

TABLE 29. Worldwide, domestic, and foreign R&D scientists and engineers and their managers, by highest academic degree, industry, and company size: 2008
(Thousands of employees)

Industry and company size	NAICS code	Worldwide				Domestic				Foreign			
		Total	Doctorate ^a	Other college degree	Other education	Total	Doctorate ^a	Other college degree	Other education	Total	Doctorate ^a	Other college degree	Other education
All industries	21-23, 31-33, 42-81	1,301	167	956	178	987	138	719	131	314	29 i	237 i	47 i
Manufacturing industries	31-33	816	111	589	116	597	88	424	84	220	23 i	165 i	32
Food	311	9	1	6	2	7	1	5	1	2	* i	2 i	1
Beverage and tobacco products	312	3	*	2	*	2	*	1	*	1	*	*	*
Textiles, apparel, and leather products	313-316	5	1 i	4 i	* i	2	*	2	*	2 i	* i	2 i	* i
Wood products	321	2	*	1	1	2	*	1	1	*	0	*	*
Paper	322	9	1	3	5	6	1	3	2	3	*	*	3
Printing and related support activities	323	1	*	1	*	1	*	1 i	*	* i	* i	* i	*
Petroleum and coal products	324	5	1 i	4 i	1 i	4 i	1 i	3 i	* i	1 i	* i	1 i	* i
Chemicals	325	145	44	86	14	111	36	66	10	33	8	20	5 i
Basic chemicals	3251	15	6	8	1	11	5	6	1	4	1	2	*
Resin, synthetic rubber, fibers, and filaments	3252	3	1 i	2 i	*	2	1	2 i	*	*	*	* i	* i
Pesticide, fertilizer, and other agricultural chemical	3253	4	1 i	2 i	* i	3 i	1 i	2 i	* i	1 i	* i	* i	*
Pharmaceuticals and medicines	3254	99	31	56	12	78	25	45	8	21	5 i	11	4 i
Soap, cleaning compound, and toilet preparation	3256	14	2	11	*	9	2	7	*	5	1	5	*
Paint, coating, adhesive, and other chemical	3255, 3259	11	3	6	1	8	3	5	1	2	1	1	*
Plastics and rubber products	326	14	1	11	1	9	1	7	1	5 i	* i	4 i	*
Nonmetallic mineral products	327	6	1 i	5 i	*	5	1 i	4 i	*	1	* i	1 i	* i
Primary metals	331	3	1	2	*	2	*	2	* i	*	*	*	* i
Fabricated metal products	332	18	*	14	3	16	*	12	3	2	* i	2 i	* i
Machinery	333	58	6	45	7	43	4 i	34	5	14	2 i	10 i	2
Agricultural implements	33311	9	*	7	1	6	*	5	* i	3	*	2	1
Semiconductor machinery	333295	7	1 i	5 i	1 i	5	1 i	4 i	1 i	2	* i	2 i	* i
Engine, turbine, and power transmission equipment	3336	5	1	3	1	4	1	3	1	1	* i	*	*
Other machinery	other 333	37	3	29	4	28	2 i	23	3	9	1 i	6 i	1 i
Computer and electronic products	334	314	29 i	232 i	53 i	223	21 i	164 i	38 i	90	8 i	68 i	15 i
Communications equipment	3342	63	3 i	48 i	13	44	2 i	31 i	12	19	1 i	17 i	2 i
Semiconductor and other electronic components	3344	126	13 i	95 i	18 i	84	10 i	63 i	12 i	42	4 i	32 i	6 i
Navigational, measuring, electromedical, and control instruments	3345	69	8 i	55 i	7 i	56	6	45	5	14	2 i	10 i	2 i
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	20	3 i	15 i	2 i	15	2	11	1	5 i	1 i	4 i	1 i
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	27	2 i	23 i	3 i	26 i	1 i	22 i	3 i	1 i	* i	1 i	* i
Other measuring and controlling instruments	other 3345	22	3	17	2	15	2	11	1	7	1 i	5 i	1 i
Computer and peripheral equipment and other computer and electronic products	3341, 3343, 3346	55	5 i	35 i	15 i	39	4 i	26 i	9 i	16	1 i	9 i	6 i
Electrical equipment, appliances, and components	335	23	2	18	2	15	1 i	12	1 i	8	1 i	6 i	1 i
Transportation equipment	336	168	19 i	132	17	118	16	87	14	51	3	45	3
Automobiles, bodies, trailers, and parts	3361-3363	81	3	73	5	46	2	41	3	35	1	32	2
Aerospace products and parts	3364	85	16 i	57	11 i	69	14 i	45	10 i	15	2	13	1
Aircraft, aircraft engine, and aircraft parts	336411-336413	79	15 i	54	11 i	64	13 i	41	10 i	15	2	13	1

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		Total	Doctorate ^a	Other college degree	Other education	Total	Doctorate ^a	Other college degree	Other education	Total	Doctorate ^a	Other college degree	Other education
Guided missile, space vehicle, and related parts	336414, 336415, 336419	5	2 i	3	* i	5	2	3 i	*	* i	* i	* i	* i
Military armored vehicle, tank, and tank components	336992	*	*	*	*	*	*	*	*	0	0	0	0
Other transportation equipment	other 336	3	*	2	1	2	*	1	1	*	0	*	0
Furniture and related products	337	3	*	2	1	3	*	2 i	*	*	* i	* i	* i
Miscellaneous manufacturing	339	33	4	21	8	27	4	18	6	5	*	3	2
Medical equipment and supplies	3391	20	3	12	4	17	3	10	4	3	*	2	1
Other miscellaneous manufacturing	3399	13	1	9	3	10	1	8	2	3	*	1	1
Nonmanufacturing industries	21-23, 42-81	485	56	367	62	391	49	295	46	94	6 i	72 i	15 i
Mining, extraction, and support activities	21	4	1	3	*	4	1 i	2 i	*	*	* i	* i	* i
Utilities	22	1	* i	*	* i	1	* i	*	* i	*	*	*	0
Construction	23	1	*	1	*	1 i	* i	1 i	* i	* i	0	* i	0
Wholesale trade	42	9	1	6	2	8	1 i	5 i	2 i	1 i	* i	1 i	* i
Retail trade	44, 45	6	*	5	*	4	* i	4	* i	1	0	1	* i
Electronic shopping and mail-order houses	4541	4	0	4	* i	3	0	3	*	1	0	1	* i
Other retail trade	other 44, 45	1	*	1	*	1	* i	1 i	* i	0	0	0	0
Transportation and warehousing	48, 49	2	* i	1	1	1	* i	* i	1	1 i	* i	*	0
Information	51	244	17	194	33	182	13	145 i	23	63	4	49	9 i
Publishing	511	182	15	143	24	126	11	98	17	55	4	44	7 i
Newspaper, periodical, book, and directory publishers	5111	1	*	1	*	1 i	* i	1 i	* i	* i	* i	* i	* i
Software publishers	5112	180	15	142	24	125	11	98	17	55	4	44	7
Telecommunications	517	26 i	1 i	23 i	2 i	25 i	1 i	22 i	2 i	1 i	* i	1 i	* i
Internet service providers, Web search portals, and data processing services	518	34	1 i	27	6 i	28 i	1 i	23 i	4	6	* i	4 i	2 i
Other information	other 51	3	* i	2	*	2	*	2	*	*	* i	* i	* i
Finance and insurance	52	6	* i	4 i	2	5	*	3	2	1 i	*	1 i	* i
Real estate and rental and leasing	53	2	* i	1	* i	1	* i	1 i	* i	*	* i	* i	0
Professional, scientific, and technical services	54	195	32	142	20	169	31	123	15	26	2 i	19 i	5 i
Architectural, engineering, and related services	5413	24	2	21	1	24	2	20	1	1	*	1 i	*
Computer systems design and related services	5415	88	7	68	13	69	6	54	9	19	1 i	14 i	4 i
Scientific R&D services	5417	60	19	36	5	55	18	33	4	5	1	3	1 i
Other professional, scientific, and technical services	other 54	23	4	17	1	21	4	17	1	1	* i	1	* i
Health care services	621-623	5	2	3	*	5	2	3	*	* i	* i	* i	* i
Other nonmanufacturing	55, 56, 61, 624, 71, 72, 81	11 i	1	7 i	3 i	10	1	7 i	3 i	1	*	*	1
All companies	21-23, 31-33, 42-81	1,301	167	956	178	987	138	719	131	314	29 i	237 i	47 i
Small companies (number of domestic employees) ^b													
5-499	-	288	45	216	27	256	41	192	23	32 i	4 i	24 i	4 i
5-99	-	165	28	123	14	153	27	114	12	12 i	1 i	9 i	1 i
5-49	-	117	20	87	9	110	20	81	8	7 i	* i	6 i	1 i
5-24	-	70	14	52	5	68	14	50	5	2 i	* i	2 i	* i
25-49	-	46	7	35	4	41	6	31	4	5 i	* i	4 i	1 i

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		Total	Doctorate ^a	Other college degree	Other education	Total	Doctorate ^a	Other college degree	Other education	Total	Doctorate ^a	Other college degree	Other education
50–99	–	48	8	36	5	44	7	32	4	5 i	* i	4 i	1 i
100–249	–	74	11	56	7	62	9	47	6	12 i	2 i	9 i	2 i
250–499	–	49	6	38	6	41	5	31	4	8	1 i	6 i	1 i
Medium and large companies (number of domestic employees)													
500–999	–	53	6	40	6	42	5	32	5	10	1 i	8	2
1,000–4,999	–	231	27	167	36	165	21	117	27	66	6 i	50 i	9 i
5,000–9,999	–	121	13	89	20	82	10 i	59	13	39	3 i	30 i	6 i
10,000–24,999	–	198	24	145 i	29	136	18	97	20	62	5 i	48 i	9 i
25,000 or more	–	410	52 i	298	60	307	42	221	43	104	10	77	17

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

NAICS = 2002 North American Industry Classification System.

^a Includes EngD, ScD; excludes MD, JD, and EdD.

^b 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.