

TABLE 4

## Total R&amp;D performance for companies with 1–4 employees, by industry and age of company: 2016

(Thousands of U.S. dollars)

Industry	NAICS code	Total	Five years or fewer	More than five years through ten years	More than ten years
All industries	21–23, 31–33, 42–81	4,843,494	1,874,421	1,112,334	1,856,739
Manufacturing industries	31–33	554,091	264,681	67,045	222,365
Food	311	s	s	0	0
Beverages and tobacco products	312	s	s	0	0
Textiles, apparel, and leather products	313–16	s	0	0	s
Wood products	321	s	0	0	s
Paper	322	0	0	0	0
Printing and related support activities	323	s	s	s	s
Petroleum and coal products	324	s	0	0	s
Chemicals	325	118,986	63,566	7,786	47,634
Basic chemicals	3251	s	s	0	s
Resins, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,490	26	202	1,261
Pesticides, fertilizers, and other agricultural chemicals	3253	26	0	0	26
Pharmaceuticals and medicines	3254	73,993	34,226	4,858	34,909
Soaps, cleaning compounds, and toilet preparations	3256	s	s	0	s
Paints, coatings, adhesives, and other chemicals	3255, 3259	17,592	3,820	2,725	11,047
Plastics and rubber products	326	s	s	s	s
Nonmetallic mineral products	327	s	s	s	s
Primary metals	331	s	0	0	s
Fabricated metal products	332	26,848	s	s	16,819
Machinery	333	114,951	s	s	51,223
Agricultural implements	33311	s	s	0	0
Semiconductor machinery	333242	s	s	0	414
Engines, turbines, and power transmission equipment	3336	s	s	s	0
Other machinery	other 333	67,821	s	s	50,809
Computer and electronic products	334	134,686	61,862	26,254	46,570
Communications equipment	3342	8,518	3,297	2,222	2,999
Semiconductors and other electronic components	3344	32,457	18,113	7,060	7,285
Navigational, measuring, electromedical, and control instruments	3345	64,131	20,107	13,139	30,885
Electromedical, electrotherapeutic, and irradiation apparatuses	334510, 334517	20,745	10,264	7,568	2,913
Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments	334511	4,733	2,545	839	1,349
Other measuring and controlling devices	other 3345	38,653	7,298	4,732	26,623
Other computer and electronic products	other 334	29,580	20,345	3,833	5,402
Electrical equipment, appliances, and components	335	23,861	12,782	5,138	5,941
Transportation equipment	336	29,131	2,021	1,666	25,444
Automobiles, bodies, trailers, and parts	3361–63	s	s	s	s
Aerospace products and parts	3364	D	D	0	3
Aircraft, aircraft engines, and aircraft parts	336411–13	3	0	0	3
Guided missiles, space vehicles, and related parts	336414–15, 336419	D	D	0	0
Military armored vehicles, tanks, and tank components	336992	63	63	0	0
Other transportation	other 336	D	D	315	2,891

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Furniture and related products	337	s	0	s	s
Miscellaneous	339	76,731	s	s	16,690
Medical equipment and supplies	3391	s	s	s	6,435
Other miscellaneous manufacturing	3399	37,156	19,543	7,358	10,255
Nonmanufacturing industries	21–23, 42–81	4,289,402	1,609,740	1,045,289	1,634,374
Mining, extraction, and support activities	21	s	s	s	s
Utilities	22	s	211	s	s
Wholesale trade	42	295,290	76,193	58,859	160,238
Electronic shopping and electronic auctions	454111–12	39,818	s	s	10,352
Transportation and warehousing	48–49	3,668	3,006	661	0
Information	51	239,024	111,578	25,908	101,537
Publishing	511	108,978	39,012	14,768	55,198
Newspaper, periodical, book, and directory publishers	5111	0	0	0	0
Software publishers	5112	108,978	39,012	14,768	55,198
Telecommunications	517	s	s	s	s
Data processing, hosting, and related services	518	63,032	41,327	1,521	20,184
Other information	other 51	55,222	29,578	8,623	s
Finance and insurance	52	s	s	0	s
Real estate and rental and leasing	53	s	0	s	s
Lessors of nonfinancial intangible assets (except copyrighted works)	533	s	0	0	s
Other real estate and rental and leasing	other 53	s	0	s	0
Professional, scientific, and technical services	54	3,577,353	1,333,135	917,558	1,326,660
Architectural, engineering, and related services	5413	381,344	92,471	94,532	194,341
Computer systems design and related services	5415	1,456,420	540,964	355,261	560,194
Scientific research and development services	5417	889,127	340,853	255,618	292,656
Biotechnology research and development	541711	337,866	123,544	106,233	108,090
Physical, engineering, and life sciences (except biotechnology) research and development	541712	529,224	209,980	145,572	173,672
Social sciences and humanities research and development	541720	22,037	7,329	3,813	10,895
Other professional, scientific, and technical services	other 54	850,462	358,847	212,147	279,468
Health care services	621–23	49,510	s	s	s
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	s	s	s	s

D = data withheld to avoid disclosing operations of individual companies; s = suppressed for reliability; standard error exceeds publication standards.

NAICS = 2012 North American Industry Classification System.

**Note(s)**

Detail may not add to total because of rounding. Industry classification based on sample NAICS code. Statistics are representative of companies located in the United States that performed or funded R&amp;D.

**Source(s)**

National Science Foundation, National Center for Science and Engineering Statistics, and U.S. Census Bureau, Microbusiness R&amp;D and Innovation Survey, 2016.