

TABLE 5

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

(Thousands of U.S. dollars)

Industry	NAICS code	Total	Paid for by the company	Foreign owner	Another U.S. company	U.S. university or college	U.S. nonprofit organization	U.S. federal government	U.S. state or local government	Other sources
All industries	21–23, 31–33, 42–81	4,843,494	3,779,668	107,587	410,451	18,471	24,711	382,054	23,797	96,755
Manufacturing industries	31–33	554,091	417,964	49,121	31,067	s	871	47,748	1,581	2,687
Food	311	s	s	0	0	0	0	0	0	0
Beverages and tobacco products	312	s	s	0	0	0	0	0	0	0
Textiles, apparel, and leather products	313–16	s	s	0	0	0	0	0	0	0
Wood products	321	s	s	0	0	0	s	0	0	0
Paper	322	0	0	0	0	0	0	0	0	0
Printing and related support activities	323	s	s	0	0	0	0	0	0	0
Petroleum and coal products	324	s	s	0	0	0	0	0	0	0
Chemicals	325	118,986	70,375	16,257	3,953	43	468	s	73	1,865
Basic chemicals	3251	s	s	0	s	0	0	s	0	0
Resins, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,490	1,210	0	82	0	0	197	0	0
Pesticides, fertilizers, and other agricultural chemicals	3253	26	26	0	0	0	0	0	0	0
Pharmaceuticals and medicines	3254	73,993	55,713	13,984	1,186	43	455	1,755	27	831
Soaps, cleaning compounds, and toilet preparations	3256	s	s	0	0	0	0	0	0	0
Paints, coatings, adhesives, and other chemicals	3255, 3259	17,592	12,536	2,273	1,434	0	13	256	46	1,034
Plastics and rubber products	326	s	s	0	0	0	0	0	0	0
Nonmetallic mineral products	327	s	s	0	0	s	0	0	s	0
Primary metals	331	s	s	0	0	0	0	0	0	0
Fabricated metal products	332	26,848	21,702	0	s	0	0	0	0	0
Machinery	333	114,951	71,605	16,748	16,253	2,515	0	7,832	0	0
Agricultural implements	33311	20,012	3,264	16,748	0	0	0	0	0	0
Semiconductor machinery	333242	20,321	20,321	0	0	0	0	0	0	0
Engines, turbines, and power transmission equipment	3336	6,797	6,797	0	0	0	0	0	0	0
Other machinery	other 333	67,821	41,222	0	16,253	2,515	0	7,832	0	0
Computer and electronic products	334	134,686	112,413	3,831	4,549	204	0	12,521	561	608
Communications equipment	3342	8,518	7,829	1	53	0	0	624	10	1

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Semiconductors and other electronic components	3344	32,457	21,649	2,681	1,422	80	0	5,598	423	605
Navigational, measuring, electromedical, and control instruments	3345	64,131	55,187	295	2,782	124	0	5,615	127	0
Electromedical, electrotherapeutic, and irradiation apparatuses	334510, 334517	20,745	16,363	47	1,715	0	0	2,567	52	0
Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments	334511	4,733	4,312	0	421	0	0	0	0	0
Other measuring and controlling devices	other 3345	38,653	34,512	248	646	124	0	3,048	75	0
Other computer and electronic products	other 334	29,580	27,748	853	292	0	0	684	0	2
Electrical equipment, appliances, and components	335	23,861	21,002	83	1,035	0	0	1,442	84	215
Transportation equipment	336	29,131	16,928	12,203	0	0	0	0	0	0
Automobiles, bodies, trailers, and parts	3361–63	24,576	D	D	0	0	0	0	0	0
Aerospace products and parts	3364	D	D	D	0	0	0	0	0	0
Aircraft, aircraft engine, and aircraft parts	336411–13	3	3	0	0	0	0	0	0	0
Guided missiles, space vehicles, and related parts	336414–15, 336419	D	D	D	0	0	0	0	0	0
Military armored vehicles, tanks, and tank components	336992	63	63	0	0	0	0	0	0	0
Other transportation	other 336	D	D	0	0	0	0	0	0	0
Furniture and related products	337	412	412	0	0	0	0	0	0	0
Miscellaneous	339	76,731	76,572	0	131	27	0	0	0	0
Medical equipment and supplies	3391	39,575	39,443	0	131	0	0	0	0	0
Other miscellaneous manufacturing	3399	37,156	37,129	0	0	27	0	0	0	0
Nonmanufacturing industries	21–23, 42–81	4,289,402	3,361,704	58,466	379,383	15,419	23,840	334,307	22,216	94,068
Mining, extraction, and support activities	21	21,509	21,509	0	0	0	0	0	0	0

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Utilities	22	2,671	2,671	0	0	0	0	0	0	0
Wholesale trade	42	295,290	252,644	6,579	28,767	43	43	2,551	386	4,277
Electronic shopping and electronic auctions	454111–12	39,818	39,070	0	749	0	0	0	0	0
Transportation and warehousing	48–49	3,668	3,668	0	0	0	0	0	0	0
Information	51	239,024	220,840	2,496	6,785	39	54	5,558	135	3,117
Publishing	511	108,978	98,016	2,496	2,952	39	54	2,169	135	3,117
Newspaper, periodical, book, and directory publishers	5111	0	0	0	0	0	0	0	0	0
Software publishers	5112	108,978	98,016	2,496	2,952	39	54	2,169	135	3,117
Telecommunications	517	11,792	11,792	0	0	0	0	0	0	0
Data processing, hosting, and related services	518	63,032	56,373	0	3,270	0	0	3,389	0	0
Other information	other 51	55,222	54,658	0	564	0	0	0	0	0
Finance and insurance	52	30,252	30,252	0	0	0	0	0	0	0
Real estate and rental and leasing	53	1,763	1,763	0	0	0	0	0	0	0
Lessors of nonfinancial intangible assets (except copyrighted works)	533	311	311	0	0	0	0	0	0	0
Other real estate and rental and leasing	other 53	1,452	1,452	0	0	0	0	0	0	0
Professional, scientific, and technical services	54	3,577,353	2,726,802	49,391	337,681	15,310	23,744	319,436	18,314	86,673
Architectural, engineering, and related services	5413	381,344	271,796	50	52,118	1,118	4,322	38,995	497	12,448
Computer systems design and related services	5415	1,456,420	1,202,993	24,629	131,207	7,869	5,431	57,102	5,612	21,578
Scientific research and development services	5417	889,127	576,986	14,848	48,832	3,482	5,140	188,601	8,527	42,711
Biotechnology research and development	541711	337,866	224,308	5,600	10,915	613	885	83,620	4,810	7,114
Physical, engineering, and life sciences (except biotechnology) research and development	541712	529,224	342,195	9,206	35,710	2,265	3,406	98,634	2,623	35,185
Social sciences and humanities research and development	541720	22,037	10,483	41	2,207	604	850	6,347	1,094	412
Other professional, scientific, and technical services	other 54	850,462	675,027	9,865	105,524	2,842	8,850	34,738	3,679	9,936
Health care services	621–23	49,510	44,082	0	5,401	27	0	0	0	0

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Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	28,545	18,404	0	0	0	0	6,761	3,381	0

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.