

TABLE 28. Worldwide R&D employment, by occupation, sex, industry, and company size: 2008
(Thousands of employees)

Industry and company size	NAICS code	Engineers and their managers			Scientists and their managers			Technicians and technologists			Support staff (clerical and others)		
		Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
All industries	21-23, 31-33, 42-81	1,070	894	177	231	146	84	320	228	91	245	126	119
Manufacturing industries	31-33	654	564	90	162	102	60	178	133	45	148	77	72
Food	311	3	2	1	7	3	3	5	3	3	3	2	2
Beverage and tobacco products	312	1	1	*	1	1	1	1	1	*	*	*	*
Textiles, apparel, and leather products	313-316	4	3	1	1	1	*	3	2	1	3	1	2
Wood products	321	1	1	*	1	*	*	1	1	*	1	*	*
Paper	322	6	4	1	4	3	1	2	1	1	1	*	*
Printing and related support activities	323	1	1	*	*	*	*	1	*	*	1	1	*
Petroleum and coal products	324	3 i	2 i	1 i	2 i	1 i	* i	2 i	1 i	* i	* i	* i	* i
Chemicals	325	33	24	9	112	64	48	43	26	17	41	14	27
Basic chemicals	3251	4	3	1	11	8	3	9	7	3	2	1	1
Resin, synthetic rubber, fibers, and filaments	3252	2	1	*	1	1	*	2	2	*	*	*	*
Pesticide, fertilizer, and other agricultural chemical	3253	* i	* i	* i	3 i	3 i	1 i	2 i	1 i	* i	1 i	* i	* i
Pharmaceuticals and medicines	3254	15	10	5	84	45	39	25	13	12	35	12	24
Soap, cleaning compound, and toilet preparation	3256	6	4	2	8	4	4	2	1	1	2	*	1
Paint, coating, adhesive, and other chemical	3255, 3259	6	5	1	5	3	1	3	2	1	1	*	1
Plastics and rubber products	326	12	11	1	2	2	*	6	5	1	3	2	1
Nonmetallic mineral products	327	5 i	4 i	1 i	1 i	1 i	* i	4	4	* i	2	1	*
Primary metals	331	2	2	*	*	*	*	2	2	*	3	2	1
Fabricated metal products	332	17	16	1	1	1	*	9	8	1	5	4	1
Machinery	333	55	50	5	2	2	*	13	11	1	7	5	2
Agricultural implements	33311	8	8	1	*	*	*	1	1	*	1	*	*
Semiconductor machinery	333295	7	6	1	1	*	*	1	1	*	1	1	*
Engine, turbine, and power transmission equipment	3336	5	4	*	*	*	*	2	2	*	1	1	*
Other machinery	other 333	35	32	3	1	1 i	*	8	7	1	5	4	2
Computer and electronic products	334	300	260	40	13 i	10 i	3 i	34	26	8	39	20	19 i
Communications equipment	3342	63	54	9	*	*	* i	6 i	4 i	1 i	11	7	4
Semiconductor and other electronic components	3344	124	108	16	3	2	*	12	10	3	8	5	4
Navigational, measuring, electromedical, and control instruments	3345	60	52 i	8	9 i	7 i	2 i	12	9	3	13 i	4	10 i
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	17 i	14 i	3	3 i	2 i	1 i	3	2	1	3	1	2
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	24 i	21 i	3 i	4 i	3 i	1 i	5 i	4 i	1 i	8 i	1 i	7 i
Other measuring and controlling instruments	other 3345	20	17	2	2	2	*	4	3	1	2	1	1
Computer and peripheral equipment and other computer and electronic products	3341, 3343, 3346	53	46	7	1	1	*	4	3	1	6	4	2
Electrical equipment, appliances, and components	335	20	18	2	3	2	1	6	5	1	3	2	1
Transportation equipment	336	161	138	23	7	6	1	34	28	6	26 i	17 i	9 i
Automobiles, bodies, trailers, and parts	3361-3363	77	64	13	5	4	1	15	12	3	5	4	2
Aerospace products and parts	3364	82	72	10	3	2	1	18	15	3	20 i	13 i	7 i
Aircraft, aircraft engine, and aircraft parts	336411-336413	77	68	9	2	2	1	16	14	3	19 i	13 i	7 i
Guided missile, space vehicle, and related parts	336414, 336415, 336419	5 i	5 i	* i	*	*	*	1	1 i	* i	1 i	1 i	*
Military armored vehicle, tank, and tank components	336992	*	*	*	*	*	0	*	*	0	*	*	*

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		Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Other transportation equipment	other 336	3	2	*	*	*	0	1	1	*	1	*	*
Furniture and related products	337	3	2	*	*	*	*	2	1	*	1	1	*
Miscellaneous manufacturing	339	28	23	4	5	3	2	12	8	4	8	4	4
Medical equipment and supplies	3391	16	13	3	4	3	1	6	4	2	5	2	3
Other miscellaneous manufacturing	3399	12	11	2	1	1	*	6	4	2	3	2	1
Nonmanufacturing industries	21-23, 42-81	416	329	87	69	45	24	142	96	46	97	50	47
Mining, extraction, and support activities	21	4	3	*	1	*	*	2	2	*	1	*	*
Utilities	22	1	*	*	*	*	*	*	* i	* i	*	*	*
Construction	23	1	1	*	*	*	*	*	*	*	4	4	1
Wholesale trade	42	7	6	1 i	2 i	1	1 i	5	4	2 i	3 i	2	1 i
Retail trade	44, 45	6	4	1	0	0	0	*	*	*	* i	* i	* i
Electronic shopping and mail-order houses	4541	4	3	1	0	0	0	*	* i	* i	* i	* i	* i
Other retail trade	other 44, 45	1	1	*	0	0	0	*	*	*	*	0	*
Transportation and warehousing	48, 49	2	1	1	*	*	*	*	*	*	*	*	*
Information	51	234	183 i	51 i	10	8	2	36	28	8	23	15	8 i
Publishing	511	173	137	36 i	8	7	1	19	14	5	17	11 i	6 i
Newspaper, periodical, book, and directory publishers	5111	1	1	*	*	*	*	1	*	*	*	*	*
Software publishers	5112	172	136	36 i	8	7	1	18	13	5	17	11 i	6 i
Telecommunications	517	25 i	22 i	4 i	* i	* i	* i	4	3 i	1 i	1 i	1 i	* i
Internet service providers, Web search portals, and data processing services	518	33	22	11	1	1	*	12	10	2	2	1	1
Other information	other 51	2	2	*	*	*	*	1	1	*	3	3	1
Finance and insurance	52	6	4	2 i	*	*	*	1	1 i	1 i	1 i	* i	1 i
Real estate and rental and leasing	53	1	1	*	*	*	* i	1	*	*	1	*	*
Professional, scientific, and technical services	54	147	118	28	48	30	18	88	57	31	45	18	27
Architectural, engineering, and related services	5413	20	17	3	4	3	1	8	6	2	7	4	3
Computer systems design and related services	5415	82	66	17	5	4	1	41	32	9	7	4	3
Scientific R&D services	5417	27	22	5	34	19	14	29	12	17	26	9	17
Other professional, scientific, and technical services	other 54	17	14	3	5	4	1	10	7	3	5	1	3
Health care services	621-623	1	1	*	4	3	2	2	*	2	5	*	5
Other nonmanufacturing	55, 56, 61, 624, 71, 72, 81	7 i	6 i	2 i	4	2	2	5	3 i	2 i	14	9	5
All companies	21-23, 31-33, 42-81	1,070	894	177	231	146	84	320	228	91	245	126	119
Small companies (number of domestic employees) ^a													
5-499	-	231	201	30	57	40	17	94	69	26	74	40	33
5-99	-	130	115	15	35	25	10	56	40	16	39	20	18
5-49	-	93	82	11	23	18	5	40	29	10	28	14	14
5-24	-	57	51	6	13	11	2	23	17	7	19	9	10
25-49	-	36	32	4	10	7	3	16	13	4	9	5	4
50-99	-	37	33	4	11	7	4	17	11	6	11	6	5
100-249	-	59	50	9	15	9	5	23	18	6	27	16	11
250-499	-	42	36	6	8	5	2	15	11	4	8	4	4
Medium and large companies (number of domestic employees)													
500-999	-	44	37	7	9	6	3	16	12	4	9	5	4

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1,000–4,999	–	196	164	33	34	21	14	49	34	15	31	16	15
5,000–9,999	–	99	80	19	22	14	9	37	24	12	33	17	16
10,000–24,999	–	147 i	123 i	24 i	51	31	20	49	36	13	36	15	21
25,000 or more	–	353	290 i	64	57	35	22 i	75	54	21	62 i	33 i	29 i

* = amount < 500 employees; i = > 50% of value imputed.

NAICS = 2002 North American Industry Classification System.

^a Upper bound based on U.S. Small Business Administration's definition of small business; Business R&D and Innovation Survey (BRDIS) does not include companies with fewer than five domestic employees. After 2008 BRDIS sample was selected and surveyed, an error was identified that resulted in excluding 226,884 single-establishment companies with five paid employees from sample frame. Most excluded establishments were classified in industries with low R&D intensities, such as construction, retail trade, and service sectors. Based on available information for these small single-establishment companies, their contribution to 2008 R&D estimates is estimated to be negligible.

NOTES: Detail may not add to total because of rounding. Industry classification based on dominant business code for domestic R&D performance where available. For companies that did not report business codes, classification used for sampling was assigned. Statistics are representative of companies located in United States that performed or funded R&D.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics and U.S. Census Bureau, Business R&D and Innovation Survey, 2008.