

TABLE 2

Total R&D performance for companies with 1–4 employees, by industry and type of R&D: 2016

(Thousands of U.S. dollars)

Industry	NAICS code	Total	Basic research	Applied research	Development
All industries	21–23, 31–33, 42–81	4,843,494	409,200	1,852,038	2,582,255
Manufacturing industries	31–33	554,091	36,282	222,024	295,786
Food	311	s	0	s	s
Beverage and tobacco products	312	s	0	s	0
Textiles, apparel, and leather products	313–16	s	s	s	s
Wood products	321	s	s	s	s
Paper	322	0	0	0	0
Printing and related support activities	323	s	s	s	s
Petroleum and coal products	324	936	0	0	s
Chemicals	325	118,986	4,682	57,621	56,682
Basic chemicals	3251	s	0	s	s
Resins, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,490	83	584	823
Pesticides, fertilizers, and other agricultural chemicals	3253	26	0	26	0
Pharmaceuticals and medicines	3254	73,993	2,580	22,917	48,496
Soaps, cleaning compounds, and toilet preparations	3256	s	s	s	s
Paints, coatings, adhesives, and other chemicals	3255, 3259	17,592	1,987	8,721	6,885
Plastics and rubber products	326	s	s	s	s
Nonmetallic mineral products	327	s	s	s	s
Primary metals	331	s	s	s	s
Fabricated metal products	332	26,848	1,437	12,498	12,913
Machinery	333	114,951	7,167	49,395	58,389
Agricultural implements	33311	s	s	s	s
Semiconductor machinery	333242	s	0	s	s
Engines, turbines, and power transmission equipment	3336	s	0	s	5,180
Other machinery	other 333	67,821	1,256	23,821	42,744
Computer and electronic products	334	134,686	6,232	50,581	77,872
Communications equipment	3342	8,518	606	2,710	5,202
Semiconductors and other electronic components	3344	32,457	2,065	12,946	17,447
Navigational, measuring, electromedical, and control instruments	3345	64,131	2,407	29,032	32,692
Electromedical, electrotherapeutic, and irradiation apparatuses	334510, 334517	20,745	632	7,622	12,491
Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments	334511	4,733	275	1,103	3,355
Other measuring and controlling devices	other 3345	38,653	1,500	20,306	16,846
Other computer and electronic products	other 334	29,580	1,155	5,893	22,532
Electrical equipment, appliances, and components	335	23,861	827	7,291	15,743
Transportation equipment	336	29,131	3,943	7,923	17,265
Automobiles, bodies, trailers, and parts	3361–63	s	s	s	s
Aerospace products and parts	3364	D	D	D	D
Aircraft, aircraft engines, and aircraft parts	336411–13	3	0	0	3
Guided missiles, space vehicles, and related parts	336414–15, 336419	D	D	D	D
Military armored vehicles, tanks, and tank components	336992	63	21	21	21
Other transportation	other 336	D	D	D	D
Furniture and related products	337	s	s	s	s
Miscellaneous	339	76,731	8,351	25,868	42,512
Medical equipment and supplies	3391	s	s	s	s
Other miscellaneous manufacturing	3399	37,156	1,055	s	19,881
Nonmanufacturing industries	21–23, 42–81	4,289,402	372,918	1,630,014	2,286,470

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Mining, extraction, and support activities	21	s	s	s	s
Utilities	22	s	s	s	s
Wholesale trade	42	295,290	34,258	95,304	165,728
Electronic shopping and electronic auctions	454111–12	39,818	1,825	s	22,496
Transportation and warehousing	48–49	s	s	s	s
Information	51	239,024	24,257	73,155	141,611
Publishing	511	108,978	9,649	29,831	69,498
Newspaper, periodical, book, and directory publishers	5111	0	0	0	0
Software publishers	5112	108,978	9,649	29,831	69,498
Telecommunications	517	s	s	s	s
Data processing, hosting, and related services	518	63,032	5,772	18,893	38,367
Other information	other 51	55,222	s	s	30,258
Finance and insurance	52	s	s	s	s
Real estate and rental and leasing	53	s	s	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	s	s	s
Professional, scientific, and technical services	54	3,577,353	282,465	1,407,771	1,887,117
Architectural, engineering, and related services	5413	381,344	18,364	189,913	173,067
Computer systems design and related services	5415	1,456,420	121,639	493,846	840,934
Scientific research and development services	5417	889,127	67,561	379,770	441,796
Biotechnology research and development	541711	337,866	26,069	151,232	160,565
Physical, engineering, and life sciences (except biotechnology) research and development	541712	529,224	39,067	215,896	274,261
Social sciences and humanities research and development	541720	22,037	2,424	12,642	6,971
Other professional, scientific, and technical services	other 54	850,462	74,900	344,241	431,320
Health care services	621–23	49,510	s	s	24,113
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	s	s	35	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 is based on sample NAICS code. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s)

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