

TABLE 50

Worldwide total employment, R&D employment, and level of education of researchers, by activity, industry, and company size: 2022

(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	36,453	3,186	2,199	184	701	287
Manufacturing industries	31-33	18,462	1,527	1,083	114	276	167
Food	311	2,138	46	26	3 i	13	8 i
Beverage and tobacco products	312	726	7	3	*	2	1
Textile, apparel, and leather products	313-16	343	6	3	*	3	1
Wood products	321	121	4	2	* i	1	1
Paper	322	262	8	5	*	2	2
Printing and related support activities	323	120	2	1	*	1	*
Petroleum and coal products	324	146	6	2	*	3	1
Chemicals	325	2,534	302	193	47	50	59
Basic chemicals	3251	383	21	11	3	9	2
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	190	11	7	1 i	3	1
Pesticide, fertilizer, and other agricultural chemicals	3253	84	5	4	1 i	1	1
Pharmaceuticals and medicines	3254	1,139	233	149	37	31	53
Soap, cleaning compound, and toilet preparations	3256	442	19	15	2	3	2
Paint, coating, adhesive, and other chemicals	3255, 3259	296	12	9	1 i	3	1
Plastics and rubber products	326	715	30	16	1 i	11	3
Nonmetallic mineral products	327	239	7	4	1	2	1
Primary metals	331	225	8	3	*	2	3
Fabricated metal products	332	532	40	16	1	18	6
Machinery	333	1,942	167	119	10	38	10
Agricultural implement	33311	189	18	15	*	3	1
Semiconductor machinery	333242	124	28	20	5	8	1
Engine, turbine, and power transmission equipment	3336	341	26	22	1	2	1
Other machinery	other 333	1,287	95	62	4	25	7
Computer and electronic products	334	2,685	460	384	27 i	46	29
Communications equipment	3342	255	69	57	3 i	6	5
Semiconductor and other electronic components	3344	1,174	204	178	14 i	21	5
Navigational, measuring, electromedical, and control instruments	3345	587	77	57	6 i	10	10
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	129	20	13	2 i	1	6
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	87	20	15	1	3	1
Other measuring and controlling devices	other 3345	371	37	29	3 i	6	3
Other computer and electronic products	other 334	670	110	92	4 i	8	10

TABLE 50

Worldwide total employment, R&D employment, and level of education of researchers, by activity, industry, and company size: 2022

(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	759	42	26	4 i	11	5
Transportation equipment	336	3,283	265	202	10 i	41	23
Motor vehicles, bodies, trailers, and parts	3361-63	1,988	164	128	6 i	22 i	14 i
Aerospace products and parts	3364	1,035	86	66	4	14	6
Aircraft, aircraft engine, and aircraft parts	336411-13	697	58	43	3	11	4
Guided missile, space vehicle, and related parts	336414-15, 336419	338	27	23 i	1 i	2	2
Military armored vehicle, tank, and tank components	336992	3	*	*	* i	*	*
Other transportation	other 336	257	15	8	* i	4	3
Furniture and related products	337	157	5	2	* i	2	1
Miscellaneous	339	1,536	122	77	8	32	13
Medical equipment and supplies	3391	1,173	102	67	8	25	11
Other miscellaneous manufacturing	3399	363	19	10	*	7	3
Nonmanufacturing industries	21-23, 42-81	17,991	1,660	1,116	71 i	424	120
Mining, quarrying, oil and gas extraction, and support activities	21	242 i	10 i	4 i	* i	4 i	2 i
Utilities	22	344	5	3	* i	1	1
Wholesale trade	42	641 i	22 i	9 i	* i	8 i	5 i
Electronic shopping and electronic auctions	454111-12	D	D	93 i	D	D	5 i
Transportation and warehousing	48-49	1,462	19 i	12 i	* i	5	2 i
Information	51	3,531	781	579	36 i	152	50
Publishing	511	826	258	197	12 i	44	18
Newspaper, periodical, book, and directory publishers	5111	5	1	*	*	*	*
Software publishers	5112	821	258	196	12 i	43	18
Telecommunications	517	573	13	8	* i	3	1 i
Data processing, hosting, and related services	518	1,460	302	213	6 i	64	26
Other information	other 51	673	208	162	18	41	5
Finance and insurance	52	1,792	88 i	56 i	3 i	28	4
Real estate and rental and leasing	53	213	6	5 i	*	1	*
Lessors of nonfinancial intangible assets (except copyrighted works)	533	1 i	* i	* i	0	* i	* i
Other real estate and rental and leasing	other 53	212	6	5 i	*	1	*
Professional, scientific, and technical services	54	2,696	549	327	29	177 i	46
Architectural, engineering, and related services	5413	418	70	47	2	18	5
Computer systems design and related services	5415	1,118	164	118	8 i	33	13
Scientific research and development services	5417	659	259	133	16	101 i	25 i

TABLE 50

Worldwide total employment, R&D employment, and level of education of researchers, by activity, industry, and company size: 2022

(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		
Research and development in nanotechnology	541713	4	2	1	*	*	*
Research and development in biotechnology (except nanobiotechnology)	541714	170	74	32	5	40	1
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	471	173	97	11	60	16
Research and development in the social sciences and humanities	541720	14	10	2	*	1	8
Other professional, scientific, and technical services	other 54	501	57	29	3	25	3
Health care services	621-23	415	11	4	1	4	3
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	D	D	23	D	D	3
All companies (number of domestic employees)	-	36,453	3,186	2,199	184	701	287
Small companies							
10-19 ^b	-	100	37	25	4	10	3
20-49	-	311	98	60	10	30	9
Medium companies							
50-99	-	438	101	57	7	33	11
100-249	-	1,004	164	102	11	47	15
Large companies							
250-499	-	1,144	160	102	10	41	16
500-999	-	1,428	175	111	9	43	21
1,000-4,999	-	5,238	552	363	30	138	52
5,000-9,999	-	3,638	277	205	18	46	25
10,000-24,999	-	5,896	565	362	33	158	46
25,000 or more	-	17,256	1,057	812	53	155	90

* = 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.

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.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2022.