

TABLE 47

**Worldwide, domestic, and foreign total and R&D employment, by industry and company size: 2021**

(Thousands and percent)

Industry and company size	NAICS code	Worldwide employees			Domestic employees			Foreign employees		
		Total	R&D	Percentage of R&D employees	Total	R&D	Percentage of R&D employees	Total	R&D	Percentage of R&D employees
All industries	21-23, 31-33, 42-81	35,574	3,161	8.9	23,654	2,132	9.0	11,920	1,029	8.6
Manufacturing industries	31-33	18,325	1,524	8.3	10,334	1,015	9.8	7,991	510	6.4
Food	311	1,702	40	2.4	1,142	27	2.4	560	13	2.3
Beverage and tobacco products	312	992	8	0.8	425	5	1.1	567	3	0.6
Textile, apparel, and leather products	313-16	367	9	2.4	207	7	3.2	160	2	1.3
Wood products	321	142	6	4.3	129	6	4.7	13	*	0.5
Paper	322	281	8	2.9	194	6	3.2	87	2	2.1
Printing and related support activities	323	159	3	1.9	130	3	2.1	29	*	1.1
Petroleum and coal products	324	168	7	4.1	103	5	4.9	65	2	2.8
Chemicals	325	2,416	278	11.5	1,392	201	14.4	1,024	77	7.6
Basic chemicals	3251	334	19	5.8	208	12	5.6	126	8	6.1
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	165	10	6.2	82	6	7.9	83	4	4.6
Pesticide, fertilizer, and other agricultural chemicals	3253	100	5	5.2	70	5	6.5	31	1	2.1
Pharmaceuticals and medicines	3254	1,072	211	19.7	638	157	24.6	434	54	12.5
Soap, cleaning compound, and toilet preparations	3256	486	18	3.7	253	11	4.5	232	6	2.8
Paint, coating, adhesive, and other chemicals	3255, 3259	258	14	5.3	140	9	6.7	118	4	3.7
Plastics and rubber products	326	691	29	4.2	493	23	4.7	198	6	2.9
Nonmetallic mineral products	327	216	9	4.4	136	8	6.0	80	1	1.5
Primary metals	331	169	10	6.0	127	9	7.5	42	1	1.4
Fabricated metal products	332	976	52	5.3	709	50	7.0	268	2	0.8
Machinery	333	1,899	159	8.4	932	100	10.8	967	59	6.1
Agricultural implement	33311	175	17	9.5	101	10	9.6	74	7	9.3
Semiconductor machinery	333242	116	27	23.5	40	14	35.7	76	13	17.1
Engine, turbine, and power transmission equipment	3336	217	11	5.1	84	8	9.2	132	3	2.5
Other machinery	other 333	1,391	104	7.5	706	68	9.7	685	35	5.2
Computer and electronic products	334	2,425	464	19.1	1,058	256	24.2	1,367	208	15.2
Communications equipment	3342	308	81	26.2	168	49	28.9	140	32	22.9
Semiconductor and other electronic components	3344	774	188	24.3	270	93	34.5	504	95	18.9
Navigational, measuring, electromedical, and control instruments	3345	710	86	12.0	362	54	15.0	348	31	9.0
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	82	10	12.6	54	8	14.4	28	3	9.2
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	177	25	14.0	120	21	17.9	57	3	5.8
Other measuring and controlling devices	other 3345	452	51	11.2	188	25	13.3	264	25	9.6
Other computer and electronic products	other 334	633	109	17.2	258	60	23.3	375	49	13.1

TABLE 47

## Worldwide, domestic, and foreign total and R&amp;D employment, by industry and company size: 2021

(Thousands and percent)

Industry and company size	NAICS code	Worldwide employees			Domestic employees			Foreign employees										
		Total	R&D	Percentage of R&D employees	Total	R&D	Percentage of R&D employees	Total	R&D	Percentage of R&D employees								
Electrical equipment, appliances, and components	335	673	47	7.0	271	26	9.8	402	21	i	5.2							
Transportation equipment	336	3,202	272	8.5	1,863	196	10.5	1,339	77		5.7							
Motor vehicles, bodies, trailers, and parts	3361-63	2,035	168	8.3	889	108	12.1	1,146	60		5.3							
Aerospace products and parts	3364	939	86	9.1	794	75	9.5	145	11		7.3							
Aircraft, aircraft engine, and aircraft parts	336411-13	901	79	8.8	759	69	9.1	142	10		7.3							
Guided missile, space vehicle, and related parts	336414-15, 336419	38	7	17.7	35	7	18.4	3	*		7.9							
Military armored vehicle, tank, and tank components	336992	2	*	11.0	2	*	11.0	0	0		NA							
Other transportation	other 336	226	18	8.1	177	12	6.9	48	6		12.2							
Furniture and related products	337	173	4	2.6	137	4	2.9	36	*		1.3							
Miscellaneous	339	1,672	118	7.1	886	83	9.4	787	35		4.5							
Medical equipment and supplies	3391	1,255	96	7.7	619	65	10.5	636	31		4.9							
Other miscellaneous manufacturing	3399	417	22	5.3	267	18	6.7	150	4	i	2.9							
Nonmanufacturing industries	21-23, 42-81	17,249	1,637	9.5	13,320	1,117	8.4	3,929	520		13.2							
Mining, quarrying, oil and gas extraction, and support activities	21	239	9 - 91	D	158	9	i	5.9	81	0 - 82	D							
Utilities	22	350	3 - 33	D	341	3 - 24		D	9	0 - 10	D							
Wholesale trade	42	784	i	23 - 127	i	D			651	i	24	i	3.7	133	i	0 - 103	i	D
Electronic shopping and electronic auctions	454111-12	98 - 5,964	98 - 221	D	98 - 5,080	98 - 120		D	0 - 888	0 - 103		D						
Transportation and warehousing	48-49	1,410	21 - 125	D	1,087	22		2.0	323	0 - 103		D						
Information	51	3,210	692	21.5	2,186	449	20.5	1,024	242		23.7							
Publishing	511	776	216	27.9	460	127	27.5	316	90		28.4							
Newspaper, periodical, book, and directory publishers	5111	7	1	i	17.5	6	1	i	18.5	*	0	0.0						
Software publishers	5112	769	215	28.0	454	125	27.7	315	90		28.4							
Telecommunications	517	610	23	3.7	542	22	4.0	68	1		1.5							
Data processing, hosting, and related services	518	1,264	282	22.3	786	168	21.4	478	114		23.9							
Other information	other 51	561	171	30.4	399	133	33.4	162	38		23.2							
Finance and insurance	52	2,133	113	5.3	1,729	87	5.0	405	26		6.5							
Real estate and rental and leasing	53	110	4 - 22	D	94	4	4.7	17	0 - 17		D							
Lessors of nonfinancial intangible assets (except copyrighted works)	533	3	*	8.5	3	*	8.5	*	0		0.0							
Other real estate and rental and leasing	other 53	107	4 - 22	D	90	4	4.6	17	0 - 17		D							
Professional, scientific, and technical services	54	2,572	494	19.2	1,530	343	22.4	1,042	150		14.4							
Architectural, engineering, and related services	5413	380	68	17.8	296	65	21.8	84	3	r	3.5							

TABLE 47

**Worldwide, domestic, and foreign total and R&D employment, by industry and company size: 2021**

(Thousands and percent)

Industry and company size	NAICS code	Worldwide employees			Domestic employees			Foreign employees		
		Total	R&D	Percentage of R&D employees	Total	R&D	Percentage of R&D employees	Total	R&D	Percentage of R&D employees
Computer systems design and related services	5415	1,025	145	14.2	540	102	18.8	485	44	9.0
Scientific research and development services	5417	463	229	i 49.4	277	130	46.8	186	i 99	i 53.1
Research and development in nanotechnology	541713	2	1	57.8	2	1	60.5	*	*	i 25.1
Research and development in biotechnology (except nanobiotechnology)	541714	161	79	48.8	108	36	33.1	54	43	80.5
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	287	139	i 48.5	155	84	i 54.0	132	i 55	i 42.0
Research and development in the social sciences and humanities	541720	12	9	74.4	12	9	74.5	*	*	68.0
Other professional, scientific, and technical services	other 54	703	52	7.4	416	47	11.3	288	5	1.8
Health care services	621-23	432	8 - 22	D	420	9	2.1	12	0 - 13	D
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	49 - 5,915	49 - 153	D	49 - 5,031	50	D	0 - 888	0 - 103	D
All companies (number of domestic employees)	-	35,574	3,161	8.9	23,654	2,132	9.0	11,920	1,029	8.6
Small companies										
10-19 <sup>a</sup>	-	96	40	42.1	85	36	41.9	11	5	43.2
20-49	-	343	110	32.2	298	99	33.1	45	12	26.2
Medium companies										
50-99	-	473	102	21.5	418	92	22.1	56	9	16.7
100-249	-	1,111	178	16.0	886	157	17.8	225	21	9.2
Large companies										
250-499	-	1,003	148	14.8	741	110	14.9	262	38	14.5
500-999	-	1,343	154	11.4	926	110	11.9	416	43	10.3
1,000-4,999	-	5,009	507	10.1	3,148	340	10.8	1,860	168	9.0
5,000-9,999	-	3,218	315	9.8	1,933	211	10.9	1,285	103	8.0
10,000-24,999	-	5,986	541	9.0	3,260	309	9.5	2,726	232	8.5
25,000 or more	-	16,993	1,066	6.3	11,959	668	5.6	5,034	399	7.9

\* = amount < 500 employees; D = data withheld to avoid disclosing operations of individual companies; i = more than 50% of the estimate is a combination of imputation and reweighting to account for nonresponse; r = relative standard error is more than 50%; NA = not available.

NAICS = 2017 North American Industry Classification System.

<sup>a</sup> 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. Statistics are representative of companies located in the United States that performed or funded \$50,000 or more of R&D and are not comparable 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, 2021.