

TABLE 7

Total sales and R&D as a percent of total sales for companies with 1–4 employees, by industry: 2016

(Thousands of U.S. dollars and percent)

Industry	NAICS code	Total sales (US\$thousands)	R&D as percent of total sales
All industries	21–23, 31–33, 42–81	22,096,504	21.9
Manufacturing industries	31–33	2,468,171	22.5
Food	311	s	s
Beverages and tobacco products	312	s	4.0
Textiles, apparel, and leather products	313–16	s	9.1
Wood products	321	s	5.9
Paper	322	0	0.0
Printing and related support activities	323	30,974	4.5
Petroleum and coal products	324	s	8.6
Chemicals	325	349,647	34.0
Basic chemicals	3251	s	s
Resins, synthetic rubber, and artificial synthetic fibers and filaments	3252	14,338	10.4
Pesticides, fertilizers, and other agricultural chemicals	3253	4,742	0.6
Pharmaceuticals and medicines	3254	68,345	108.3
Soaps, cleaning compounds, and toilet preparations	3256	s	0.8
Paints, coatings, adhesives, and other chemicals	3255, 3259	135,369	13.0
Plastics and rubber products	326	s	0.8
Nonmetallic mineral products	327	s	19.0
Primary metals	331	s	6.7
Fabricated metal products	332	264,724	10.1
Machinery	333	448,068	25.7
Agricultural implements	33311	s	12.0
Semiconductor machinery	333242	1,654	1228.7
Engines, turbines, and power transmission equipment	3336	30,207	22.5
Other machinery	other 333	249,657	27.2
Computer and electronic products	334	420,432	32.0
Communications equipment	3342	37,168	22.9
Semiconductors and other electronic components	3344	116,932	27.8
Navigational, measuring, electromedical, and control instruments	3345	167,962	38.2
Electromedical, electrotherapeutic, and irradiation apparatuses	334510, 334517	26,815	77.4
Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments	334511	10,035	47.2
Other measuring and controlling devices	other 3345	131,112	29.5
Other computer and electronic products	other 334	98,369	30.1
Electrical equipment, appliances, and components	335	143,824	16.6
Transportation equipment	336	157,382	18.5
Automobiles, bodies, trailers, and parts	3361–63	121,447	20.2
Aerospace products and parts	3364	5,266	D
Aircraft, aircraft engines, and aircraft parts	336411–13	D	D
Guided missiles, space vehicles, and related parts	336414–15, 336419	D	D
Military armored vehicles, tanks, and tank components	336992	625	10.0
Other transportation	other 336	s	D
Furniture and related products	337	s	0.7
Miscellaneous	339	356,080	21.6
Medical equipment and supplies	3391	117,395	33.7
Other miscellaneous manufacturing	3399	238,684	15.6
Nonmanufacturing industries	21–23, 42–81	19,628,333	21.9

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Mining, extraction, and support activities	21	s	135.0
Utilities	22	s	35.7
Wholesale trade	42	6,310,216	4.7
Electronic shopping and electronic auctions	454111–12	578,599	6.9
Transportation and warehousing	48–49	s	4.0
Information	51	771,470	31.0
Publishing	511	325,871	33.4
Newspaper, periodical, book, and directory publishers	5111	0	0.0
Software publishers	5112	325,871	33.4
Telecommunications	517	s	22.2
Data processing, hosting, and related services	518	187,190	33.7
Other information	other 51	205,293	26.9
Finance and insurance	52	76,867	39.4
Real estate and rental and leasing	53	s	40.7
Lessors of nonfinancial intangible assets (except copyrighted works)	533	s	30.0
Other real estate and rental and leasing	other 53	s	44.1
Professional, scientific, and technical services	54	11,653,639	30.7
Architectural, engineering, and related services	5413	1,795,681	21.2
Computer systems design and related services	5415	4,459,161	32.7
Scientific research and development services	5417	897,979	99.0
Biotechnology research and development	541711	246,106	137.3
Physical, engineering, and life sciences (except biotechnology) research and development	541712	606,762	87.2
Social sciences and humanities research and development	541720	45,112	48.9
Other professional, scientific, and technical services	other 54	4,500,817	18.9
Health care services	621–23	46,543	106.4
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55– 56, 624, 71–72, 81	71,557	39.9

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&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.