

TABLE 56

Worldwide total employment, R&D employment, and level of education of researchers, by activity, industry, and company size: 2018

(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	31,345	2,564	1,770	158	562	231
Manufacturing industries	31-33	17,394	1,432	1,034	101	258	140
Food	311	1,541	37	22	2 i	10	5
Beverage and tobacco products	312	838	9	5	1	2	1
Textile, apparel, and leather products	313-16	466	10	4	1	4	2
Wood products	321	89	3	1	*	1	*
Paper	322	299	7	5	*	2	1
Printing and related support activities	323	133	3	2	*	1	1
Petroleum and coal products	324	179	8	2	1	5	1
Chemicals	325	2,401	268	187	42	49	32
Basic chemicals	3251	300	18	10	4	6	2
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	160	13	8	2	4	1
Pesticide, fertilizer, and other agricultural chemicals	3253	109	10	7	2 i	2	1
Pharmaceuticals and medicines	3254	1,080	191	136	31	29	26
Soap, cleaning compound, and toilet preparation	3256	469	18	14	2	2	2
Paint, coating, adhesive, and other chemicals	3255, 3259	284	19	12	2	6	1
Plastics and rubber products	326	586	29	14	1 i	10	5
Nonmetallic mineral products	327	243	8	4	*	3	1
Primary metals	331	360	11	4 i	*	3	4 i
Fabricated metal products	332	526	30	13	1 i	10	7
Machinery	333	1,788	142	98	5	31	13
Agricultural implement	33311	180	20	14	*	4	2
Semiconductor machinery	333242	85	18	15 i	2	2	*
Engine, turbine, and power transmission equipment	3336	255	22	19	*	2	1
Other machinery	other 333	1,267	82	50	3	23	9
Computer and electronic products	334	2,763	463	382	30 i	49	32
Communications equipment	3342	282	77	64	2 i	8	6
Semiconductor and other electronic components	3344	922	179	158 i	15 i	15	5 i
Navigational, measuring, electromedical, and control instruments	3345	890	108	84	8	17	7
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	164	22 i	16 i	3 i	5 i	1 i
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	329	40	32	1	5	3
Other measuring and controlling device	other 3345	397	46	36	4	6	3
Other computer and electronic products	other 334	669	98	76	5 i	9 i	13 i
Electrical equipment, appliances, and components	335	732	45	35 i	3	8	2
Transportation equipment	336	2,940	258	190	8 i	44	24
Motor vehicles, bodies, trailers, and parts	3361-63	1,775	160	124	4	24	12
Aerospace products and parts	3364	919	84	58 i	4 i	15 i	10 i
Aircraft, aircraft engine, and aircraft parts	336411-13	868	76	54 i	4 i	14 i	9 i

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Guided missile, space vehicle, and related parts	336414–15, 336419	51	8	5	i *	2	i 1
Military armored vehicle, tank, and tank component	336992	1	*	*	*	*	0
Other transportation	other 336	245	14	8	* i	4	3
Furniture and related products	337	187	5	2	*	2	1
Miscellaneous	339	1,321	95	62	6	25	9
Medical equipment and supplies	3391	936	75	51	5	19	6
Other miscellaneous manufacturing	3399	385	20	11	i 1	6	3
Nonmanufacturing industries	21–23, 42–81	13,951	1,132	736	57	304	91
Mining, quarrying, oil and gas extraction, and support activities	21	376	15	10	1	4	1
Utilities	22	395	2	1	*	*	1
Wholesale trade	42	205	i 12	i 5	i *	4	i 3
Electronic shopping and electronic auctions	454111–12	71 - 3,847	71 - 99	36 - 62	1	30	6
Transportation and warehousing	48–49	1,491	6	4	*	1	1
Information	51	2,851	493	366	27	92	35
Publishing	511	874	184	144	9	24	15
Newspaper, periodical, book, and directory publishers	5111	37	i 1	i 1	i *	1	i *
Software publishers	5112	837	183	144	9	23	15
Telecommunications	517	710	23	11	i *	12	i *
Data processing, hosting, and related services	518	735	164	116	3	31	17
Other information	other 51	532	122	95	14	25	3
Finance and insurance	52	1,717	61	35	1	22	4
Real estate and rental and leasing	53	28	4	3	* i	1	*
Lessors of nonfinancial intangible assets (except copyrighted works)	533	1	*	*	0	*	*
Other real estate and rental and leasing	other 53	27	4	3	* i	1	*
Professional, scientific, and technical services	54	2,501	405	233	24	138	34
Architectural, engineering, and related services	5413	421	52	34	2	13	4
Computer systems design and related services	5415	1,025	139	105	7	23	11
Scientific research and development services	5417	404	177	71	13	91	i 15
Research and development in biotechnology	541711	165	56	22	3	33	i 1
Research and development in the physical, engineering, and life sciences (except biotechnology)	541712	233	116	45	8	57	13
Research and development in the social sciences and humanities	541720	6	5	4	i 1	*	1
Other professional, scientific, and technical services	other 54	651	38	23	2	11	i 4
Health care services	621–23	513	6	3	1	2	1
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	31 - 3,807	31 - 59	17 - 43	1	11	4

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All companies (number of domestic employees)	-	31,345	2,564	1,770	158	562	231
Small companies							
10-19 ^b	-	72	27	18	4	7	2
20-49	-	283	75	49	7	19	7
Medium companies							
50-99	-	381	87	53	6	25	9
100-249	-	995	146	85	9	45	16
Large companies							
250-499	-	991	122	79	8	31	12
500-999	-	1,200	120	75	7	30	15
1,000-4,999	-	4,610	452	325	27 i	85	42
5,000-9,999	-	3,266	308	186	16	89	33
10,000-24,999	-	5,993	478	336	33 i	108 i	33
25,000 or more	-	13,555	748	563	40 i	123	62

* = amount < 500 employees; i = > 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

NAICS = 2012 North American Industry Classification System.

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

^b Business 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 U.S. Census Bureau, Business Research and Development Survey, 2018.