

TABLE 55

Worldwide, domestic, and foreign total and R&D employment, by industry and company size: 2019

(Thousands and percent)

Industry and company size	NAICS code	Worldwide employees			Domestic employees			Foreign employees		
		Total	R&D	R&D employees (%)	Total	R&D	R&D employees (%)	Total	R&D	R&D employees (%)
All industries	21–23, 31–33, 42–81	32,296	2,676	8.3	21,213	1,832	8.6	11,083	844	7.6
Manufacturing industries	31–33	17,529	1,409	8.0	10,100	962	9.5	7,429	447	6.0
Food	311	1,558	35	2.2	985	23	2.3	573	12	2.2
Beverage and tobacco products	312	849	8	1.0	391	6	1.5	458	3	0.6
Textile, apparel, and leather products	313–16	401	8	2.1	220	7	3.1	181	1	0.8
Wood products	321	115	3	2.5	105	3	2.7	11	*	1.0
Paper	322	307	7	2.4	193	5	2.8	114	2	1.7
Printing and related support activities	323	305	5	1.5	262	5	1.7	43	*	0.2
Petroleum and coal products	324	155	9	5.8	91	6	7.1	64	3	3.9
Chemicals	325	2,439	255	10.5	1,451	186	12.8	988	70	7.1
Basic chemicals	3251	361	17	4.8	246	12	4.7	115	6	5.0
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	156	10	6.5	83	6	7.5	74	4	5.4
Pesticide, fertilizer, and other agricultural chemicals	3253	101	10	9.8	69	7	10.8	31	2	7.4
Pharmaceuticals and medicines	3254	1,068	184	17.3	648	139	21.5	421	45	10.8
Soap, cleaning compound, and toilet preparation	3256	459	17	3.6	245	11	4.5	214	6	2.7
Paint, coating, adhesive, and other chemicals	3255, 3259	293	17	5.8	160	10	6.4	134	7	4.9
Plastics and rubber products	326	694	31	4.4	495	25	5.0	199	6	3.1
Nonmetallic mineral products	327	206	7	3.6	139	7	4.9	67	1	1.1
Primary metals	331	298	9	2.9	216	8	3.7	83	1	0.9
Fabricated metal products	332	558	36	6.4	387	34	8.7	171	2	1.2
Machinery	333	1,599	138	8.7	869	95	10.9	729	43	6.0
Agricultural implement	33311	180	22	12.1	100	13	12.8	80	9	11.1
Semiconductor machinery	333242	96	20	21.2	37	12	34.1	59	8	13.2
Engine, turbine, and power transmission equipment	3336	191	12	6.4	79	7	9.0	112	5	4.6
Other machinery	other 333	1,131	84	7.4	654	63	9.6	478	22	4.5
Computer and electronic products	334	2,525	446	17.7	1,167	264	22.6	1,358	182	13.4
Communications equipment	3342	266	72	27.0	151	40	26.5	114	32	27.7
Semiconductor and other electronic components	3344	890	181	20.3	309	95	30.8	581	85	14.7
Navigational, measuring, electromedical, and control instruments	3345	869	110	12.7	485	75	15.5	384	35	9.2

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Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	181	24 i	13.3	96	16 i	16.8	85	8 i	9.3
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	307	40 i	13.1	205	33	16.1	102	7 i	7.1
Other measuring and controlling device	other 3345	381	46	12.1	185	26	14.1	196	20	10.2
Other computer and electronic products	other 334	500	84	16.7	221	54	24.3	279	30	10.7
Electrical equipment, appliances, and components	335	776	48	6.1	319	25	7.8	458	23 i	5.0
Transportation equipment	336	3,115	254	8.2	1,835	183	9.9	1,280	72	5.6
Motor vehicles, bodies, trailers, and parts	3361-63	2,120	169	8.0	1,040	108	10.4	1,080	61	5.6
Aerospace products and parts	3364	742	70	9.4	612	61	10.0	130	8	6.2
Aircraft, aircraft engine, and aircraft parts	336411-13	717	62	8.7	588	54	9.2	130	8	6.3
Guided missile, space vehicle, and related parts	336414-15, 336419	25	7	29.5	24	7	29.9	*	*	0.7
Military armored vehicle, tank, and tank component	336992	3	1	27.5	3	1	27.6	* i	0	0.0
Other transportation	other 336	250	15	6.0	180	12	6.8	70	3 i	3.9
Furniture and related products	337	164	4	2.7	139	4	2.8	25	*	1.8
Miscellaneous	339	1,466	104	7.1	837	78	9.4	630	26	4.2
Medical equipment and supplies	3391	1,079	82	7.6	586	59	10.1	492	23	4.7
Other miscellaneous manufacturing	3399	388	22	5.8	250	19	7.7	137	3	2.4
Nonmanufacturing industries	21-23, 42-81	14,766	1,267	8.6	11,113	870	7.8	3,654	396	10.9
Mining, quarrying, oil and gas extraction, and support activities	21	392	22 i	5.7	181	12	6.6	211	11 i	5.0
Utilities	22	359	0-35	D	348	0-23	D	12	0-12	D
Wholesale trade	42	303 i	16	5.1	255 i	13	5.2	48	2	4.6
Electronic shopping and electronic auctions	454111-12	1,008	42-114	D	413-1,005	38-64	D	3-595	3-52	D
Transportation and warehousing	48-49	1,357	19 i	1.4	1,047	18 i	1.7	310	1 i	0.2
Information	51	3,043	533	17.5	2,107	359	17.0	936	174	18.6
Publishing	511	599	181	30.2	359	110	30.6	241	71	29.5
Newspaper, periodical, book, and directory publishers	5111	4	1	17.7	3	1	17.5	*	*	27.5

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Software publishers	5112	596	180	30.3	355	109	30.8	241	71	29.5
Telecommunications	517	682	20	2.9	606	19	3.1	77	1	1.1
Data processing, hosting, and related services	518	1,239	201	16.2	768	126	16.4	471	75	16.0
Other information	other 51	522	130	25.0	375	104	27.7	147	27	18.1
Finance and insurance	52	2,159	71	3.3	1,795	54	3.0	364	17	4.6
Real estate and rental and leasing	53	30	4	12.6	25	4	14.3	5	*	4.2
Lessors of nonfinancial intangible assets (except copyrighted works)	533	1	*	13.4	1	*	13.0	*	*	30.8
Other real estate and rental and leasing	other 53	28	4	12.6	24	3	14.3	5	*	4.0
Professional, scientific, and technical services	54	2,595	441	17.0	1,421	299	21.1	1,175	142	12.1
Architectural, engineering, and related services	5413	464	59	12.7	323	58	18.0	140	1	0.6
Computer systems design and related services	5415	1,068	154	14.4	482	99	20.5	586	55	9.5
Scientific research and development services	5417	418	178	42.6	300	98	32.8	118	i 80	67.5
Research and development in biotechnology	541711	172	59	34.3	141	30	21.6	31	29	91.5
Research and development in the physical, engineering, and life sciences (except biotechnology)	541712	232	110	i 47.2	146	59	40.3	87	i 51	i 58.9
Research and development in the social sciences and humanities	541720	13	9	70.5	13	9	70.8	*	*	59.1
Other professional, scientific, and technical services	other 54	646	50	7.7	316	44	14.0	330	i 6	1.7
Health care services	621–23	510	12	2.4	507	12	2.4	3	*	3.1
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	3,010	38–88	D	2,418–3,011	39	D	0–591	0–49	D
All companies (number of domestic employees)	–	32,296	2,676	8.3	21,213	1,832	8.6	11,083	844	7.6
Small companies										
10–19 ^a	–	83	37	44.4	79	35	44.7	4	2	39.8
20–49	–	325	92	28.3	257	83	32.4	69	9	12.9
Medium companies										
50–99	–	423	95	22.5	356	85	23.8	67	10	15.4
100–249	–	975	150	15.4	719	127	17.7	256	23	8.8

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Large companies										
250–499	–	991	130	13.1	760	105	13.8	231	25	10.8
500–999	–	1,202	134	11.1	859	100	11.6	343	34	9.9
1,000–4,999	–	4,575	454	9.9	2,854	305	10.7	1,721	149	8.6
5,000–9,999	–	2,971	280	9.4	1,677	182	10.9	1,294	97	7.5
10,000–24,999	–	6,282	465	7.4	3,518	267	7.6	2,764	198	7.2
25,000 or more	–	14,468	840	5.8	10,135	542	5.3	4,334	298	6.9

* = amount < 500 employees; D = data withheld to avoid disclosing operations of individual companies; i = > 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

NAICS = 2012 North American Industry Classification System.

^a The Business Enterprise Research and Development Survey does not include companies with fewer than 10 domestic employees.

Note(s):

Detail may not add to total because of rounding. Industry classification is based on the dominant business code for domestic R&D performance, where available. For companies that did not report business codes, the classification used for sampling was assigned. Beginning in survey year 2018, statistics are representative of companies located in the United States that performed or funded \$50,000 or more of R&D. This change has affected the comparability of these estimates with estimates published for years prior to 2018. An estimate range may be displayed in place of a single estimate to avoid disclosing operations of individual companies.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2019.