TABLE 47. Worldwide, domestic, and foreign total and R&D employment, by industry and company size: 2014 (Thousands)

Industry and company size
All industries 21–23, 31–33, 42–81 31,881 2,167 6.8 21,540 1,514 7.0 10,341 653 6. Manufacturing industries 31–33 18,351 1,317 7.2 10,645 914 8.6 7,706 403 5. Food 311 1,624 36 2.2 1,125 25 2.2 499 11 2. Beverages and tobacco products 312 933 6 0.7 401 4 0.9 532 3 0. Textiles, apparel, and leather products 313–16 316 8 2.4 179 7 3.7 136 1 0. Wood products 321 179 i 4 i 2.2 146 i 4 i 2.6 33 i * i 0. Paper 322 268 9 3.3 168 8 4.6 100 1 1. Printing and related support activities 323 118 4 3.2 102 4 3.4 15 * 1. Petroleum and coal products 324 47 2 4.9 39 2 4.3 7 1 8. Chemicals 325 2,874 234 8.1 1,753 172 9.8 1,121 61 5. Basic chemicals 3251 663 22 3.3 499 15 3.1 164 7 4. Resins, synthetic rubber, and artificial synthetic rubber, and artificial synthetic rubber, and other agricultural
Manufacturing industries         31–33         18,351         1,317         7.2         10,645         914         8.6         7,706         403         5.5           Food         311         1,624         36         2.2         1,125         25         2.2         499         11         2.2           Beverages and tobacco products         312         933         6         0.7         401         4         0.9         532         3         0.0           Textiles, apparel, and leather products         313–16         316         8         2.4         179         7         3.7         136         1         0.0           Wood products         321         179 i         4 i         2.2         146 i         4 i         2.6         33 i         i i         0.0           Paper         322         268         9         3.3         168         8         4.6         100         1         1.           Printing and related support activities         323         118         4         3.2         102         4         3.4         15         *         1.           Petroleum and coal products         325         2,874         234         8.1         1,753
Food         311         1,624         36         2.2         1,125         25         2.2         499         11         2.           Beverages and tobacco products         312         933         6         0.7         401         4         0.9         532         3         0.0           Textiles, apparel, and leather products         313-16         316         8         2.4         179         7         3.7         136         1         0.0           Wood products         321         179 i         4 i         2.2         146 i         4 i         2.6         33 i         i i         0.0           Paper         322         268         9         3.3         168         8         4.6         100         1         1.           Printing and related support activities         323         118         4         3.2         102         4         3.4         15         *         1.           Petroleum and coal products         324         47         2         4.9         39         2         4.3         7         1         8           Chemicals         325         2,874         234         8.1         1,753         172         9.8
Beverages and tobacco products 312 933 6 0.7 401 4 0.9 532 3 0. Textiles, apparel, and leather products 313–16 316 8 2.4 179 7 3.7 136 1 0. Wood products 321 179 i 4 i 2.2 146 i 4 i 2.6 33 i * i 0. Paper 322 268 9 3.3 168 8 4.6 100 1 1. Printing and related support activities 323 118 4 3.2 102 4 3.4 15 * 1. Petroleum and coal products 324 47 2 4.9 39 2 4.3 7 1 8. Chemicals 325 2,874 234 8.1 1,753 172 9.8 1,121 61 5. Basic chemicals 3251 663 22 3.3 499 15 3.1 164 7 4. Resins, synthetic rubber, and artificial synthetic rubber, and artificial synthetic fibers and filaments 3252 276 12 4.2 147 6 4.2 129 5 4. Pesticides, fertilizers, and other agricultural
Textiles, apparel, and leather products  313–16 316 8 2.4 179 7 3.7 136 1 0. Wood products  Paper 322 268 9 3.3 168 8 4.6 100 1 1. Printing and related support activities 323 118 4 3.2 102 4 3.4 15 * Petroleum and coal products 324 47 2 4.9 39 2 4.3 7 1 8. Chemicals 325 2,874 234 8.1 1,753 172 9.8 1,121 61 5. Basic chemicals 3251 663 22 3.3 499 15 3.1 164 7 4. Resins, synthetic rubber, and artificial synthetic fibers and filaments 325 2,76 12 4.2 147 6 4.2 129 5 4.2 Pesticides, fertilizers, and other agricultural
Wood products         321         179 i         4 i         2.2         146 i         4 i         2.6         33 i         * i         0.0           Paper         322         268         9         3.3         168         8         4.6         100         1         1.           Printing and related support activities         323         118         4         3.2         102         4         3.4         15         *         1.           Petroleum and coal products         324         47         2         4.9         39         2         4.3         7         1         8.           Chemicals         325         2,874         234         8.1         1,753         172         9.8         1,121         61         5.           Basic chemicals         3251         663         22         3.3         499         15         3.1         164         7         4.           Resins, synthetic rubber, and artificial synthetic fibers and filaments         3252         276         12         4.2         147         6         4.2         129         5         4.           Pesticides, fertilizers, and other agricultural
Paper         322         268         9         3.3         168         8         4.6         100         1         1.           Printing and related support activities         323         118         4         3.2         102         4         3.4         15         *         1.           Petroleum and coal products         324         47         2         4.9         39         2         4.3         7         1         8.           Chemicals         325         2,874         234         8.1         1,753         172         9.8         1,121         61         5.           Basic chemicals         3251         663         22         3.3         499         15         3.1         164         7         4.           Resins, synthetic rubber, and artificial synthetic fibers and filaments         3252         276         12         4.2         147         6         4.2         129         5         4.           Pesticides, fertilizers, and other agricultural         3252         276         12         4.2         147         6         4.2         129         5         4.
Printing and related support activities         323         118         4         3.2         102         4         3.4         15         *         1.           Petroleum and coal products         324         47         2         4.9         39         2         4.3         7         1         8.           Chemicals         325         2,874         234         8.1         1,753         172         9.8         1,121         61         5.           Basic chemicals         3251         663         22         3.3         499         15         3.1         164         7         4.           Resins, synthetic rubber, and artificial synthetic fibers and filaments         3252         276         12         4.2         147         6         4.2         129         5         4.           Pesticides, fertilizers, and other agricultural         3252         276         12         4.2         147         6         4.2         129         5         4.
Petroleum and coal products 324 47 2 4.9 39 2 4.3 7 1 8. Chemicals 325 2,874 234 8.1 1,753 172 9.8 1,121 61 5. Basic chemicals 3251 663 22 3.3 499 15 3.1 164 7 4. Resins, synthetic rubber, and artificial synthetic fibers and filaments 3252 276 12 4.2 147 6 4.2 129 5 4. Pesticides, fertilizers, and other agricultural
Chemicals       325       2,874       234       8.1       1,753       172       9.8       1,121       61       5.         Basic chemicals       3251       663       22       3.3       499       15       3.1       164       7       4.         Resins, synthetic rubber, and artificial synthetic fibers and filaments       3252       276       12       4.2       147       6       4.2       129       5       4.         Pesticides, fertilizers, and other agricultural       4.2       4.2       147       6       4.2       129       5       4.
Basic chemicals       3251       663       22       3.3       499       15       3.1       164       7       4.5         Resins, synthetic rubber, and artificial synthetic fibers and filaments       3252       276       12       4.2       147       6       4.2       129       5       4.5         Pesticides, fertilizers, and other agricultural       4.2       4.2       147       6       4.2       129       5       4.5
Resins, synthetic rubber, and artificial synthetic fibers and filaments 3252 276 12 4.2 147 6 4.2 129 5 4. Pesticides, fertilizers, and other agricultural
synthetic fibers and filaments 3252 276 12 4.2 147 6 4.2 129 5 4. Pesticides, fertilizers, and other agricultural
Pesticides, fertilizers, and other agricultural
chemicals 3253 81 81 10.1 57 61 10.8 25 2.1 8
Groningas 01 01 10.1 J/ 01 10.0 ZJ ZT 0.
Pharmaceuticals and medicines 3254 975 158 16.2 543 122 22.5 432 36 8.
Soaps, cleaning compounds, and toilet
preparations 3256 630 17 2.7 362 12 3.3 268 5 2.
Paints, coatings, adhesives, and other
chemicals 3255, 3259 249 17 6.8 145 11 7.5 104 6 5.
Plastics and rubber products 326 610 31 5.2 419 26 6.1 191 6 3.
Nonmetallic mineral products 327 196 10 5.3 141 9 6.2 55 2 2.
Primary metals 331 296 8 2.7 210 7 3.5 86 1 1.
Fabricated metal products 332 737 34 4.7 524 32 6.0 213 3 1.
Machinery 333 1,557 103 6.6 899 75 8.4 658 28 4.
Agricultural implements 33311 144 14 10.1 86 10 11.3 58 5 8.
Semiconductor machinery 333295 66 11 16.9 27 8 28.4 40 i 4 9.
Engines, turbines, and power transmission
equipment 3336 228 18 7.8 115 12 10.2 112 6 5.
Other machinery other 333 1,119 60 5.3 671 46 6.9 448 13 3.
Computer and electronic products 334 3,282 445 13.6 1,488 273 18.4 1,795 172 9.
Communications equipment 3342 382 94 24.8 229 59 25.9 153 35 23.
Semiconductors and other electronic
components 3344 1,064 181 17.0 396 107 26.9 668 74 11.
Navigational, measuring, electromedical,
and control instruments 3345 987 101 10.2 555 74 13.3 432 27 6.
Electromedical, electrotherapeutic,
and irradiation apparatus 334510, 334517 167 21 12.5 101 14 14.3 66 6 9.
Search, detection, navigation,
guidance, aeronautical, and nautical
systems and instruments 334511 347 36 10.4 251 33 13.2 96 3 3.
Other measuring and controlling devices other 3345 473 44 9.3 203 26 13.0 270 17 6.

TABLE 47. Worldwide, domestic, and foreign total and R&D employment, by industry and company size: 2014 (Thousands)

		Worldwide employees			Domestic employees			Foreign employees		
				% R&D			% R&D			% R&D
Industry and company size	NAICS code	Total	R&D	employees	Total	R&D	employees	Total	R&D	employees
Other computer and electronic products	other 334	850	69	8.1	308	33	10.8	542	36	6.6
Electrical equipment, appliances,										
and components	335	814	54	6.6	369	33	8.8	445	21	4.7
Transportation equipment	336	3,190	239	7.5	1,858	167	9.0	1,332	72	5.4
Automobiles, bodies, trailers, and parts	3361–63	1,967	142	7.2	933	94	10.1	1,034	47	4.6
Aerospace products and parts	3364	1,001	84	8.4	753	61	8.1	248	23	9.3
Aircraft, aircraft engines, and aircraft										
parts	336411–13	952	79	8.3	712	56	7.9	240	23	9.5
Guided missiles, space vehicles, and										
related parts	336414-15, 336419	48	5 i	10.3	41	5 i	12.0	8	*	1.3
Military armored vehicles, tanks, and tank										
components	336992	4	* i	3.0	3	*	3.1	1	* i	2.7
Other transportation	other 336	218	13 i	6.2	169 i	12 i	7.2	49	1	2.7
Furniture and related products	337	202	6	2.8	176	5	3.0	26	*	1.9
Miscellaneous manufacturing	339	1,111	84	7.6	648	64	9.8	462	21	4.5
Medical equipment and supplies	3391	706	58	8.2	398	43	10.8	308	14	4.7
Other miscellaneous manufacturing	3399	405	27	6.6	251	20	8.2	154	6	4.1
Nonmanufacturing industries	21-23, 42-81	13,530	850	6.3	10,896	600	5.5	2,634	250	9.5
Mining, extraction, and support activities	21	555	19	3.5	284	16	5.7	271	3	1.2
Utilities	22	370	2	0.6	361	2	0.6	9	*	1.1
Wholesale trade	42	275	8	2.8	244	7	2.9	32	*	1.5
Electronic shopping and electronic auctions	454111-12	D	D	5.2	118 i	7	6.3	D	D	3.7
Transportation and warehousing	48-49	1,026	3 i	0.3	933	3 i	0.3	93 i	*	0.1
Information	51	3,213	438	13.6	2,236	296	13.2	976	142	14.6
Publishing	511	1,354	276	20.4	649	164	25.2	705	113	16.0
Newspaper, periodical, book, and		,								
directory publishers	5111	49	1	2.0	35	1	2.6	14 i	* i	0.4
Software publishers	5112	1,305	275	21.1	613	163	26.5	691	113	16.3
Telecommunications	517	895	31	3.4	863	30	3.4	32	1	3.3
Data processing, hosting, and		0.0	0.	0	000	00	0	02		0.0
related services	518	519	74	14.3	357	57	15.9	162	17	10.7
Other information	other 51	445	57	12.8	367	46	12.5	78	11	14.3
Finance and insurance	52	1,495	28	1.9	1,216	24	1.9	279	4	1.6
Real estate and rental and leasing	53	10	2	18.0	10	2	18.1	*	*	16.3
Lessors of nonfinancial intangible assets		10	-	10.0	10	_	10.1			10.0
(except copyrighted works)	533	1	*	23.4	1	*	22.3	*	*	43.5
Other real estate and rental and leasing	other 53	9	2	17.3	9	2	17.5	*	*	9.9
Professional, scientific, and technical services	54	2,357	318	13.5	1,713	223	13.0	644	95	14.8
Architectural, engineering, and related	31	2,001	310	13.3	1,713	223	13.0	UTT	75	17.0
services	5413	446	51	11.5	308	45	14.5	138	7	5.0
Computer systems design and related	30	-TTU	31	11.5	300	73	17.5	130	,	5.0
services	5415	730	113	15.5	441	77	17.4	290	36	12.5
JOI VIOOJ	5715	130	113	10.0	441	11	17.4	270	30	12.0

TABLE 47. Worldwide, domestic, and foreign total and R&D employment, by industry and company size: 2014 (Thousands)

		Worldwide employees			Domestic employees			Foreign employees		
				% R&D			% R&D			% R&D
Industry and company size	NAICS code	Total	R&D	employees	Total	R&D	employees	Total	R&D	employees
Scientific R&D services	5417	285	112	39.1	225	71	31.6	60	40	67.0
Biotechnology R&D	541711	87	25	28.3	73	15	21.0	14	9	67.6
Physical, engineering, and life										
sciences (except biotechnology) R&D	541712	190	81	42.7	144	50	34.9	47	31	66.9
Social sciences and humanities R&D	541720	8	6	70.4	8	6	70.9	* i	*	36.6
Other professional, scientific, and										
technical services	other 54	896	42	4.7	740	30	4.1	156	12 i	7.7
Health care services	621-23	320	6	1.7	319	5	1.7	1	*	10.8
Other nonmanufacturing	23, 44-45 (excluding									
Ü	454111–12), 55–56,									
	624, 71-72, 81	D	D	0.4	3,461	15	0.4	D	D	0.5
All companies (number of domestic employees)	-	31,881	2,167	6.8	21,540	1,514	7.0	10,341	653	6.3
Small companies <sup>a</sup>										
5–499	-	3,791	486	12.8	3,095	419	13.5	696	67	9.6
5–99	-	1,647	274	16.6	1,431	242	16.9	216	32	14.7
5–49	-	969	182	18.8	858	161	18.8	111	21	19.3
5–9	-	156	33	21.0	118	27	22.6	38	6	15.8
10–24	-	347	73	20.9	309	66	21.2	38	7	17.9
25–49	-	466	77	16.6	431	69	15.9	34	9	24.9
50–99	-	678	92	13.5	573	81	14.2	105	10	9.8
100–249	-	1,197	119	10.0	953	100	10.5	244	19	7.9
250-499	-	946	92	9.8	710	76	10.8	235	16	6.8
Medium and large companies										
500–999	-	1,198	97	8.1	822	70	8.6	376	27	7.1
1,000–4,999	-	4,266	386	9.1	2,593	254	9.8	1,673	133	7.9
5,000-9,999	-	3,136	259	8.3	1,524	150	9.8	1,612	110	6.8
10,000–24,999	-	5,830	301	5.2	3,848	219	5.7	1,982	82	4.2
25,000 or more	-	13,659	638	4.7	9,659	403	4.2	4,001	235	5.9

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

NAICS = 2012 North American Industry Classification System.

NOTES: 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 R&D.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, and U.S. Census Bureau, Business R&D and Innovation Survey, 2014.

<sup>&</sup>lt;sup>d</sup> Upper bound is based on the U.S. Small Business Administration's definition of a small business; the Business R&D and Innovation Survey does not include companies with fewer than five domestic employees.