

TABLE 78. Worldwide, domestic, and foreign R&D scientists and engineers and their managers, by highest academic degree, industry, and company size: 2009
(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	1,332	155	976	202	999	128	739	132	333	27 i	237	70 i
Manufacturing industries	31–33	815	98	592	126	596	78	434	84	219	19 i	158	41 i
Food	311	16	3	10	3 i	11	2	7	2	5	* i	3 i	1 i
Beverage and tobacco products	312	2	*	2	*	1	*	1	*	1 i	*	1 i	* i
Textiles, apparel, and leather products	313–316	2	* i	2	*	2	*	1	*	* i	* i	* i	*
Wood products	321	2	*	1	1	2	*	1 i	1	* i	0	* i	* i
Paper	322	9	1	4	4	6	1	3	2	3	*	1	2
Printing and related support activities	323	1	*	1	*	1	*	1	*	* i	0	* i	* i
Petroleum and coal products	324	1	*	1	*	1	*	1	*	*	*	*	*
Chemicals	325	123	33	70	20	98	28	56	13	26	5	14	7
Basic chemicals	3251	10	3	5	1	7	2	4	1	3	1	1	1
Resin, synthetic rubber, fibers, and filaments	3252	4	1 i	3 i	*	3	1 i	D i	D	1 i	* i	D i	D i
Pesticide, fertilizer, and other agricultural chemical	3253	4	1	1	2 i	3	*	D	D	1	*	D i	D i
Pharmaceuticals and medicines	3254	82	23	44	14	67	20	37	10	14	3	7	5
Soap, cleaning compound, and toilet preparation	3256	13	2	10	*	8	2	6	*	4	1	4	*
Paint, coating, adhesive, and other chemical	3255, 3259	11	3	6	2	8	3	5	1	3	1	1	1
Plastics and rubber products	326	17	3	13	2	12	2	8	1	6	1	5	*
Nonmetallic mineral products	327	3	*	2	*	2	*	2	*	*	* i	* i	* i
Primary metals	331	3	*	2	*	3	*	2	*	*	*	*	* i
Fabricated metal products	332	16	*	11	5	16	*	10	5	1 i	*	1 i	* i
Machinery	333	61	6	47	8	47	5	37	5	15	1 i	10	3
Agricultural implements	33311	8	*	7	1	5	*	5	*	3	*	2	1
Semiconductor machinery	333295	7	1 i	4	1	5	1	3	1	2	* i	1 i	* i
Engine, turbine, and power transmission equipment	3336	4	*	4	*	3	*	3	*	1	*	1	*
Other machinery	other 333	42	4	33	6	33	3	26	4	9	1	6	2
Computer and electronic products	334	304	23 i	236	45 i	212	17	167	28	92	6 i	69	17 i
Communications equipment	3342	81	4 i	68 i	9 i	54	3 i	45	6 i	27	1 i	23 i	3 i
Semiconductor and other electronic components	3344	101	9	76	16 i	64	7	49	8	37	2 i	27	8 i
Navigational, measuring, electromedical, and control instruments	3345	74	7 i	57	10 i	61	5	49	7	12	1 i	8	3
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	18	2 i	14 i	3 i	16	2	12	2	2 i	* i	2 i	* i

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Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	35	2	28	4	30	2	25	3	5	*	3	1
Other measuring and controlling instruments	other 3345	21	3	15	3	15	2	12	2 i	5	1	3	1 i
Computer and peripheral equipment and other computer and electronic products	other 334	49	4	34 i	11 i	34	3	24 i	7 i	15	1 i	11 i	4 i
Electrical equipment, appliances, and components	335	32 i	4 i	23 i	5 i	17	2	13	2	15 i	2 i	10 i	4 i
Transportation equipment	336	174	17 i	136	22	128	14 i	97	16	46	2	39	5
Automobiles, bodies, trailers, and parts	3361–3363	73	3	63 i	7	44	2	38	4	28 i	1 i	25 i	2 i
Aerospace products and parts	3364	90	9	68	12	72	8 i	55	9	17	1	13	3
Aircraft, aircraft engine, and aircraft parts	336411–336413	81	9	61	11	65	7 i	49	8	17	1	12	3
Guided missile, space vehicle, and related parts	336414, 336415, 336419	8	1	7	1	8	1	6	1	1	* i	1 i	* i
Military armored vehicle, tank, and tank components	336992	*	*	*	0	*	*	*	0	0	0	0	0
Other transportation equipment	other 336	12 i	4 i	5 i	3 i	12 i	4 i	5 i	3 i	* i	* i	* i	* i
Furniture and related products	337	3	* i	2	1	3	*	2	1	* i	* i	* i	* i
Miscellaneous manufacturing	339	43	6 i	28	8	35	5 i	23	7	8 i	1 i	5 i	2 i
Medical equipment and supplies	3391	30	5 i	19	5	24	4 i	15	4	6 i	1 i	4 i	1
Other miscellaneous manufacturing	3399	13	1	9	3	11	1	8	2	2	*	1	1
Nonmanufacturing industries	21–23, 42–81	518	57	384	77	403	50	305	48	115	7 i	79	29 i
Mining, extraction, and support activities	21	8	2	5	1	7	2	4	1	2	* i	1 i	*
Utilities	22	1	*	1	*	1	*	1	*	*	*	* i	0
Construction	23	4 i	* i	4 i	* i	3	* i	3 i	* i	1 i	* i	1 i	* i
Wholesale trade	42	4 i	1 i	3 i	* i	3 i	* i	3 i	* i	1 i	* i	1 i	* i
Retail trade	44, 45	4	*	4 i	*	3 i	*	3 i	*	1 i	* i	1 i	* i
Electronic shopping and mail-order houses	4541	4	*	4 i	*	3 i	*	3 i	*	1 i	0	1 i	0
Other retail trade	other 44, 45	*	*	*	* i	*	*	*	*	* i	* i	0	* i
Transportation and warehousing	48, 49	1	* i	*	1	1 i	* i	* i	1 i	* i	* i	* i	* i
Information	51	242	15	188	39	167	11	135	21	75	4 i	53	18
Publishing	511	187	13	141	32	117	9	92	15	70	4	49	17
Newspaper, periodical, book, and directory publishers	5111	*	*	*	*	*	*	*	*	*	0	*	0
Software publishers	5112	186	13	141	32	117	9	92	15	70	4	49	17

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Telecommunications	517	25 i	1 i	22 i	2 i	25 i	1 i	21 i	2 i	1	* i	1 i	* i
Data processing, hosting, and related services	518	21 i	1 i	18 i	3 i	17	1	15	2	4	* i	3	* i
Other information	other 51	9	*	7	2	8	*	7	1	1	* i	* i	1
Finance and insurance	52	14 i	1	11 i	1 i	10 i	1	8 i	2 i	4 i	*	4 i	* i
Real estate and rental and leasing	53	1	* i	1 i	* i	1	* i	1 i	* i	* i	0	* i	* i
Professional, scientific, and technical services	54	231	37	161	32 i	201	35	144	22	30	3 i	18	10 i
Architectural, engineering, and related services	5413	28	3	24	2	27	2	23	2	1	* i	1 i	* i
Computer systems design and related services	5415	97	7	71	18 i	79	7	60	13 i	18	1 i	12	6 i
Scientific R&D services	5417	55	17	31	7	48	15	28	5	6	1 i	3	2 i
Biotechnology R&D	541711	27	9	14	3	23	9	12	2	4	1 i	2	1
Physical, engineering, and life sciences (except biotechnology) R&D	541712	25	7	15	4	23	6	14	3	2 i	* i	1	1 i
Social sciences and humanities R&D	541720	3 i	1 i	2	* i	3	1 i	2	* i	* i	* i	* i	* i
Other professional, scientific, and technical services	other 54	51	11 i	35	5	46	10	33	3	5	*	2	2 i
Health care services	621-623	3	1	2	* i	3	1	2	* i	* i	*	* i	* i
Other nonmanufacturing	55, 56, 61, 624, 71, 72, 81	4	*	3	1	3	*	2	1	1	* i	*	*
All companies	-	1,332	155	976	202	999	128	739	132	333	27 i	237	70 i
Small companies (number of domestic employees) ^b													
5-499	-	327	45	248	34	296	42	226	28	31 i	3 i	22 i	6 i
5-99	-	204	31	150	23	192	30	143	19	12 i	1 i	7 i	4 i
5-49	-	129	20	94	15	122	19	90	13	7 i	1 i	4 i	2 i
5-24	-	76	12	56	8	72	11	54	7	4 i	* i	2 i	1 i
25-49	-	53	8	38	7	50	8	36	6	3 i	* i	2 i	1 i
50-99	-	75	11 i	56	8	70	11	53	6	5 i	* i	3 i	2 i
100-249	-	65	7	52	7	56	6	45	5	9 i	1 i	7 i	1 i
250-499	-	58	7	46	5	48	7	38	3	10	1	8	1 i
Medium and large companies (number of domestic employees)													
500-999	-	57	7	39	11	42	6	29	7	16	2 i	10	4 i
1,000-4,999	-	218	22	158	37	147	17	107	23	71	5	51	14 i

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5,000–9,999	–	108	12	73	24	72	8	49	14	36	3	24	9
10,000–24,999	–	217	24	154	39 i	158	20	112	25	59 i	4 i	41 i	14 i
25,000 or more	–	405	44 i	304	57 i	285	34	215	35	121	10 i	89	22

* = amount < 500 employees; D = data withheld to avoid disclosing operations of individual companies; i = value > 50% of estimate is a combination of imputation and reweighting to account for nonresponse.

NAICS = 2007 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.

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, 2009.