

TABLE 50

Worldwide total employment, R&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 ^a		R&D technicians and equivalent staff	Other R&D supporting staff	
				Total	With PhD			
All industries	21-23, 31-33, 42-81	35,574	3,161	2,127	169	734	300	
Manufacturing industries	31-33	18,325	1,524	1,066	103	285	173	
Food	311	1,702	40	21	3	12	7	
Beverage and tobacco products	312	992	8	5	1	2	1	
Textile, apparel, and leather products	313-16	367	9	3	1	4	1	
Wood products	321	142	6	2	* i	2	2	
Paper	322	281	8	6	*	2	1	
Printing and related support activities	323	159	3	2	i *	1	1	
Petroleum and coal products	324	168	7	2	*	4	2	
Chemicals	325	2,416	278	177	42	45	56	
Basic chemicals	3251	334	19	11	3	7	i 2	
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	165	10	6	1	i 2	2	
Pesticide, fertilizer, and other agricultural chemicals	3253	100	5	3	1	1	1	
Pharmaceuticals and medicines	3254	1,072	211	134	33	30	48	
Soap, cleaning compound, and toilet preparations	3256	486	18	14	2	2	2	
Paint, coating, adhesive, and other chemicals	3255, 3259	258	14	10	1	i 3	1	
Plastics and rubber products	326	691	29	14	2	i 11	3	
Nonmetallic mineral products	327	216	9	5	1	3	1	
Primary metals	331	169	10	3	*	2	5	
Fabricated metal products	332	976	52	17	1	26	9	
Machinery	333	1,899	159	110	7	37	12	
Agricultural implement	33311	175	17	13	*	3	1	
Semiconductor machinery	333242	116	27	17	3	10	1	
Engine, turbine, and power transmission equipment	3336	217	11	9	*	2	*	
Other machinery	other 333	1,391	104	72	4	23	9	
Computer and electronic products	334	2,425	464	383	24	i 45	36	
Communications equipment	3342	308	81	59	2	i 7	14	
Semiconductor and other electronic components	3344	774	188	166	12	15	7	i
Navigational, measuring, electromedical, and control instruments	3345	710	86	68	7	13	5	
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	82	10	7	2	i 3	1	
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	177	25	20	1	4	1	
Other measuring and controlling devices	other 3345	452	51	42	4	6	3	
Other computer and electronic products	other 334	633	109	89	3	i 10	i 10	i

TABLE 50

Worldwide total employment, R&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 ^a		R&D technicians and equivalent staff	Other R&D supporting staff
				Total	With PhD		
Electrical equipment, appliances, and components	335	673	47	31	5 i	12	4
Transportation equipment	336	3,202	272	204	11	47	21
Motor vehicles, bodies, trailers, and parts	3361-63	2,035	168	132	6	25	11 i
Aerospace products and parts	3364	939	86	63	4	17	5
Aircraft, aircraft engine, and aircraft parts	336411-13	901	79	60	4	14	5
Guided missile, space vehicle, and related parts	336414-15, 336419	38	7	4	*	3	*
Military armored vehicle, tank, and tank components	336992	2	*	*	*	*	*
Other transportation	other 336	226	18	9	* i	5	4
Furniture and related products	337	173	4	2	* i	1	1
Miscellaneous	339	1,672	118	79	7	29	11
Medical equipment and supplies	3391	1,255	96	66	6	22	8
Other miscellaneous manufacturing	3399	417	22	13	*	7	2
Nonmanufacturing industries	21-23, 42-81	17,249	1,637	1,060	65 i	449	128
Mining, quarrying, oil and gas extraction, and support activities	21	239	9-91	4-66	* i	2-54	1-10 i
Utilities	22	350	3-33	2-13	* i	0-31	0-8
Wholesale trade	42	784	23-127 i	9-71 i	1 i	8-60 i	5-14 i
Electronic shopping and electronic auctions	454111-12	98-5,964	98-221	67-163	*	17-69	12
Transportation and warehousing	48-49	1,410	21-125	10-72	* i	8-60	1-10
Information	51	3,210	692	507	32 i	131	53
Publishing	511	776	216	166	11 i	30	20
Newspaper, periodical, book, and directory publishers	5111	7	1 i	* i	0	1 i	* i
Software publishers	5112	769	215	165	11 i	29	20
Telecommunications	517	610	23	11 i	1 i	9 i	2
Data processing, hosting, and related services	518	1,264	282	195	5 i	61	26
Other information	other 51	561	171	135	15	31	4
Finance and insurance	52	2,133	113	76	2 i	31	6
Real estate and rental and leasing	53	110	4-22	3-21	*	0-18	* i
Lessors of nonfinancial intangible assets (except copyrighted works)	533	3	*	* i	*	* i	* i
Other real estate and rental and leasing	other 53	107	4-22	3-21	*	0-18	* i
Professional, scientific, and technical services	54	2,572	494	274	28 i	179	41 i
Architectural, engineering, and related services	5413	380	68	48	2	15	4

TABLE 50

Worldwide total employment, R&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 ^a		R&D technicians and equivalent staff	Other R&D supporting staff
				Total	With PhD		
Computer systems design and related services	5415	1,025	145	106	7 i	27	12
Scientific research and development services	5417	463	229 i	91	17 i	115 i	23 i
Research and development in nanotechnology	541713	2	1	1	*	*	*
Research and development in biotechnology (except nanobiotechnology)	541714	161	79	35	4	43	1
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	287	139 i	53 i	12 i	71 i	16 i
Research and development in the social sciences and humanities	541720	12	9	3	*	1	6
Other professional, scientific, and technical services	other 54	703	52	28	2 i	21	3 i
Health care services	621-23	432	8 - 22	4 - 18	1	2 - 16	1
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	49 - 5,915	49 - 153	6 - 103	1 r	0 - 70	0 - 8
All companies (number of domestic employees)	-	35,574	3,161	2,127	169	734	300
Small companies							
10-19 ^b	-	96	40	24	4	12	4
20-49	-	343	110	63	8	35	12
Medium companies							
50-99	-	473	102	60	7	31	11
100-249	-	1,111	178	96	11	63	19
Large companies							
250-499	-	1,003	148	97	8	36	15
500-999	-	1,343	154	103	8	37	14
1,000-4,999	-	5,009	507	334	24 i	119	54
5,000-9,999	-	3,218	315	210	19	66	38
10,000-24,999	-	5,986	541	344	32 i	153 i	44
25,000 or more	-	16,993	1,066	795	48	182	89

* = 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.

^a Researchers include R&D scientists and engineers and their managers.^b 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.