

TABLE 52

## Foreign total employment, R&amp;D employment, and level of education of researchers, by activity, industry, and company size: 2021

(Thousands)

Industry and company size	NAICS code	Total employment	Total R&D employment	Researchers <sup>a</sup>		R&D technicians and equivalent staff	Other R&D supporting staff				
				Total	With PhD						
All industries	21-23, 31-33, 42-81	11,920	1,029	700	38	233	96				
Manufacturing industries	31-33	7,991	510	387	25	71	53				
Food	311	560	13	8	1	3	2				
Beverage and tobacco products	312	567	3	2	*	1	*				
Textile, apparel, and leather products	313-16	160	2	1	i	1	*				
Wood products	321	13	*	*	0	*	*				
Paper	322	87	2	2	*	i	*				
Printing and related support activities	323	29	*	*	*	*	*				
Petroleum and coal products	324	65	2	*	*	1	*				
Chemicals	325	1,024	77	45	7	11	i	21			
Basic chemicals	3251	126	8	4	1	4	i	1			
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	83	4	2	*	i	1	1			
Pesticide, fertilizer, and other agricultural chemicals	3253	31	1	*	*	i	*	*			
Pharmaceuticals and medicines	3254	434	54	31	5	5	19				
Soap, cleaning compound, and toilet preparations	3256	232	6	6	1	*	1				
Paint, coating, adhesive, and other chemicals	3255, 3259	118	4	3	*	i	1	*			
Plastics and rubber products	326	198	6	3	i	*	i	2	i	1	i
Nonmetallic mineral products	327	80	1	1	*	*	*	*			
Primary metals	331	42	1	*	*	*	i	*	i		
Fabricated metal products	332	268	2	1	*	i	1	*			
Machinery	333	967	59	45	2	11	3				
Agricultural implement	33311	74	7	6	*	1	*				
Semiconductor machinery	333242	76	13	9	1	4	*				
Engine, turbine, and power transmission equipment	3336	132	3	3	*	*	*				
Other machinery	other 333	685	35	27	1	6	2				
Computer and electronic products	334	1,367	208	176	6	i	17	15	i		
Communications equipment	3342	140	32	26	1	i	3	4			
Semiconductor and other electronic components	3344	504	95	87	3	5	3	i			
Navigational, measuring, electromedical, and control instruments	3345	348	31	26	2	i	3	2			
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	28	3	2	1	i	1	*			
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	57	i	3	3	*	i	*			
Other measuring and controlling devices	other 3345	264	25	22	2	3	1				
Other computer and electronic products	other 334	375	49	37	1	i	5	i	7	i	

TABLE 52

## Foreign total employment, R&amp;D employment, and level of education of researchers, by activity, industry, and company size: 2021

(Thousands)

Industry and company size	NAICS code	Total employment	Total R&D employment	Researchers <sup>a</sup>		R&D technicians and equivalent staff	Other R&D supporting staff				
				Total	With PhD						
Electrical equipment, appliances, and components	335	402	21	i	15	i	3	i	4	2	
Transportation equipment	336	1,339	77		62		3		10	5	
Motor vehicles, bodies, trailers, and parts	3361-63	1,146	60		49		2		8	3	i
Aerospace products and parts	3364	145	11		10		1		1	*	
Aircraft, aircraft engine, and aircraft parts	336411-13	142	10		9		1		1	*	
Guided missile, space vehicle, and related parts	336414-15, 336419	3	*		*		*	i	*	0	
Military armored vehicle, tank, and tank components	336992	0	0		0		0		0	0	
Other transportation	other 336	48	6		3	i	*	i	1	2	
Furniture and related products	337	36	*		*		*		*	*	i
Miscellaneous	339	787	35		25		1		8	2	
Medical equipment and supplies	3391	636	31		22		1		7	2	
Other miscellaneous manufacturing	3399	150	4	i	3	i	*		1	*	
Nonmanufacturing industries	21-23, 42-81	3,929	520		314		14	i	163	43	
Mining, quarrying, oil and gas extraction, and support activities	21	81	0-82		0-61		0-1		0-50	0-8	
Utilities	22	9	0-10		0-10		*		0-10	0-8	
Wholesale trade	42	133	i 0-103	i	0-61	i	*		0-50	i 0-8	
Electronic shopping and electronic auctions	454111-12	0-888	0-103		0-61		0		0-50	0-12	
Transportation and warehousing	48-49	323	0-103		0-61		0		0-50	0-8	
Information	51	1,024	242		179		7	i	39	24	
Publishing	511	316	90		67		3	i	12	11	
Newspaper, periodical, book, and directory publishers	5111	*	0		0		0		0	0	
Software publishers	5112	315	90		67		3	i	12	11	
Telecommunications	517	68	1		1		*	i	*	*	
Data processing, hosting, and related services	518	478	114		82		1	i	20	12	
Other information	other 51	162	38		30		3		7	1	
Finance and insurance	52	405	26		8-26		0-2	i	0-18	0-7	
Real estate and rental and leasing	53	17	0-17		0-17		0		0-17	0	

TABLE 52

## Foreign total employment, R&amp;D employment, and level of education of researchers, by activity, industry, and company size: 2021

(Thousands)

Industry and company size	NAICS code	Total employment	Total R&D employment	Researchers <sup>a</sup>		R&D technicians and equivalent staff	Other R&D supporting staff
				Total	With PhD		
Lessors of nonfinancial intangible assets (except copyrighted works)	533	*	0	0	0	0	0
Other real estate and rental and leasing	other 53	17	0 - 17	0 - 17	0	0 - 17	0
Professional, scientific, and technical services	54	1,042	150	67	6 i	75 i	9 i
Architectural, engineering, and related services	5413	84	3 r	3 r	*	*	* r
Computer systems design and related services	5415	485	44	36	3 i	4	4
Scientific research and development services	5417	186 i	99 i	27	2	68 i	5 i
Research and development in nanotechnology	541713	*	* i	*	* i	* i	* i
Research and development in biotechnology (except nanobiotechnology)	541714	54	43	19	2	24	*
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	132 i	55 i	8 i	1 i	43 i	4 i
Research and development in the social sciences and humanities	541720	*	*	*	*	*	*
Other professional, scientific, and technical services	other 54	288	5	2 i	* i	3	* i
Health care services	621-23	12	0 - 13	0 - 13	0 - 2	0 - 13 i	* i
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	0 - 888	0 - 103	0 - 61	0 - 2	0 - 50	0 - 8
All companies (number of domestic employees)	-	11,920	1,029	700	38	233	96
Small companies							
10-19 <sup>b</sup>	-	11	5	4	*	1	*
20-49	-	45	12	8	*	3	1
Medium companies							
50-99	-	56	9	6	*	3	1
100-249	-	225	21	15	2	5	1
Large companies							
250-499	-	262	38	30	1 i	5	3
500-999	-	416	43	32	2 i	9	3
1,000-4,999	-	1,860	168	111	6 i	37	20
5,000-9,999	-	1,285	103	70	4	25 i	8
10,000-24,999	-	2,726	232	141	9 i	74 i	18 i
25,000 or more	-	5,034	399	284	14	73	41

\* = amount < 500 employees; i = more than 50% of the estimate is a combination of imputation and reweighting to account for nonresponse; r = relative standard error is more than 50%.

NAICS = 2017 North American Industry Classification System.

<sup>a</sup> Researchers include R&D scientists and engineers and their managers.

<sup>b</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.