



InfoBrief

Microbusinesses Performed \$5.9 Billion of R&D in the United States in 2023

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This InfoBrief presents research and development (R&D) data on *microbusinesses*,¹ defined here as businesses with one to nine domestic employees. In 2023, microbusinesses reported a total of \$8.3 billion in R&D costs, of which 86%, or \$7.1 billion, was domestic and 72%, or \$5.9 billion, was performed by the microbusinesses themselves ([table 1](#)). R&D costs include the amount that businesses spent of their own money and from other sources on R&D they performed, as well as the amount they paid others to perform R&D. This InfoBrief makes a distinction between R&D performance expenses, which are the costs only for R&D performed by the business, and R&D nonperformance costs, which are payments to others for R&D, including purchased R&D.

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 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

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.

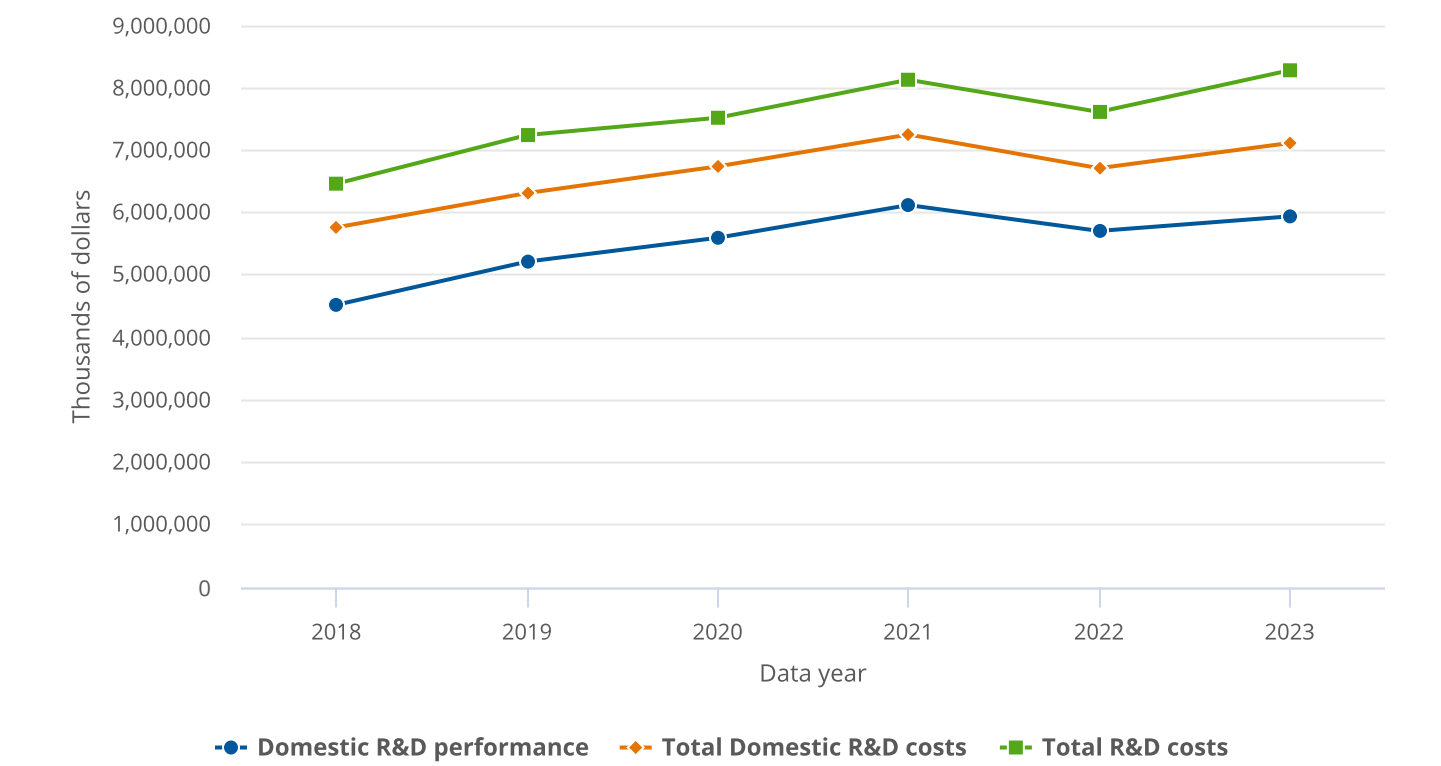
Data for this InfoBrief are from the Annual Business Survey (ABS), developed and cosponsored by the National Center for Science and Engineering Statistics (NCSES) within the U.S. National Science Foundation and by the Census Bureau. The ABS is the primary source of information on R&D expenditures by microbusinesses. Additionally, the ABS collects data related to innovation, intellectual property, technology, and business owner characteristics from both microbusinesses and companies with 10 or more employees. This InfoBrief reviews both the R&D totals for the microbusiness population and specifics for selected industries.

This InfoBrief and the related full set of data tables result from a multiyear collaboration between NCSES and the Census Bureau on the ABS.

Microbusiness R&D Trend

Figure 1 presents the trajectory of total R&D costs, total domestic R&D costs, and R&D performance for microbusinesses for the 2018–23 time frame. Total domestic R&D performance increased 31% from 2018 to 2023 (\$4.5 billion to \$5.9 billion). Total R&D costs increased 28% over the same time period, from \$6.5 billion to \$8.3 billion. Domestic R&D costs increased 23%, from \$5.8 billion in 2018 to \$7.1 billion in 2023.²

Figure 1. Total R&D costs, total domestic R&D costs, and domestic R&D performance for companies with 1–9 employees: 2018–23



Source(s):

National Center for Science and Engineering Statistics and Census Bureau, Annual Business Survey.

In 2023, domestic R&D costs by microbusinesses in the United States were approximately \$7.1 billion ([table 1](#)), of which \$1.2 billion was for outsourced R&D and the remaining \$5.9 billion (or 83%) was for R&D performed by the microbusinesses themselves. This proportion is not significantly different from that found in 2022, where 85% of domestic R&D was performed by the microbusinesses.

R&D by Type of Costs

Of the \$7.1 billion in domestic R&D costs in 2023, 56% was for salaries, wages, and fringe benefits ([table 2](#)). For manufacturing businesses, 49% of domestic R&D costs was spent on salaries, wages, and fringe benefits; for selected nonmanufacturing businesses, it was 57%. The software publishers industry (NAICS [North American Industry Classification System code] 5112) spent an even larger proportion of its domestic R&D costs on salaries, wages, and fringe benefits (84%).

Table 2. Domestic R&D costs, by selected industry and type of cost, for companies with 1–9 employees: 2023

(Thousands of 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	419	1,441	2,179	0	496
Textile, apparel, and leather products	313–16	5,748	2,896	0	1,916	0	0	936
Wood products	321	10,390	5,547	0	163	0	0	4,680
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
Pharmaceuticals and medicines	3254	54,548	21,996	1,209	8,796	12,251	737	9,560
Chemicals, excluding pharmaceuticals	other 325	134,081	65,994	4,749	13,425	5,259	841	43,812
Plastics and rubber products	326	22,811	10,773	5,647	2,552	2,041	29	1,769
Nonmetallic mineral products	327	4,070	2,877	792	276	0	0	125
Primary metals	331	1,226	688	130	37	371	0	0
Fabricated metal products	332	6,546	3,321	311	1,429	184	45	1,256
Machinery	333	40,561	23,979	2,283	5,198	1,354	236	7,511
Computer and electronic products	334	239,993	117,247	8,982	24,710	23,908	1,594	63,552
Semiconductor and other electronic components	3344	69,842	35,969	1,385	6,719	11,112	377	14,280
Navigational, measuring, electromedical, and control instruments	3345	138,980	58,435	5,802	14,919	11,749	1,091	46,983
Other computer and electronic products	other 334	31,171	22,844	1,795	3,072	1,046	125	2,289

Table 2. Domestic R&D costs, by selected industry and type of cost, for companies with 1–9 employees: 2023

(Thousands of 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
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
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.

Other types of costs for domestic R&D included payments to others for R&D (17%), materials and supplies (8%), expensed machinery and equipment (2%), and depreciation on R&D property and equipment (1%). The remaining 16% was used for other expenses, such as consultants, contractors, travel, or rent.

Characteristics of Microbusiness R&D Performance

By Industry

Domestic R&D performed by the company equaled \$5.9 billion in 2023. As was the case in findings from previous ABS cycles, microbusiness R&D was highly concentrated within a few industries in 2023.³

Selected nonmanufacturing industries accounted for 91% of the microbusiness domestic R&D performance costs ([table 3](#)). Nearly, two-fifths of the microbusiness domestic R&D performance costs, or 36% of all domestic R&D costs, was from scientific research and development services (NAICS 5417). Computer systems design and related services (NAICS 5415) accounted for 26% of all microbusiness domestic R&D performance costs.

Table 3. Domestic R&D performed by the company, by selected industry and source of funds, for companies with 1–9 employees: 2023

(Thousands of 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

Table 3. Domestic R&D performed by the company, by selected industry and source of funds, for companies with 1–9 employees: 2023

(Thousands of 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
Computer systems design and related services	5415	1,556,103	1,362,029	3,474 r	87,490	12,521	18,307 r	32	71,755	496 r	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 r	2,032 r	267 r	36,697	346	232 r
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 r	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):

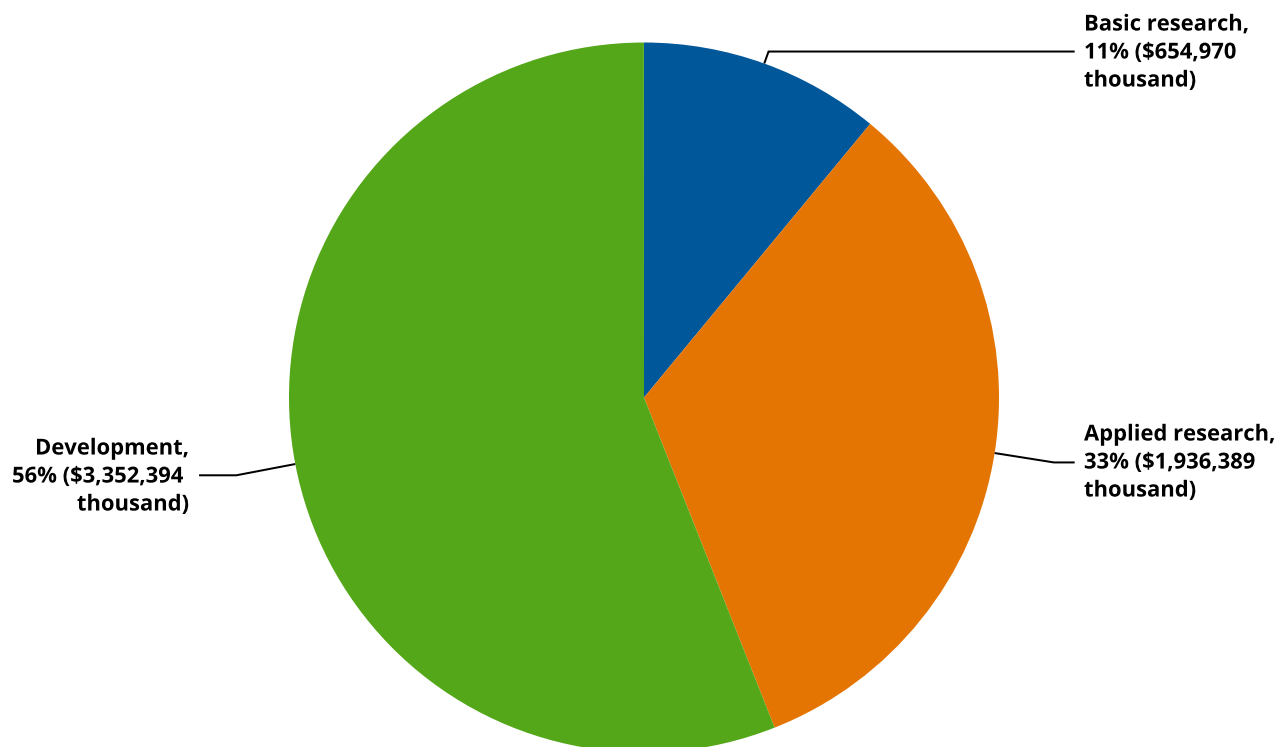
National Center for Science and Engineering Statistics and Census Bureau, 2024 Annual Business Survey: Data Year 2023.

Among the manufacturing industries (9% of all microbusiness domestic R&D performance costs), computer and electronic products (NAICS 334) made up 4%, followed by chemicals (NAICS 325) with 3% of the total domestic R&D performed by microbusinesses.

By Type of R&D

There are three types of R&D: basic research, applied research, and development.⁴ In 2023, 56% of microbusiness R&D performance was for development, 33% was for applied research, and 11% was for basic research ([figure 2](#)).

Figure 2. Domestic R&D performed by the company, by type of R&D, for companies with 1–9 employees: 2023



Note(s):

Selected industries consist of North American Industry Classification System codes 31–33, 42, 51, 5413, 5415, and 5417.

Source(s):

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

By Source of Funds

In 2023, over three-quarters (78%) of microbusiness R&D performance was paid for from the companies' own funds; 11% was from federal, state, or local governments combined; 6% was from another U.S. company; and 3% was from a foreign owner ([table 3](#)). In the manufacturing industries, 64% of R&D was paid for by the company, compared with 80% in selected nonmanufacturing industries.

In scientific research and development services (NAICS 5417), the industry with the most domestic R&D performance costs, 68% of microbusiness R&D performance was self-funded and 19% was funded by federal, state, or local governments combined. In 2023, 62% of all government funding for microbusinesses went to scientific research and development services.

By State

In 2023, five states (California, Massachusetts, Texas, Pennsylvania, and New York) accounted for 50% of all domestic microbusiness R&D performance cost.⁵ In 2022, these same five states accounted for 54% of all domestic microbusiness R&D performance cost.

Total Employment and R&D Employees

There were nearly 41,000 domestic R&D employees (79% male and 21% female) working for microbusinesses in 2023 ([table 4](#)), and 89% of those domestic R&D employees were in the selected nonmanufacturing microbusinesses.

Table 4. 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 r
Textile, apparel, and leather products	313–16	77 r	2	75 r
Wood products	321	70 r	70 r	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 r
Plastics and rubber products	326	203 r	174 r	30 r
Nonmetallic mineral products	327	42	42	0
Primary metals	331	13	13	0
Fabricated metal products	332	78 r	66 r	12 r
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 r
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 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.

Among domestic R&D employees across all selected industries, the largest numbers of employees worked in the computer systems design and related services industry (NAICS 5415) and in the scientific research and development services industry (NAICS 5417), 32% and 25%, respectively.

R&D employee occupations include researchers (e.g., R&D scientists, engineers, and their managers), R&D technicians and equivalent staff, and R&D support staff (clerical and other). Among domestic R&D employees in 2023, 71% were researchers, and among these approximately 29,000 researchers, 27% have PhDs (table 5). Just over 9,000, or 22% of domestic R&D employees, were R&D technicians, and the remaining 2,800, or 7%, were R&D support staff.

Table 5. 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		R&D technicians and equivalent staff	R&D support staff (clerical and other)
			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	40,836	28,934	7,895	9,073	2,829
Manufacturing industries	31–33	4,302	3,008	934	1,044	250
Food, beverage, and tobacco products	311–12	47	30	9	8 r	8 r
Textile, apparel, and leather products	313–16	77 r	0	0	39 r	37 r
Wood products	321	70 r	0	0	70 r	0
Paper	322	0	0	0	0	0
Printing and related support activities	323	2	2	0	0	0
Petroleum and coal products	324	0	0	0	0	0
Chemicals	325	1,069	883	389	121	66
Pharmaceuticals and medicines	3254	287	215	111	42	29
Chemicals, excluding pharmaceuticals	other 325	782	667 r	279	78	37
Plastics and rubber products	326	203 r	152 r	3 r	51 r	0
Nonmetallic mineral products	327	42	21	0	10 r	10 r
Primary metals	331	13	12	3	2	0
Fabricated metal products	332	78 r	25	16 r	48 r	4
Machinery	333	386	261	71	115	10
Computer and electronic products	334	1,671	1,275	344	326	70
Semiconductor and other electronic components	3344	463	334	158	94	35 r
Navigational, measuring, electromedical, and control instruments	3345	962	765	173	170	27
Other computer and electronic products	other 334	245	176	13	62	7 r
Electrical equipment, appliances, and components	335	170	109	8	43	18
Transportation equipment	336	80	37	8 r	31	12 r
Aerospace products and parts	3364	46	31	8 r	9 r	6 r
Other transportation equipment	other 336	34	6	0	21	6 r

Table 5. 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		R&D technicians and equivalent staff	R&D support staff (clerical and other)
			Researchers (including R&D scientists, engineers, and their managers)	Researchers with PhD (excluding MD, JD, and EdD)		
Furniture and related products	337	3	2	0	2	0
Miscellaneous manufacturing	339	392	199	84	178	14
Selected nonmanufacturing industries	42, 51, 5413, 5415, 5417	36,535	25,926	6,961	8,029	2,580
Wholesale trade	42	1,621	1,145	193 r	221	255 r
Information	51	6,895	5,332	609	1,300	263
Software publishers	5112	5,790	4,614	548 r	1,014	162
Information, excluding software publishers	51 less 5112	1,105	718	61	286	101
Architectural, engineering, and related services	5413	4,699	3,627	888	777	295
Computer systems design and related services	5415	13,204	8,190	965	3,936	1,079
Scientific research and development services	5417	10,115	7,632	4,305	1,795	688
Research and development in nanotechnology	541713	613	489	314	106	18
Research and development in biotechnology (except nanobiotechnology)	541714	3,398	2,637	1,716	550	211
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	6,002	4,439	2,251	1,127	436
Social sciences and humanities research and development	541720	101	67	24	12 r	23 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. 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.

Computer systems design and related systems (NAICS 5415) and scientific research and development services (NAICS 5417) have the greatest number of R&D employees, around 13,000 and 10,000, respectively. Of the approximately 8,000 researchers in the computer systems design industry, 12% have PhDs, whereas in the scientific research and development services industry, 56% of the researchers have PhDs.

Survey Information and Data Availability

In this InfoBrief, R&D costs and performance are expressed in current U.S. dollars and are not adjusted for inflation. For the ABS, a microbusiness is defined as a business organization located in the United States, either U.S.-owned or a U.S. affiliate of a foreign parent company, of one or more establishments under common ownership or control, with one to nine domestic employees.

The survey was administered to companies whether or not they were known to have R&D activity. The ABS collected detailed statistics from microbusinesses located in the United States on R&D expenditures, R&D employees, intellectual property, company and primary owner characteristics, and innovation activities.

Only microbusinesses (those businesses with one to nine employees) are asked the R&D questions, and data for only those microbusinesses are presented in this InfoBrief.

The statistics from the survey are based on a sample; as such, they are subject to both sampling and nonsampling errors (see the survey [Technical Notes](#)). All statistical tests were conducted at the 10% significance level unless specifically noted. Microbusinesses with less than \$50,000 in R&D are excluded from the ABS national estimates and this InfoBrief.

For the full ABS 2024 (data year 2023), 330,000 employer companies were sampled to represent the population of 5.6 million employer companies, and the unit response rate was 64%.

The full set of data tables on R&D, company demographics, innovation, technology, and patent and intellectual property protection from this survey will be available in the report *Annual Business Survey: 2024 (Data Year 2023)* (<https://nces.nsf.gov/surveys/annual-business-survey/2024#data>). Individual data tables and tables with relative standard errors and imputation rates from the ABS 2024 are available from NCSES upon request.

NCSES has reviewed this product for unauthorized disclosure of confidential information and approved its release (NCSES-DRN26-022).

Notes

1 Microbusinesses are defined as having between one to nine domestic employees. Employees are defined as individuals who worked for the business and received a W-2 issued by the business for salary or wages.

2 Reported percent changes are based on the data in the full set of tables (available at the [ABS homepage](#)) rather than the rounded values shown here.

3 R&D questions were asked only of manufacturers and certain selected nonmanufacturing industries. In previous NCSES surveys (2017 ABS, Business R&D and Innovation Survey–Microbusiness, and Business R&D Innovation Survey) these industries represented almost all R&D of microbusinesses in the United States.

4 As defined by the *Frascati Manual*, basic research is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any particular application or use in view. Applied research is original investigation undertaken in order to acquire new knowledge. It is, however, directed primarily toward a specific, practical aim or objective. Experimental development is systematic work, drawing on knowledge gained from research and practical experience and producing additional knowledge, which is directed to producing new products or processes or to improving existing products or processes. See Organisation for Economic Co-operation and Development (OECD). 2015. *Frascati Manual: Guidelines for Collecting and Reporting Data on Research and Experimental Development. The Measurement of Scientific, Technological and Innovation Activities*, 7th ed. Paris: OECD Publishing.

5 See the full set of data tables: [table 13](#).

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