	32.6	67.4
Transportation equipment	336	7,200	2,181	5,019	30.3	69.7
Automobiles, bodies, trailers, and parts	3361–63	4,517	1,429	3,088	31.6	68.4
Aerospace products and parts	3364	907	251	656	27.7	72.3
Other transportation	other 336	1,776	501	1,275	28.2	71.8
Furniture and related products	337	11,432	2,663	8,769	23.3	76.7
Miscellaneous	339	19,766	4,918	14,847	24.9	75.1
Medical equipment and supplies	3391	7,071	1,791	5,280	25.3	74.7
Other miscellaneous manufacturing	3399	12,695	3,128	9,567	24.6	75.4
Nonmanufacturing industries	11, 21–23, 42–81	4,826,527	939,143	3,887,383	19.5	80.5
Agriculture, forestry, fishing, and hunting	11	18,408	1,938	16,470	10.5	89.5
Mining, extraction, and support activities	21	14,212	1,387	12,825	9.8	90.2
Utilities	22	3,367	770	2,596	22.9	77.1
Construction	23	697,532	99,286	598,246	14.2	85.8
Wholesale trade	42	236,689	57,041	179,647	24.1	75.9
Retail trade	44–45	542,047	109,208	432,839	20.1	79.9
Transportation and warehousing	48–49	184,207	44,006	140,201	23.9	76.1
Information	51	67,109	20,764	46,344	30.9	69.1
Publishing	511	19,008	7,671	11,337	40.4	59.6
Newspaper, periodical, book, and directory publishers	5111	8,557	2,062	6,495	24.1	75.9
Software publishers	5112	10,451	5,609	4,842	53.7	46.3
Telecommunications	517	6,886	2,384	4,502	34.6	65.4
Data processing, hosting, and related services	518	8,312	3,635	4,677	43.7	56.3
Other information	other 51	32,903	7,074	25,828	21.5	78.5
Finance and insurance	52	195,489	33,581	161,908	17.2	82.8

Table 24. Business process innovating companies, by industry: 2021–23

(Number and percent)

Industry	NAICS code	Companies (number)	Business process innovation			
			Number		Percent	
			Yes	No	Yes	No
Real estate and rental and leasing	53	282,087	40,341	241,746	14.3	85.7
Lessors of nonfinancial intangible assets (except copyrighted works)	533	1,783	519	1,264	29.1	70.9
Other real estate and rental and leasing	other 53	280,304	39,822	240,482	14.2	85.8
Professional, scientific, and technical services	54	730,285	175,487	554,798	24.0	76.0
Legal services	5411	153,500	21,854	131,646	14.2	85.8
Accounting, tax preparation, bookkeeping, and payroll services	5412	108,031	20,315	87,715	18.8	81.2
Architectural, engineering, and related services	5413	88,454	20,849	67,605	23.6	76.4
Specialized design services	5414	28,137	7,090	21,048	25.2	74.8
Computer systems design and related services	5415	99,385	36,844	62,541	37.1	62.9
Management, scientific, and technical consulting services	5416	156,771	43,859	112,912	28.0	72.0
Scientific research and development services	5417	11,544	3,899	7,645	33.8	66.2
Advertising, public relations, and related services	5418	27,216	7,058	20,158	25.9	74.1
Other professional, scientific, and technical services	5419	57,246	13,718	43,528	24.0	76.0
Management of companies and enterprises	55	2,682	481	2,201	17.9	82.1
Administrative and support and waste management and remediation services	56	305,400	53,210	252,189	17.4	82.6
Educational services	61	61,684	15,684	46,000	25.4	74.6
Health care and social assistance	62	549,826	107,402	442,424	19.5	80.5
Health care services	621–23	482,098	92,470	389,628	19.2	80.8
Social assistance	624	67,728	14,932	52,796	22.0	78.0
Arts, entertainment, and recreation	71	97,837	16,429	81,408	16.8	83.2
Accommodation and food services	72	492,801	102,437	390,364	20.8	79.2
Other services	81	344,866	59,690	285,175	17.3	82.7

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):

Detail across rows may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Detail across columns have been adjusted to add to total. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 25. Business process innovating companies, by company size: 2021–23

(Number and percent)

Company size (number of employees)	Companies (number)	Business process innovation			
		Number		Percent	
		Yes	No	Yes	No
All companies	5,033,879	993,214	4,040,665	19.7	80.3
Micro companies					
1–4	2,859,754	488,745	2,371,009	17.1	82.9
5–9	941,906	204,933	736,973	21.8	78.2
Small companies					
10–19	601,238	139,934	461,304	23.3	76.7
20–49	409,021	100,518	308,502	24.6	75.4
Medium companies					
50–99	120,787	30,116	90,671	24.9	75.1
100–249	67,846	19,089	48,757	28.1	71.9
Large companies					
250–499	18,154	5,074	13,080	27.9	72.1
500–999	7,356	2,119	5,237	28.8	71.2
1,000–4,999	5,942	1,902	4,040	32.0	68.0
5,000–9,999	922	351	571	38.1	61.9
10,000–24,999	594	270	323	45.5	54.4
25,000 or more	360	162	198	45.0	55.0

r = relative standard error > 50%.

Note(s):

Detail across rows may not add to total because of rounding. Detail across columns have been adjusted to add to total. Statistics are representative of companies located in the United States.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 26. Companies with new-to-market product innovation, by industry: 2021–23

(Number and percent)

Industry	NAICS code	Companies (number)	Product innovation new to market			
			Number		Percent	
			Yes	No	Yes	No
All industries	11, 21–23, 31–33, 42–81	5,033,879	230,095	4,803,784	4.6	95.4
Manufacturing industries	31–33	207,352	17,965	189,387	8.7	91.3
Food	311	18,929	1,835	17,094	9.7	90.3
Beverage and tobacco products	312	9,236	981	8,255	10.6	89.4
Textile, apparel, and leather products	313–16	9,223	737	8,486	8.0	92.0
Wood products	321	9,572	637	8,935	6.7	93.3
Paper	322	2,042	40	2,002	2.0	98.0
Printing and related support activities	323	18,767	628	18,139	3.3	96.7
Petroleum and coal products	324	222	8	213	3.6	95.9
Chemicals	325	7,878	1,330	6,548	16.9	83.1
Pesticide, fertilizer, and other agricultural chemicals	3253	499	50	450	10.0	90.2
Pharmaceuticals and medicines	3254	1,702	389	1,312	22.9	77.1
Soap, cleaning compound, and toilet preparation	3256	1,817	378	1,439	20.8	79.2
Other chemicals	other 325	3,860	513	3,347	13.3	86.7
Plastics and rubber products	326	6,787	865	5,923	12.7	87.3
Nonmetallic mineral products	327	7,659	454	7,205	5.9	94.1
Primary metals	331	1,933	107	1,825	5.5	94.4
Fabricated metal products	332	47,168	2,320	44,848	4.9	95.1
Machinery	333	17,417	1,976	15,441	11.3	88.7
Computer and electronic products	334	8,108	1,852	6,256	22.8	77.2
Communications equipment	3342	973	247	726	25.4	74.6
Semiconductor and other electronic components	3344	2,583	351	2,232	13.6	86.4
Navigational, measuring, electromedical, and control instruments	3345	3,674	1,068	2,605	29.1	70.9
Other computer and electronic products	other 334	878	186	692	21.2	78.8
Electrical equipment, appliances, and components	335	4,012	586	3,427	14.6	85.4
Transportation equipment	336	7,200	1,031	6,169	14.3	85.7
Automobiles, bodies, trailers, and parts	3361–63	4,517	578	3,939	12.8	87.2
Aerospace products and parts	3364	907	89	818	9.8	90.2
Other transportation	other 336	1,776	364	1,413	20.5	79.6
Furniture and related products	337	11,432	483	10,949	4.2	95.8
Miscellaneous	339	19,766	2,095	17,671	10.6	89.4
Medical equipment and supplies	3391	7,071	561	6,510	7.9	92.1
Other miscellaneous manufacturing	3399	12,695	1,534	11,161	12.1	87.9
Nonmanufacturing industries	11, 21–23, 42–81	4,826,527	212,130	4,614,397	4.4	95.6
Agriculture, forestry, fishing, and hunting	11	18,408	226	18,183	1.2	98.8
Mining, extraction, and support activities	21	14,212	265	13,947	1.9	98.1
Utilities	22	3,367	143	3,223	4.2	95.7
Construction	23	697,532	14,078	683,454	2.0	98.0
Wholesale trade	42	236,689	18,589	218,100	7.9	92.1
Retail trade	44–45	542,047	35,793	506,254	6.6	93.4
Transportation and warehousing	48–49	184,207	3,872	180,334	2.1	97.9
Information	51	67,109	8,914	58,195	13.3	86.7
Publishing	511	19,008	4,421	14,587	23.3	76.7
Newspaper, periodical, book, and directory publishers	5111	8,557	557	8,000	6.5	93.5
Software publishers	5112	10,451	3,864	6,587	37.0	63.0
Telecommunications	517	6,886	752	6,134	10.9	89.1
Data processing, hosting, and related services	518	8,312	1,584	6,728	19.1	80.9
Other information	other 51	32,903	2,157	30,745	6.6	93.4
Finance and insurance	52	195,489	5,405	190,084	2.8	97.2

Table 26. Companies with new-to-market product innovation, by industry: 2021–23

(Number and percent)

Industry	NAICS code	Companies (number)	Product innovation new to market			
			Number		Percent	
			Yes	No	Yes	No
Real estate and rental and leasing	53	282,087	5,087	277,000	1.8	98.2
Lessors of nonfinancial intangible assets (except copyrighted works)	533	1,783	113 r	1,670	6.3 r	93.7
Other real estate and rental and leasing	other 53	280,304	4,974	275,330	1.8	98.2
Professional, scientific, and technical services	54	730,285	38,671	691,614	5.3	94.7
Legal services	5411	153,500	1,663	151,837	1.1	98.9
Accounting, tax preparation, bookkeeping, and payroll services	5412	108,031	1,503	106,528	1.4	98.6
Architectural, engineering, and related services	5413	88,454	4,998	83,456	5.7	94.3
Specialized design services	5414	28,137	1,364	26,773	4.8	95.2
Computer systems design and related services	5415	99,385	11,141	88,244	11.2	88.8
Management, scientific, and technical consulting services	5416	156,771	11,470	145,301	7.3	92.7
Scientific research and development services	5417	11,544	2,018	9,526	17.5	82.5
Advertising, public relations, and related services	5418	27,216	1,052	26,164	3.9	96.1
Other professional, scientific, and technical services	5419	57,246	3,461	53,785	6.0	94.0
Management of companies and enterprises	55	2,682	136 r	2,545	5.1 r	94.9
Administrative and support and waste management and remediation services	56	305,400	9,358	296,041	3.1	96.9
Educational services	61	61,684	5,486	56,198	8.9	91.1
Health care and social assistance	62	549,826	22,046	527,780	4.0	96.0
Health care services	621–23	482,098	19,452	462,646	4.0	96.0
Social assistance	624	67,728	2,594	65,134	3.8	96.2
Arts, entertainment, and recreation	71	97,837	6,329	91,508	6.5	93.5
Accommodation and food services	72	492,801	24,521 i	468,280	5.0	95.0
Other services	81	344,866	13,210	331,656	3.8	96.2

i = > 50% of the estimate is a combination of imputation and reweighting to account for nonresponse; r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):

Detail across rows may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Detail across columns have been adjusted to add to total. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 27. Companies with new-to-market product innovation, by company size: 2021–23

(Number and percent)

Company size (number of employees)	Companies (number)	Product innovation new to market			
		Number		Percent	
		Yes	No	Yes	No
All companies	5,033,879	230,095	4,803,784	4.6	95.4
Micro companies					
1–4	2,859,754	117,861	2,741,893	4.1	95.9
5–9	941,906	50,421	891,485	5.4	94.6
Small companies					
10–19	601,238	31,326	569,912	5.2	94.8
20–49	409,021	19,827	389,193	4.8	95.2
Medium companies					
50–99	120,787	5,897	114,890	4.9	95.1
100–249	67,846	2,776	65,070	4.1	95.9
Large companies					
250–499	18,154	785	17,369	4.3	95.7
500–999	7,356	418	6,938	5.7	94.3
1,000–4,999	5,942	514	5,428	8.7	91.3
5,000–9,999	922	109	813	11.8	88.2
10,000–24,999	594	103	490	17.3	82.5
25,000 or more	360	59	301	16.4	83.6

r = relative standard error > 50%.

Note(s):

Detail across rows may not add to total because of rounding. Detail across columns have been adjusted to add to total. Statistics are representative of companies located in the United States.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 28. Companies with new-to-the-business product innovation, by industry: 2021–23

(Number and percent)

Industry	NAICS code	Companies (number)	Product innovation only new to the business			
			Number		Percent	
			Yes	No	Yes	No
All industries	11, 21–23, 31–33, 42–81	5,033,879	412,007	4,621,872	8.2	91.8
Manufacturing industries	31–33	207,352	23,665	183,687	11.4	88.6
Food	311	18,929	2,681	16,248	14.2	85.8
Beverage and tobacco products	312	9,236	1,400	7,836	15.2	84.8
Textile, apparel, and leather products	313–16	9,223	688	8,535	7.5	92.5
Wood products	321	9,572	648	8,924	6.8	93.2
Paper	322	2,042	273	1,770	13.4	86.7
Printing and related support activities	323	18,767	2,176	16,591	11.6	88.4
Petroleum and coal products	324	222	33	188	14.9	84.7
Chemicals	325	7,878	1,414	6,464	17.9	82.1
Pesticide, fertilizer, and other agricultural chemicals	3253	499	55	444	11.0	89.0
Pharmaceuticals and medicines	3254	1,702	260	1,442	15.3	84.7
Soap, cleaning compound, and toilet preparation	3256	1,817	412	1,405	22.7	77.3
Other chemicals	other 325	3,860	687	3,172	17.8	82.2
Plastics and rubber products	326	6,787	990	5,797	14.6	85.4
Nonmetallic mineral products	327	7,659	627	7,032	8.2	91.8
Primary metals	331	1,933	102	1,831	5.3	94.7
Fabricated metal products	332	47,168	3,550	43,618	7.5	92.5
Machinery	333	17,417	2,337	15,079	13.4	86.6
Computer and electronic products	334	8,108	1,508	6,600	18.6	81.4
Communications equipment	3342	973	220	753	22.6	77.4
Semiconductor and other electronic components	3344	2,583	390	2,193	15.1	84.9
Navigational, measuring, electromedical, and control instruments	3345	3,674	686	2,988	18.7	81.3
Other computer and electronic products	other 334	878	212	667	24.1	76.0
Electrical equipment, appliances, and components	335	4,012	559	3,453	13.9	86.1
Transportation equipment	336	7,200	1,142	6,058	15.9	84.1
Automobiles, bodies, trailers, and parts	3361–63	4,517	674	3,843	14.9	85.1
Aerospace products and parts	3364	907	108	799	11.9	88.1
Other transportation	other 336	1,776	360	1,417	20.3	79.8
Furniture and related products	337	11,432	998	10,435	8.7	91.3
Miscellaneous	339	19,766	2,539	17,227	12.8	87.2
Medical equipment and supplies	3391	7,071	939	6,132	13.3	86.7
Other miscellaneous manufacturing	3399	12,695	1,600	11,094	12.6	87.4
Nonmanufacturing industries	11, 21–23, 42–81	4,826,527	388,341	4,438,185	8.0	92.0
Agriculture, forestry, fishing, and hunting	11	18,408	519	17,889	2.8	97.2
Mining, extraction, and support activities	21	14,212	565	13,647	4.0	96.0
Utilities	22	3,367	170	3,196	5.0	94.9
Construction	23	697,532	34,909	662,623	5.0	95.0
Wholesale trade	42	236,689	25,864	210,824	10.9	89.1
Retail trade	44–45	542,047	53,965	488,082	10.0	90.0
Transportation and warehousing	48–49	184,207	9,096	175,111	4.9	95.1
Information	51	67,109	10,156	56,953	15.1	84.9
Publishing	511	19,008	3,413	15,594	18.0	82.0
Newspaper, periodical, book, and directory publishers	5111	8,557	961	7,596	11.2	88.8
Software publishers	5112	10,451	2,453	7,998	23.5	76.5
Telecommunications	517	6,886	991	5,895	14.4	85.6
Data processing, hosting, and related services	518	8,312	1,803	6,509	21.7	78.3
Other information	other 51	32,903	3,949	28,954	12.0	88.0

Table 28. Companies with new-to-the-business product innovation, by industry: 2021–23

(Number and percent)

Industry	NAICS code	Companies (number)	Product innovation only new to the business					
			Number		Percent			
			Yes	No	Yes	No	Yes	No
Finance and insurance	52	195,489	11,202	184,286	5.7	94.3		
Real estate and rental and leasing	53	282,087	11,624	270,462	4.1	95.9		
Lessors of nonfinancial intangible assets (except copyrighted works)	533	1,783	97	1,686	5.4	94.6		
Other real estate and rental and leasing	other 53	280,304	11,527	268,777	4.1	95.9		
Professional, scientific, and technical services	54	730,285	69,390	660,895	9.5	90.5		
Legal services	5411	153,500	5,045	148,455	3.3	96.7		
Accounting, tax preparation, bookkeeping, and payroll services	5412	108,031	5,508	102,523	5.1	94.9		
Architectural, engineering, and related services	5413	88,454	8,174	80,280	9.2	90.8		
Specialized design services	5414	28,137	3,374	24,763	12.0	88.0		
Computer systems design and related services	5415	99,385	17,612	81,773	17.7	82.3		
Management, scientific, and technical consulting services	5416	156,771	17,437	139,334	11.1	88.9		
Scientific research and development services	5417	11,544	1,167	10,377	10.1	89.9		
Advertising, public relations, and related services	5418	27,216	3,118	24,098	11.5	88.5		
Other professional, scientific, and technical services	5419	57,246	7,955	49,291	13.9	86.1		
Management of companies and enterprises	55	2,682	185	2,497	6.9	93.1		
Administrative and support and waste management and remediation services	56	305,400	20,397	285,003	6.7	93.3		
Educational services	61	61,684	8,275	53,409	13.4	86.6		
Health care and social assistance	62	549,826	50,311	499,515	9.2	90.8		
Health care services	621–23	482,098	43,557	438,541	9.0	91.0		
Social assistance	624	67,728	6,754	60,974	10.0	90.0		
Arts, entertainment, and recreation	71	97,837	8,982	88,855	9.2	90.8		
Accommodation and food services	72	492,801	43,254	449,547	8.8	91.2		
Other services	81	344,866	29,476	315,390	8.5	91.5		

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):

Detail across rows may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Detail across columns have been adjusted to add to total. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 29. Companies with new-to-the-business product innovation, by company size: 2021–23

(Number and percent)

Company size (number of employees)	Companies (number)	Product innovation only new to the business					
		Number		Percent		Yes	No
		Yes	No	Yes	No		
All companies	5,033,879	412,007	4,621,872	8.2	91.8		
Micro companies							
1–4	2,859,754	210,658	2,649,096	7.4	92.6		
5–9	941,906	87,725	854,182	9.3	90.7		
Small companies							
10–19	601,238	56,321	544,918	9.4	90.6		
20–49	409,021	36,754	372,266	9.0	91.0		
Medium companies							
50–99	120,787	9,822	110,965	8.1	91.9		
100–249	67,846	6,572	61,274	9.7	90.3		
Large companies							
250–499	18,154	1,945	16,209	10.7	89.3		
500–999	7,356	956	6,400	13.0	87.0		
1,000–4,999	5,942	842	5,100	14.2	85.8	r	
5,000–9,999	922	203	718	22.0	77.9		r
10,000–24,999	594	137	457	23.1	76.9		
25,000 or more	360	72	288	20.0	80.0		

r = relative standard error > 50%.

Note(s):

Detail across rows may not add to total because of rounding. Detail across columns have been adjusted to add to total. Statistics are representative of companies located in the United States.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 30. Product or business process innovating companies, by industry: 2021–23

(Number and percent)

Industry	NAICS code	Companies (number)	Product or business process innovation			
			Number		Percent	
			Yes	No	Yes	No
All industries	11, 21–23, 31–33, 42–81	5,033,879	1,174,007	3,859,872	23.3	76.7
Manufacturing industries	31–33	207,352	63,790	143,563	30.8	69.2
Food	311	18,929	6,482	12,447	34.2	65.8
Beverage and tobacco products	312	9,236	3,287	5,949	35.6	64.4
Textile, apparel, and leather products	313–16	9,223	2,469	6,754	26.8	73.2
Wood products	321	9,572	2,174	7,398	22.7	77.3
Paper	322	2,042	600	1,442	29.4	70.6
Printing and related support activities	323	18,767	4,768	14,000	25.4	74.6
Petroleum and coal products	324	222	41	180	18.5	81.1
Chemicals	325	7,878	3,450	4,428	43.8	56.2
Pesticide, fertilizer, and other agricultural chemicals	3253	499	146	353	29.3	70.7
Pharmaceuticals and medicines	3254	1,702	794	908	46.7	53.3
Soap, cleaning compound, and toilet preparation	3256	1,817	910	907	50.1	49.9
Other chemicals	other 325	3,860	1,601	2,259	41.5	58.5
Plastics and rubber products	326	6,787	2,597	4,190	38.3	61.7
Nonmetallic mineral products	327	7,659	1,770	5,890	23.1	76.9
Primary metals	331	1,933	503	1,430	26.0	74.0
Fabricated metal products	332	47,168	12,094	35,074	25.6	74.4
Machinery	333	17,417	6,430	10,987	36.9	63.1
Computer and electronic products	334	8,108	3,785	4,323	46.7	53.3
Communications equipment	3342	973	488	485	50.2	49.8
Semiconductor and other electronic components	3344	2,583	990	1,593	38.3	61.7
Navigational, measuring, electromedical, and control instruments	3345	3,674	1,897	1,777	51.6	48.4
Other computer and electronic products	other 334	878	410	468	46.7	53.3
Electrical equipment, appliances, and components	335	4,012	1,637	2,375	40.8	59.2
Transportation equipment	336	7,200	2,763	4,437	38.4	61.6
Automobiles, bodies, trailers, and parts	3361–63	4,517	1,721	2,796	38.1	61.9
Aerospace products and parts	3364	907	300	607	33.1	66.9
Other transportation	other 336	1,776	742	1,034	41.8	58.2
Furniture and related products	337	11,432	3,032	8,401	26.5	73.5
Miscellaneous	339	19,766	5,908	13,858	29.9	70.1
Medical equipment and supplies	3391	7,071	2,064	5,007	29.2	70.8
Other miscellaneous manufacturing	3399	12,695	3,844	8,851	30.3	69.7
Nonmanufacturing industries	11, 21–23, 42–81	4,826,527	1,110,217	3,716,310	23.0	77.0
Agriculture, forestry, fishing, and hunting	11	18,408	2,190	16,219	11.9	88.1
Mining, extraction, and support activities	21	14,212	1,693	12,519	11.9	88.1
Utilities	22	3,367	801	2,565	23.8	76.2
Construction	23	697,532	114,952	582,580	16.5	83.5
Wholesale trade	42	236,689	70,968	165,721	30.0	70.0
Retail trade	44–45	542,047	140,293	401,754	25.9	74.1
Transportation and warehousing	48–49	184,207	46,318	137,888	25.1	74.9
Information	51	67,109	24,445	42,664	36.4	63.6
Publishing	511	19,008	9,197	9,810	48.4	51.6
Newspaper, periodical, book, and directory publishers	5111	8,557	2,616	5,941	30.6	69.4
Software publishers	5112	10,451	6,582	3,869	63.0	37.0
Telecommunications	517	6,886	2,596	4,290	37.7	62.3
Data processing, hosting, and related services	518	8,312	4,001	4,311	48.1	51.9
Other information	other 51	32,903	8,650	24,253	26.3	73.7

Table 30. Product or business process innovating companies, by industry: 2021–23

(Number and percent)

Industry	NAICS code	Companies (number)	Product or business process innovation			
			Number		Percent	
			Yes	No	Yes	No
Finance and insurance	52	195,489	38,437	157,051	19.7	80.3
Real estate and rental and leasing	53	282,087	44,237	237,850	15.7	84.3
Lessors of nonfinancial intangible assets (except copyrighted works)	533	1,783	519	1,264	29.1	70.9
Other real estate and rental and leasing	other 53	280,304	43,718	236,586	15.6	84.4
Professional, scientific, and technical services	54	730,285	196,280	534,005	26.9	73.1
Legal services	5411	153,500	23,854	129,646	15.5	84.5
Accounting, tax preparation, bookkeeping, and payroll services	5412	108,031	21,597	86,433	20.0	80.0
Architectural, engineering, and related services	5413	88,454	23,711	64,743	26.8	73.2
Specialized design services	5414	28,137	8,186	19,951	29.1	70.9
Computer systems design and related services	5415	99,385	40,836	58,550	41.1	58.9
Management, scientific, and technical consulting services	5416	156,771	49,040	107,731	31.3	68.7
Scientific research and development services	5417	11,544	4,461	7,084	38.6	61.4
Advertising, public relations, and related services	5418	27,216	7,638	19,578	28.1	71.9
Other professional, scientific, and technical services	5419	57,246	16,956	40,290	29.6	70.4
Management of companies and enterprises	55	2,682	482	2,200	18.0	82.0
Administrative and support and waste management and remediation services	56	305,400	62,046	243,354	20.3	79.7
Educational services	61	61,684	19,683	42,001	31.9	68.1
Health care and social assistance	62	549,826	130,026	419,800	23.6	76.4
Health care services	621–23	482,098	112,149	369,949	23.3	76.7
Social assistance	624	67,728	17,876	49,851	26.4	73.6
Arts, entertainment, and recreation	71	97,837	22,860	74,978	23.4	76.6
Accommodation and food services	72	492,801	121,688	371,113	24.7	75.3
Other services	81	344,866	72,817	272,048	21.1	78.9

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):

Detail across rows may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Detail across columns have been adjusted to add to total. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 31. Product or business process innovating companies, by company size: 2021–23

(Number and percent)

Company size (number of employees)	Companies (number)	Product or business process innovation			
		Number		Percent	
		Yes	No	Yes	No
All companies	5,033,879	1,174,007	3,859,872	23.3	76.7
Micro companies					
1–4	2,859,754	588,203	2,271,551	20.6	79.4
5–9	941,906	242,152	699,754	25.7	74.3
Small companies					
10–19	601,238	162,817	438,421	27.1	72.9
20–49	409,021	114,831	294,190	28.1	71.9
Medium companies					
50–99	120,787	33,734	87,053	27.9	72.1
100–249	67,846	20,936	46,909	30.9	69.1
Large companies					
250–499	18,154	5,913	12,241	32.6	67.4
500–999	7,356	2,389	4,967	32.5	67.5
1,000–4,999	5,942	2,149	3,793	36.2	63.8
5,000–9,999	922	398	523	43.2	56.7
10,000–24,999	594	301	292	50.7	49.2
25,000 or more	360	182	178	50.6	49.4

r = relative standard error > 50%.

Note(s):

Detail across rows may not add to total because of rounding. Detail across columns have been adjusted to add to total. Statistics are representative of companies located in the United States.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 32. Total capital expenditures for R&D operations, by type of cost and selected industry, for companies with 1–9 employees: 2023

(Thousands of U.S. dollars)

Industry	NAICS code	Total	Land acquisition	Buildings and land improvement	Machinery and equipment	Capitalized software	Other intellectual property	All other costs
All selected industries	31–33, 42, 51, 5413, 5415, 5417	472,195	644	21,184	149,031	84,365	58,895	158,075
Manufacturing industries	31–33	52,015	0	1,627	23,748	1,997	1,815	22,829
Food, beverage, and tobacco products	311–12	419 r	0	210 r	210 r	0	0	0
Textile, apparel, and leather products	313–16	75 r	0	0	0	0	0	75 r
Wood products	321	4,627 r	0	0	0	0	0	4,627 r
Paper	322	0	0	0	0	0	0	0
Printing and related support activities	323	0	0	0	0	0	0	0
Petroleum and coal products	324	0	0	0	0	0	0	0
Chemicals	325	11,378	0	177	7,695	1,023 r	262	2,220
Pharmaceuticals and medicines	3254	3,072	0	118	1,360	944 r	193	457
Chemicals, excluding pharmaceuticals	other 325	8,305	0	58 r	6,335	79	69	1,764 r
Plastics and rubber products	326	4,940 r	0	0	12	0	0	4,928 r
Nonmetallic mineral products	327	900 r	0	256 r	304 r	0	0	339 r
Primary metals	331	0	0	0	0	0	0	0
Fabricated metal products	332	2,507 r	0	0	2,437 r	0	70	0
Machinery	333	480	0	12 r	315	16	0	136 r
Computer and electronic products	334	19,300	0	295	9,398	609	849	8,150
Semiconductor and other electronic components	3344	5,968	0	115 r	3,823 r	66	522	1,441
Navigational, measuring, electromedical, and control instruments	3345	6,086	0	166	3,831	359	319	1,411
Other computer and electronic products	other 334	7,247 r	0	14	1,744 r	184 r	7	5,298 r
Electrical equipment, appliances, and components	335	1,640	0	41	1,148	168	204	78
Transportation equipment	336	2,130	0	488	914	112	22 r	593
Aerospace products and parts	3364	1,250	0	0	730 r	71	0	449
Other transportation equipment	other 336	879	0	488	185	41	22 r	144
Furniture and related products	337	0	0	0	0	0	0	0
Miscellaneous manufacturing	339	3,621	0	147 r	1,315 r	68 r	408 r	1,682
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	420,180	644	19,557 r	125,283	82,369	57,080	135,247
Wholesale trade	42	20,338 r	0	2,833 r	3,564	240	11,911 r	1,790 r
Information	51	58,950	0	97 r	9,678	33,144	5,280	10,751
Software publishers	5112	47,148	0	97 r	7,720	28,494	2,122	8,715
Information, excluding software publishers	51 less 5112	11,802	0	0	1,958	4,650	3,158 r	2,036 r
Architectural, engineering, and related services	5413	31,361	0	1,040	14,023	5,024	1,543 r	9,731
Computer systems design and related services	5415	164,208	0	12,711 r	36,021	38,223	27,772 r	49,482
Scientific research and development services	5417	145,324	644	2,876	61,997	5,739	10,575	63,493
Research and development in nanotechnology	541713	12,321	0	0	4,017 r	75	434	7,795
Research and development in biotechnology (except nanobiotechnology)	541714	47,676	0	810	24,396	275	2,484	19,712
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	82,888	644	2,058	33,545	3,313	7,657	35,671

Table 32. Total capital expenditures for R&D operations, by type of cost and selected industry, for companies with 1–9 employees: 2023

(Thousands of U.S. dollars)

Industry	NAICS code	Total	Land acquisition	Buildings and land improvement	Machinery and equipment	Capitalized software	Other intellectual property	All other costs
Social sciences and humanities research and development	541720	2,439 r	0	8 r	39 r	2,076 r	0	315 r

r = relative standard error > 50%.

NAICS = 2022 North American Industry Classification System.

Note(s):
Detail may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):
National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table 33. Total capital expenditures for R&D operations, by type of cost and company size, for companies with 1–9 employees in selected industries: 2023

(Thousands of U.S. dollars)

Company size (number of employees)	Total	Land acquisition	Buildings and land improvement	Machinery and equipment	Capitalized software	Other intellectual property	All other costs
All micro companies	472,195	644	21,184	149,031	84,365	58,895	158,075
1–4	292,873	644	6,202	79,552	54,138	52,387	99,950
5–9	179,322	0	14,982	69,479	30,227	6,508	58,126

r = relative standard error > 50%.

Note(s):
Detail may not add to total because of rounding. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s):
National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Technical Notes

Survey Overview (2024 Survey Cycle: Data Year 2023)

Purpose. The Annual Business Survey (ABS) provides information on selected economic and demographic characteristics for businesses and business owners by sex, ethnicity, race, and veteran status. Further, the survey measures research and development (R&D) for microbusinesses; business topics, such as innovation and technology; and other business characteristics. The ABS is cosponsored by the National Center for Science and Engineering Statistics (NCSES) within the U.S. National Science Foundation (NSF) and the Census Bureau. The ABS replaces the quinquennial Survey of Business Owners for employer businesses, the Annual Survey of Entrepreneurs, the Business R&D and Innovation for Microbusinesses Survey, and the Innovation section of the Business R&D and Innovation Survey.

The ABS is designed to incorporate new content each survey year based on topics of relevance. For the 2024 ABS (data year 2023), content includes company information; owner characteristics; goods, services, and business processes; R&D for microbusinesses; research activities at nonprofit organizations; technology transfer and intellectual property; domestic and foreign transactions; and management practices. The ABS also collects various data regarding business owners, such as sex, ethnicity, race, veteran status, and other business characteristics. R&D data are collected on the ABS for businesses with a W-2 employment range between one and nine employees.

Data collection authority. Title 13, U.S. Code, Sections 8(b), 131, and 182; Title 42, U.S. Code, Sections 1861–76 (National Science Foundation Act of 1950, as amended); and Section 505 within the America COMPETES Reauthorization Act of 2010, authorize this collection. Sections 224 and 225 of Title 13 require mandatory response. Collected under Office of Management and Budget (OMB) control number 0607-1004, expiring 31 May 2027. NCSES has reviewed this product for unauthorized disclosure of confidential information and approved its release (NCSES-DRN26-022).

Survey sponsor. NCSES and the Census Bureau.

Survey collection and tabulation agent. The survey is conducted annually by the Census Bureau in accordance with an interagency agreement with NCSES.

Key Survey Information

Frequency. Annual.

Initial survey year. Calendar year 2017; for innovation, the reference period was 2015–17.

Reference period. Calendar year 2023; for innovation, the reference period is 2021–23.

Response unit. All nonfarm businesses in the United States.

Sample or census. Sample.

Population size. A total of 5.6 million employer firms; approximately 506,000 firms with one to nine employees and in North American Industry Classification System (NAICS) industries 31–33 (manufacturing), 42 (wholesale trade), 51 (information), 5413 (architectural, engineering, and related services), 5415 (computer systems design and related services), or 5417 (scientific research and development services) were in scope for the R&D module.

Sample size. A total of 330,000 employer businesses.

Survey Design

Target population. Included are all nonfarm businesses filing Internal Revenue Service (IRS) tax forms as individual proprietorships, partnerships, or any type of corporation and with receipts of \$1,000 or more. The ABS covers firms with paid employees only. The ABS is conducted on a company or firm basis rather than an establishment basis.

Sampling frame. The sampling universe was constructed from the final 2022 Business Register. The Business Register is the Census Bureau's comprehensive database of U.S. businesses. Business Register data are compiled from a combination of business tax returns, data collected from the economic census, and data from other Census Bureau surveys. The Business Register includes sole proprietorships, partnerships, and corporations reporting business activity to the IRS on any one of the following IRS tax forms: 1040 (Schedule C), "Profit or Loss from Business" (Sole Proprietorship); 1065, "U.S. Return of Partnership Income"; 941, "Employer's Quarterly Federal Tax Return"; 944, "Employer's Annual Federal Tax Return"; or any one of the 1120 corporate tax forms.

The Business Register contains establishments that are out of scope for the ABS sample. These establishments are removed from the sampling universe. They include the following:

- Establishments engaged in the following NAICS industries:
 - 111 or 112: Agriculture production
 - 482: Railroads
 - 491: Postal Service
 - 521: Monetary authorities—central bank
 - 525: Funds, trusts, and other financial vehicles
 - 541120: Offices of notaries
 - 813: Religious, grantmaking, civic, professional, and similar organizations
 - 814: Private households
 - 92: Public administration
- Unclassified NAICS industries with legal form of organization as tax exempt or unknown
- Establishments located in American Samoa, Northern Mariana Islands, Guam, Puerto Rico, or the U.S. Virgin Islands
- Establishments belonging to foreign entities
- Government establishments
- Establishments with zero payroll and zero employment
- Establishments identified as out of business during prior-year data review
- Single-unit establishments modeled as likely to be out of business using administrative data from the most recent monthly Business Register data sets

Information on industry classification, receipts, payroll, and employment was extracted from the Business Register during the frame construction.

The sample is also designed to estimate demographic characteristics of the business owners. To efficiently sample for demographic characteristics, a variety of sources of information is used to estimate the likelihood that a business is a woman- or minority-owned business. Administrative sources include the Decennial Census, the American Community Survey (ACS), and the Numident file, which is the Social Security Administration's (SSA) comprehensive database of information from Social Security applications. Individual business owners are identified through IRS K-1 filings for partnerships and corporations and from the Business Register for sole proprietorships. The owners are matched to the 2000 and 2010 Decennial Censuses to get race, sex, and ethnicity data; to the 2005–22 ACS; and to the Numident file (in that order) through a Protected Identification Key. Country of birth is also identified through the linkages to the ACS or Numident data. Each firm is then placed in one of the following seven strata for sampling: American Indian or Alaska Native, Asian, Black or African American, Hispanic, non-Hispanic White men or publicly owned firm, Native Hawaiian and Other Pacific Islander, and women owned. Businesses are assigned to one and only one stratum, with priority given to the less common race and ethnicity groups.

Sample design. The ABS frame is stratified by state, expected owner race or ethnicity, and industry and is systematically sampled within each stratum. A standard type of estimation for stratified systematic sampling is used. Large companies were selected with certainty based on volume of sales, payroll, or number of paid employees. Certainty cases have a selection probability of 1, a sampling weight of 1, and represent only themselves. Specifically for the 2024 ABS (data year 2023), firms were selected with certainty if they met any of the following criteria:

- Firms with expected employment less than 10 and reported in a prior year ABS that they have R&D expenses of at least one of the following
 - \$1,000,000 in NAICS 5415 or 5112
 - \$500,000 in NAICS 5417
 - \$250,000 in NAICS 5413
 - \$50,000 in NAICS 31, 32, 33, 42, or 51
- Firms with at least 500 employees
- Firms in the 2023 Business Enterprise Research and Development (BERD) Survey sample
- Firms larger than stratum-specific payroll and receipt cutoffs

The certainty cutoffs vary by sampling stratum, and each stratum is sampled at varying rates, depending on the number and size of firms in a particular stratum.

The remaining frame is subjected to stratified systematic random sampling. Sampling rates vary by strata and are determined by the following calculations. Note that a systematic sample uses take rate to sample, and the sampling rate is $1/\text{take rate}$.

The ABS sample consisted of 330,000 employer businesses. There were 74,000 selected with certainty. The certainty portion of the sample consisted of

- 3,000 with sufficient R&D expenses in previous cycles of the ABS,
- 17,000 with employment ≥ 500 ,
- 13,000 with payroll above the stratum cutoff,
- 7,000 with receipts above the stratum cutoff and payroll below the stratum cutoff, and
- 33,000 in the 2023 BERD Survey sample and do not meet other certainty criteria.

The remaining 256,000 noncertainty cases were selected using the systematic stratified random sample selection. The maximum sample weight was 40.

Data Collection and Processing Methods

Data collection. Prior to mailing the survey, certain businesses selected were determined to be out of scope and were not contacted. The survey was mailed to 330,000 employer businesses in July 2024. Businesses were sent a letter informing them of their requirement to report. The letter also provided instructions on how to access the survey and submit online. There were three mail follow-ups conducted to increase response. Additionally, the Census Bureau conducted e-mail follow-ups to respondents who entered the electronic system but did not submit the questionnaire. The collection period closed in December 2024.

Mode. The 2024 ABS (data year 2023) was collected using the electronic instrument.

Check-in rate. The check-in rate is defined as the unweighted number of surveys that were submitted online by in-scope companies, divided by the unweighted total number of all in-scope companies in the sample. Response to individual questions did not factor into this metric. At the close of the collection period in December 2024, 195,000 responses were submitted (59% of the sample).

An additional 704 businesses contacted the Census Bureau to indicate that the business was no longer in operation or had been sold for the reference year via the call center. In addition, 605 businesses contacted the Census Bureau to indicate that the business was no longer in operation or had been sold for the reference year via the online portal.

Businesses selected to report R&D represented 34% of those mailed. Of the businesses mailed and selected to report R&D, 71,000 businesses (63%) submitted responses.

Unit response rate (URR). The URR is the unweighted number of responding companies for the survey. For the ABS, *response* is defined as a company providing the number of owners, number of paid owners, and number of employees or a company responding that it ceased operations prior to 2023.

For the ABS, the URR was 64%. The URR for businesses eligible to report the R&D module was 63%.

Item response rates (IRR). The 2024 ABS (data year 2023) collected data on approximately 650 variables, and the distribution of values reported by sample companies is highly skewed. Thus, rather than report unweighted item response rates, total quantity response rates are calculated, which are based on weighted data. The survey skip patterns vary for respondents; therefore, it can be impossible to know an exact denominator for item response calculations.

Total quantity response rate (TQRR). For a given published estimate other than count or ratio estimates, TQRR is the percentage of the weighted estimate based on data that were reported by units in the sample or on data that were obtained from other sources and were determined to be equivalent in quality to reported data and weighted only by sampling but not nonresponse weights. The TQRR for total sales in the United States in 2023 was 69.3%.

Total quantity nonresponse rate (TQNR). For a given published estimate, TQNR, defined as 100% minus TQRR, is calculated for each tabulation cell from the ABS, except for cells that contain count or ratio estimates. TQNR measures the combined effect of the procedures used to handle unit and item nonresponse on the weighted ABS estimate. Detailed imputation rates are available on request.

Data editing. Prior to tabulating the data, response data were reviewed and edited to correct reporting errors. R&D data were tabulated for records reporting \$50,000 or more in R&D expenditures.

Additionally, R&D data were only tabbed for records classified in the following NAICS industries:

- 31–33: Manufacturing

- 42: Wholesale trade
- 51: Information
- 5413: Architectural, engineering, and related services
- 5415: Computer systems design and related services
- 5417: Scientific research and development services

Survey analysts reviewed the R&D reported by the survey respondents. Research was done by evaluating the reported business descriptions, reported R&D-to-sales ratio, and company website information. The majority of corrections involved false-positive reports or data reported using incorrect units (such as whole dollars instead of thousands of dollars). For NAICS industries 5415 and 5417, it is difficult to differentiate R&D from other technical work based solely on company website information.

Additional data errors were detected and corrected through mass corrections and an automated data edit system designed to review the data for reasonableness and consistency. The editing process interactively performed corrections by using standard procedures to fix detectable errors. Quality control techniques were used to verify that operating procedures were carried out as specified.

Unit nonresponse. Unit nonresponse is handled by adjusting weighted reported data as follows. Each company’s sampling weight is multiplied by a nonresponse adjustment factor. To calculate the adjustment factors, each company in the sample that is eligible for tabulation is assigned to one (and only one) adjustment cell. The adjustment cells are based on employment size and NAICS sector. For employment size, there are five categories: 1–4 employees, 5–9 employees, 10–49 employees, 50–249 employees, and 250 or more employees. For a given adjustment cell, the nonresponse adjustment factor is the ratio of the sum of the sampling weights for all companies in the cell to the sum of the sampling weights for all companies in the cell with reported data.

The nonresponse adjustment factor for adjustment cell h was calculated as follows:

$$NAF_h = \frac{\sum_{r+nr} wgt}{\sum_r wgt},$$

where

- r is the respondents,
- nr is the nonrespondents,
- wgt is the original sampling weight value,
- h is the nonresponse adjustment cell, and
- NAF_h is the nonresponse adjustment factor for cell h .

For the nonresponse adjustment, a business is considered a respondent if it provided the number of owners, number of paid owners, and number of employees. Businesses that responded they ceased operations prior to 2023 are excluded from nonresponse adjustments as out-of-scope.

Tabulation. Although as many firms as possible were identified as out of scope during sampling, additional out-of-scope firms were identified with either response or updated administrative data not available at the time of sampling. These 40,500 firms were removed for tabulations and include the following:

- Firms reporting zero employment
- Firms that responded as having gone out of business before 2023
- Nonprofit organizations
- Firms that responded as being owned by a domestic parent company
- Firms with unclassified NAICS industry

Industry classification. The industry classifications of firms are based on the [2022 NAICS](https://www.census.gov/naics/) (<https://www.census.gov/naics/>). Firms with more than one domestic establishment are assigned a single-industry classification using a hierarchical system based on the largest payroll sector, largest payroll 3-digit NAICS (within the largest sector), largest payroll 4-digit NAICS (within the largest 3-digit), and largest payroll 6-digit NAICS (within the largest 4-digit). For tabulation, industry classification was based on administrative data for 2023.

Geography. Firms with establishments operating in more than one state are tabulated as unclassified geography and counted only once in state and national totals.

Variance estimation. The particular sample used for this survey is one of a large number of all possible samples of the same size that could have been selected using the same sample design. Estimates derived from the different samples would differ from each other. The relative standard error and standard error are measures of the variability among the estimates from all possible samples. The estimated relative standard errors and estimated standard errors presented in the tables estimate the sampling variability and thus measure the precision with which an estimate from the particular sample selected for this survey approximates the average result of all possible samples. Relative standard errors and standard errors are applicable only to those published cells in which sample cases are tabulated. A relative standard error is an expression of the standard error as a percentage of the quantity being estimated.

The ABS uses the delete-a-group jackknife variance estimator. Note that certainty cases do not contribute to the sampling variance. The delete-a-group jackknife variance estimator requires that every sampling stratum contains at least two sampled firms. Sampling strata that do not meet this requirement are collapsed as needed to create a new set of variance estimation strata that satisfies this requirement.

The sample estimate and an estimate of its relative standard error can be used to estimate the standard error and then construct interval estimates with a prescribed level of confidence that the interval includes the average results of all samples. To illustrate, if all possible samples were surveyed under essentially the same condition, and estimates were calculated from each sample, then

- approximately 68% of the intervals from 1.0 standard error below the estimate to 1.0 standard error above the estimate would include the average value of all possible samples and
- approximately 90% of the intervals from 1.6 standard errors below the estimate to 1.6 standard errors above the estimate would include the average value of all possible samples.

Thus, for a particular sample, one can say with specified confidence that the average of all possible samples is included in the constructed interval.

Example of a confidence interval. Suppose that the estimate is 51,707 and that the estimated relative standard error is 2%. The standard error is then 2% of 51,707 $\pm$ 1,034. An approximate 90% confidence interval is found by first multiplying the standard error by 1.6 and then adding and subtracting that result from the estimate to obtain the upper and lower bounds. Since $1.6 \times 1,034 = 1,654$, the confidence interval in this example is 51,707 $\pm$ 1,654 (or the range 50,053–53,361).

Example of a confidence interval for percentage data. Suppose that the estimate is 76.9 and that the estimated standard error is 0.4%. An approximate 90% confidence interval is found by first multiplying the standard error by 1.6 and then adding and subtracting that result from the estimate to obtain the upper and lower bounds. Since $1.6 \times 0.4 = 0.64$, the confidence interval in this example is 76.9 $\pm$ 0.64 (or the range 76.26–77.54).

Detailed relative standard errors are available upon request.

Confidentiality. In accordance with Title 13, United States Code, Section 9, no data are published that would disclose the operations of an individual establishment or business. Data obtained from the IRS, SSA, and other sources are also treated as confidential and can be seen only by those sworn to protect the data from disclosure.

Disclosure avoidance. Disclosure avoidance is the process used to protect the confidentiality of the survey data provided by an individual or firm. Using disclosure avoidance procedures, the Census Bureau modifies or removes the characteristics that may disclose confidential information. Although it may appear that a table shows information about a specific individual or business, the Census Bureau has taken steps to mask or suppress the original data while making sure the results are still useful.

Noise infusion. The ABS uses noise infusion as the primary method of disclosure avoidance. Noise infusion perturbs data values prior to tabulation by applying a random noise multiplier to the data. Disclosure protection is accomplished in a manner that causes the vast majority of cell values to be perturbed by, at most, a few percentage points. For the ABS, the estimated relative standard error for a published cell includes both the estimated sampling error and the amount of perturbation in the estimated cell value due to noise.

Survey Quality Measures

The estimates produced from the ABS are subject to both sampling and nonsampling errors.

Sampling error. The sampling error is described above in the “Variance estimation” section.

Coverage error. Coverage error occurs when the frame fails to completely enumerate the population of interest. There can be both *undercoverage error*, where units are not included in the frame, and *overcoverage error*, where units included in the frame are actually out of scope for the population of interest. The ABS uses the 2022 Business Register to construct the frame, so any changes in businesses that would change the inclusion or exclusion of the business to the survey scope could be sources of coverage error. Prior to tabulation, survey units’ information is updated with the most recent available Business Register data to mitigate this source of error.

Nonsampling error. All surveys and censuses have nonsampling errors. Nonsampling errors are attributable to various sources, such as the inability to obtain information for all cases in the universe, imputation for missing data, data errors and biases, mistakes in recording or keying data, errors in collection or processing, and coverage problems.

Although explicit measures of the effects of these nonsampling errors are not available, adjustments are made to the published relative standard errors to account for errors associated with imputation of missing data. It is believed that most of the important operational and data errors were detected and corrected through an automated data edit designed to review the data for reasonableness and consistency. Quality control techniques were used to verify that operating procedures were carried out as specified.

Measurement error. The most common source of measurement error was reporting in different units (e.g., reporting whole dollars rather than thousands of dollars).

Data Comparability

Some estimates from the 2024 ABS (data year 2023) may not be directly comparable to prior ABS results due to changes in survey methodology. Sources of possible incomparability include changes to questionnaire wording and instructions, changes in reporting procedures or classification, changes to data editing and tabulation, and changes in collection methods.

Changes to questionnaire wording and instructions. The survey section that collected information on R&D from businesses (Section D) had nearly identical question wording and instructions on the questionnaires for both the 2023 ABS (data year 2022) and the 2022 ABS (data year 2021). The 2024 ABS (data year 2023) collected additional detail from businesses on the location of R&D performance and explicitly highlighted the concept of “domestic R&D performance.” For the 2024 ABS, detailed questions about R&D expenditures (types of costs, funding sources, and R&D categories) were tied to domestic R&D performance (a subset of total R&D costs), whereas previous ABS questionnaires asked similar questions tied to total R&D costs.

The following are survey changes in the questionnaire from the 2023 ABS to 2024 ABS; unless otherwise noted, question number references are in reference to the 2024 ABS:

- The following questions were removed (question number references are from the 2023 ABS):
 - A.13 Moving Production to U.S. in 2022
 - A.14 Reasons for Moving Production to the U.S. in 2022
- The following questions were added:
 - A.16 New Credit Applications
 - A.17 New Credit Sources
 - A.18 New Credit Received
- A question on gender (B.1.2) was added to Section B.
- Nonprofit section was moved from Section C (2023 ABS) to Section E (2024 ABS).
- Goods, Services, and Business Processes was moved from Section E (2023 ABS) to Section C (2024 ABS) and the following questions were added to the new Section C:
 - C.5 Sources of New or Improved Business Processes
 - C.11 New or Customized Product or Service at the Start of the Business
 - C.12 Reason New or Customized Product or Service Was Developed
- The following questions were removed (question number references are from the 2023 ABS):
 - E.3 Innovation and Environmental Benefits During Use of Goods or Services
 - E.4 New or Improved Goods or Services as a Percent of Total Sales
 - E.5 Expectations
 - E.7 Most Important Innovation
 - E.8 Most Important Innovations and Sales

E.10 Innovation and Environmental Benefits Within This Business

E.17 Activity Costs

E.18 R&D for Activity Costs

E.19 Government Support

E.20 Barriers of Innovation

E.21 Business Strategies

- Removed Section F: Financing (2023 ABS).
- Replaced detailed Section G: Technology and Intellectual Property (2023 ABS) with a shorter Section F: Technology Transfer and Intellectual Property (2024 ABS).
- Added Section G: Domestic and Foreign Transactions (2024 ABS).
- Replaced Section H: Sustainability and Climate Impact (2023 ABS) with Section H: Management Practices (2024 ABS).

Changes in reporting procedures or classification. There were no changes to reporting procedures or classification for the 2024 ABS (data year 2023).

Changes to data editing and tabulation. For data collected in the R&D section of the ABS, every response with \$50,000 or more in R&D costs was reviewed for reasonableness in the 2024 ABS (data year 2023). For the 2024 ABS, all positive R&D cases were reviewed in industries with high rates of false-positive reports. Outside of the review for potential false-positive R&D cases, the editing of R&D data was performed similarly in the 2022 ABS (data year 2021) and 2023 ABS (data year 2022). There have been no major changes to the edits from year to year.

Data collected in the innovation section were edited similarly in the 2022 and 2023 ABS. For the 2017 ABS (data year 2017), a business must have responded positively to both the product innovation question and the subsequent business product innovation question (new to market or new to business) to be considered a product innovator. For the 2023 and 2024 ABS, only a positive response to the question regarding new or improved goods or services was required to be tabulated as a product innovator.

Changes in collection methods. During the 2024 ABS (data year 2023) collection period, a single letter was mailed to respondents using Postal Service Priority Mail. For the 2024 ABS, the third follow-up used First Class Mail.

Definitions

Affiliated (company or business). An entity that is owned 10% or more (based on voting interest or an equivalent interest) directly or indirectly by your company.

Business processes. Business process includes the following: (1) methods for producing goods or providing services, (2) distribution and logistics, (3) marketing and sales, (4) information and communication systems, (5) administration and management activities, and (6) product and business process development (including activities to identify, develop, or adapt products or a firm's processes).

Core production activity. This term refers to your primary business activities. For manufacturing companies, core production typically involves production of physical goods. For service companies and other companies, core production refers to the main services or activities provided by your business, such as information and communications technology services and marketing services.

Domestic or U.S. located. Refers to a location in any of the U.S. 50 states and the District of Columbia.

Employment. Paid employment consists of full- and part-time employees, including salaried officers and executives of corporations who were on the payroll during the pay period including March 12. Included are employees on sick leave, holidays, and vacations; not included are proprietors and partners of unincorporated businesses.

Ethnicity. Based on OMB's guidance, there are two minimum categories for ethnicity: Hispanic or Latino and not Hispanic or Latino. OMB considers race and Hispanic origin to be two separate and distinct concepts. Hispanics and Latinos may be of any race.

Exported goods. Value of goods, including the value of equipment, supplies, and materials. This should equal the amounts reported in the Automated Export System's Electronic Export Information filed with Customs and Border Protection plus the cost of transporting the goods to customers located in foreign destinations (i.e., outside the United States).

Exported services. An exported service is a service-related product (i.e., services performed, including digital service license agreement) that is sold or transferred to, or performed for, customers (e.g., individual, government, and business establishment) located in foreign destinations (i.e., outside the United States).

Firm. A business organization or entity consisting of one or more domestic establishment locations under common ownership or control.

Foreign affiliate. A foreign affiliate is an entity located outside the United States that is owned at least 10% (based on voting interest or an equivalent interest) directly or indirectly by the U.S. reporter.

Foreign parent (of a U.S.-located business). The first entity outside the United States in an affiliate's ownership chain that has a direct or indirect investment interest of more than 50% of the affiliate's voting securities.

Goods. Usually a tangible object (e.g., a smartphone, furniture, or packaged software) but also includes digital goods (e.g., downloadable software, music, and film). Exclude the simple resale of new goods and changes of a solely aesthetic nature.

Imported goods. The value of goods purchased from customers located in foreign destinations (i.e., outside the United States) as indicated in import declarations filed with the Customs and Border Protection.

Imported services. An imported service is a service-related product (i.e., service performed, including digital service license agreement) that is purchased from customers located in foreign destinations (i.e., outside the United States).

Innovation. A business innovation is a new or improved product or business process (or combination thereof) that differs significantly from the firm's previous products or business processes and that has been introduced on the market or brought into use by the firm.

Intellectual property. Includes patents, processes, and trade secrets; books and music; trademarks; recorded performances and events, such as radio and television programs and motion pictures; broadcast and recorded live performances and events and their content; general use computer software; franchise fees; and other (e.g., digital media).

Noise infusion. A method of disclosure avoidance in which values are perturbed prior to tabulation by applying a random noise multiplier to the magnitude data, such as the sales and receipts for all firms. Disclosure protection is accomplished in a manner that causes the vast majority of cell values to be perturbed by, at most, a few percentage points.

North American Industry Classification System (NAICS). NAICS is the standard used by federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy. This system is used by the United States, Canada, and Mexico.

Race. The data on race were derived from answers to the race question. Race data are collected in accordance with the guidelines provided by OMB, and these data are based on self-identification. The racial categories included in the questionnaire generally reflect a social definition of race recognized in this country and are not an attempt to define race biologically, anthropologically, or genetically. In addition, it is recognized that the categories of the race question include race and national origin or sociocultural groups. OMB requires that race data be collected for a minimum of five groups: White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander. Respondents may report more than one race.

Receipts. Includes the total sales, shipments, receipts, revenue, or grants for domestic operations, excluding foreign subsidiaries.

Research and development (R&D). R&D is planned, creative work aimed at discovering new knowledge or devising new applications of available knowledge. This includes (1) activities aimed at acquiring new knowledge or understanding without specific immediate commercial applications or uses (basic research); (2) activities aimed at solving a specific problem or meeting a specific commercial objective (applied research); and (3) systematic use of research and practical experience and resulting in additional knowledge, which is directed to producing new or improved goods, services, or processes (development). R&D includes both direct costs, such as salaries of researchers, and administrative and overhead costs clearly associated with the company's R&D. However, R&D does not include expenditures for routine product testing, quality control, and technical services unless they are an integral part of an R&D project. R&D also does not include market research; efficiency surveys or management studies; literary, artistic, or historical projects, such as films, music, or books and other publications; and prospecting or exploration for natural resources.

- **Basic research.** Activities aimed at acquiring new knowledge or understanding without specific immediate commercial applications or uses.
- **Applied research.** Activities aimed at solving a specific problem or meeting a specific commercial objective.
- **Development.** Systematic work, drawing on research and practical experience and resulting in additional knowledge, which is directed to producing new products or processes or to improving existing products or processes.

R&D activity in software includes the following:

- Software development or improvement activities that expand scientific or technological knowledge
- Construction of new theories and algorithms in the field of computer science

R&D activity in software excludes the following:

- Software development that does not depend on a scientific or technological advance, such as:
 - Supporting or adapting existing systems
 - Adding functionality to existing application programs
 - Routine debugging of existing systems and software
 - Creation of new software based on known methods and applications
- Conversion or translation of existing software and software languages
- Adaptation of a product to a specific client, unless knowledge that significantly improved the base program was added in that process

Services. Intangible activities—such as retailing, insurance, educational courses, air travel, consulting—and also includes digital services. (Exclude the simple resale of new services.)

Sex. For the purposes of the ABS, sex refers to a person's biological sex. The sex question wording very specifically intends to capture a person's biological sex and not gender.

Unaffiliated (company or business). Entity that is owned less than 10%, directly or indirectly, by your company (i.e., independent contractors and suppliers).

Worldwide sales. Worldwide and domestic sales and operating revenues, including grants.

Technical Tables

Table	Title
A-1	Companies in the sampling frame and selected for the sample, by industry: 2023
A-2	Response measures: 2023
A-3	Unit response rates, by industry: 2023

Table A-1. Companies in the sampling frame and selected for the sample, by industry: 2023

(Number of companies)

Industry	NAICS code	Companies in sampling frame	Companies selected for the sample		
			All companies	Noncertainties	Certainties
All industries	11, 21–23, 31–33, 42–81, 00	5,635,000	330,000	256,000	74,000
Manufacturing industries	31–33	226,000	47,500	26,000	21,500
Food	311	24,000	4,600	2,900	1,800
Beverage and tobacco products	312	10,500	2,400	1,700	700
Textile, apparel, and leather products	313–16	11,500	2,200	1,500	650
Wood products	321	11,000	2,200	1,300	850
Paper	322	2,000	600	150	450
Printing and related support activities	323	20,000	3,200	2,200	1,100
Petroleum and coal products	324	650	200	20	200
Chemicals	325	9,200	3,500	1,500	2,000
Pesticide, fertilizer, and other agricultural chemicals	3253	650	200	90	150
Pharmaceuticals and medicines	3254	2,000	1,000	450	550
Soap, cleaning compound, and toilet preparation	3256	2,100	700	400	300
Other chemicals	other 325	4,500	1,500	550	1,000
Plastics and rubber products	326	7,400	2,100	950	1,100
Nonmetallic mineral products	327	8,100	1,900	1,100	800
Primary metals	331	2,500	1,000	450	550
Fabricated metal products	332	46,500	6,200	3,500	2,700
Machinery	333	17,500	3,800	1,600	2,100
Computer and electronic products	334	8,900	3,600	1,500	2,100
Communications equipment	3342	950	450	150	250
Semiconductor and other electronic components	3344	2,800	1,000	500	550
Navigational, measuring, electromedical, and control instruments	3345	3,800	1,600	550	1,000
Other computer and electronic products	other 334	1,400	550	300	250
Electrical equipment, appliances, and components	335	4,100	1,400	700	700
Transportation equipment	336	8,400	2,600	1,200	1,400
Automobiles, bodies, trailers, and parts	3361–63	5,100	1,400	650	800
Aerospace products and parts	3364	1,200	600	300	300
Other transportation	other 336	2,100	550	300	250
Furniture and related products	337	13,000	2,500	1,500	1,000
Miscellaneous	339	21,000	3,600	2,300	1,300
Medical equipment and supplies	3391	7,400	1,500	850	600
Other miscellaneous manufacturing	3399	13,500	2,100	1,400	700
Nonmanufacturing industries	11, 21–23, 42–81	5,403,000	280,000	228,000	52,500
Agriculture, forestry, fishing and hunting	11	21,000	800	750	70
Mining, extraction, and support activities	21	16,000	2,500	1,600	900
Utilities	22	3,900	1,200	750	450

Table A-1. Companies in the sampling frame and selected for the sample, by industry: 2023

(Number of companies)

Industry	NAICS code	Companies in sampling frame	Companies selected for the sample		
			All companies	Noncertainties	Certainties
Construction	23	744,000	28,500	26,000	2,300
Wholesale trade	42	261,000	21,000	13,000	7,800
Retail trade	44–45	606,000	25,500	22,000	3,200
Transportation and warehousing	48–49	216,000	13,500	11,000	2,100
Information	51	79,000	15,000	9,200	5,700
Publishing	511	21,500	5,200	2,700	2,500
Newspaper, periodical, book, and directory publishers	5111	9,100	1,700	1,300	450
Software publishers	5112	12,500	3,400	1,500	2,000
Telecommunications	517	11,000	2,400	1,600	850
Data processing, hosting, and related services	518	9,900	2,600	1,400	1,200
Other information	other 51	36,500	4,600	3,400	1,200
Finance and insurance	52	226,000	9,300	7,600	1,700
Real estate and rental and leasing	53	345,000	13,000	12,500	700
Lessors of nonfinancial intangible assets (except copyrighted works)	533	2,200	150	90	80
Other real estate and rental and leasing	other 53	343,000	13,000	12,000	600
Professional, scientific, and technical services	54	819,000	62,000	45,000	17,000
Legal services	5411	160,000	7,700	6,900	800
Accounting, tax preparation, bookkeeping, and payroll services	5412	115,000	5,500	5,000	500
Architectural, engineering, and related services	5413	91,000	10,500	6,700	3,900
Specialized design services	5414	35,000	1,500	1,400	70
Computer systems design and related services	5415	119,000	11,500	6,900	4,400
Management, scientific, and technical consulting services	5416	188,000	9,900	8,400	1,600
Scientific research and development services	5417	14,500	8,100	3,400	4,700
Advertising, public relations, and related services	5418	32,500	4,300	3,300	900
Other professional, scientific, and technical services	5419	64,500	3,300	2,900	400
Management of companies and enterprises	55	4,500	200	150	60
Administrative and support and waste management and remediation services	56	350,000	16,000	13,000	3,000
Educational services	61	68,000	2,800	2,700	150
Health care and social assistance	62	596,000	26,500	23,500	3,200
Health care services	621–23	505,000	22,500	19,500	2,700
Social assistance	624	91,000	4,300	3,900	400
Arts, entertainment, and recreation	71	115,000	4,600	4,200	450
Accommodation and food services	72	533,000	24,000	21,000	3,000
Other services	81	400,000	15,000	14,000	550
Unclassified	00	6,100	2,200	2,000	250

NAICS = 2022 North American Industry Classification System.

Note(s):
Certainties were companies with a probability of selection of 1 because they had previously reported R&D costs, had 500 or more employees, were in the Business Enterprise Research and Development Survey sample, or had high payroll or receipts defined by stratum specific cutoffs. Noncertainties are companies with a probability of selection of less than 1.

Source(s):
National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table A-2. Response measures: 2023

(Percent)

Measure	2023
Check-in rate ^a	59
Response rate (unweighted) ^b	64

^a The number of survey responses from sampled companies divided by the total number of companies in the sample. Note this includes companies who contacted the Census Bureau to indicate they were out of business and companies who were later determined to be inactive or otherwise out of scope for tabulations.

^b The number of active and in-scope companies responding to the number of owners and number of W-2 employees, divided by the total number of in-scope and active companies in the sample.

Source(s):
National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Table A-3. Unit response rates, by industry: 2023

(Number and percent)

Industry	NAICS code	In-scope units ^a	Reporting units that met the response criteria (%) ^b
All industries	11, 21–23, 31–33, 42–81	289,000	64
Manufacturing industries	31–33	42,000	63
Food	311	3,900	59
Beverage and tobacco products	312	2,100	67
Textile, apparel, and leather products	313–16	1,800	61
Wood products	321	1,900	63
Paper	322	550	64
Printing and related support activities	323	3,000	63
Petroleum and coal products	324	150	60
Chemicals	325	2,900	62
Pesticide, fertilizer, and other agricultural chemicals	3253	200	50
Pharmaceuticals and medicines	3254	850	65
Soap, cleaning compound, and toilet preparation	3256	600	58
Other chemicals	other 325	1,300	65
Plastics and rubber products	326	1,900	63
Nonmetallic mineral products	327	1,800	61
Primary metals	331	800	63
Fabricated metal products	332	5,700	68
Machinery	333	3,300	67
Computer and electronic products	334	3,100	68
Communications equipment	3342	350	71
Semiconductor and other electronic components	3344	950	68
Navigational, measuring, electromedical, and control instruments	3345	1,400	68
Other computer and electronic products	other 334	350	71
Electrical equipment, appliances, and components	335	1,200	67
Transportation equipment	336	2,300	61
Automobiles, bodies, trailers, and parts	3361–63	1,300	62
Aerospace products and parts	3364	500	60
Other transportation	other 336	450	67
Furniture and related products	337	2,300	61
Miscellaneous	339	3,200	66
Medical equipment and supplies	3391	1,300	65
Other miscellaneous manufacturing	3399	1,900	68
Nonmanufacturing industries	11, 21–23, 42–81	248,000	63
Agriculture, forestry, fishing and hunting	11	650	69
Mining, extraction, and support activities	21	2,000	65
Utilities	22	900	67
Construction	23	25,500	63

Table A-3. Unit response rates, by industry: 2023

(Number and percent)

Industry	NAICS code	In-scope units ^a	Reporting units that met the response criteria (%) ^b
Wholesale trade	42	18,500	65
Retail trade	44–45	23,000	57
Transportation and warehousing	48–49	11,000	58
Information	51	12,500	63
Publishing	511	4,600	65
Newspaper, periodical, book, and directory publishers	5111	1,500	67
Software publishers	5112	3,000	67
Telecommunications	517	1,900	53
Data processing, hosting, and related services	518	2,200	64
Other information	other 51	3,700	68
Finance and insurance	52	8,100	70
Real estate and rental and leasing	53	11,000	64
Lessors of nonfinancial intangible assets (except copyrighted works)	533	100	70
Other real estate and rental and leasing	other 53	11,000	64
Professional, scientific, and technical services	54	54,500	72
Legal services	5411	7,100	76
Accounting, tax preparation, bookkeeping, and payroll services	5412	5,000	76
Architectural, engineering, and related services	5413	9,400	78
Specialized design services	5414	1,300	77
Computer systems design and related services	5415	9,700	66
Management, scientific, and technical consulting services	5416	8,600	69
Scientific research and development services	5417	7,000	66
Advertising, public relations, and related services	5418	3,600	69
Other professional, scientific, and technical services	5419	3,000	70
Management of companies and enterprises	55	150	53
Administrative and support and waste management and remediation services	56	14,000	61
Educational services	61	2,500	64
Health care and social assistance	62	24,000	67
Health care services	621–23	20,500	68
Social assistance	624	3,800	58
Arts, entertainment, and recreation	71	4,000	63
Accommodation and food services	72	22,000	50
Other services	81	13,500	59

NAICS = 2022 North American Industry Classification System.

^a In-scope units are determined using response data and final frame data after all data have been processed.
^b Reporting units were considered to have fulfilled the response criteria if they provided the number of owners and number of W-2 employees.

Source(s):
National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Suggested Citation

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