

TABLE 60

## U.S. patent applications and patents issued to companies located in the United States that performed or funded R&amp;D, by industry and company size: 2016

(Number)

Industry and company size	NAICS code	Applications				Patents issued <sup>c</sup>
		Total	Nonprovisional utility patents			
			Total	To foreign jurisdictions <sup>a</sup>	From within organized R&D activity <sup>b</sup>	
All industries	21–23, 31–33, 42–81	135,702	101,428	47,920	75,310	92,099
Manufacturing industries	31–33	93,554	66,084	38,336	53,281	62,291
Food	311	1,281	716	355	D	877
Beverages and tobacco products	312	565	430	351	401	250
Textiles, apparel, and leather products	313–16	326	188	124	161	115
Wood products	321	68	42	D	D	35
Paper	322	425	177	149	160	270
Printing and related support activities	323	172	134	77	128	107
Petroleum and coal products	324	1,085	121	D	121	103
Chemicals	325	15,060	8,746	6,205	7,732	8,563
Basic chemicals	3251	1,141	647	483	618	740
Resins, synthetic rubber, and artificial synthetic fibers and filaments	3252	313	132	D	D	152
Pesticides, fertilizers, and other agricultural chemicals	3253	1,051	829	D	D	762
Pharmaceuticals and medicines	3254	9,479	5,111	4,017	4,523	5,154
Soaps, cleaning compounds, and toilet preparations	3256	1,875	1,168	674	D	999
Paints, coatings, adhesives, and other chemicals	3255, 3259	1,201	860	524	820	756
Plastics and rubber products	326	3,683	2,399	1,644	2,026	1,391
Nonmetallic mineral products	327	1,383	1,154	829	1,083	601
Primary metals	331	361	209	122	142	152
Fabricated metal products	332	1,571	487	270	433	559
Machinery	333	6,557	4,610	2,672	4,090	3,968
Agricultural implements	33311	622	D	D	D	397
Semiconductor machinery	333242	1,859	1,233	652	D	1,076
Engines, turbines, and power transmission equipment	3336	1,348	D	D	D	848
Other machinery	other 333	2,728	1,740	1,263	1,500	1,646
Computer and electronic products	334	34,817	26,766	10,938	21,331	28,251
Communications equipment	3342	4,898	3,634	1,629	3,269	3,921
Semiconductors and other electronic components	3344	16,766	13,196	5,250	9,020	13,965
Navigational, measuring, electromedical, and control instruments	3345	4,876	3,915	2,499	3,213	3,715
Electromedical, electrotherapeutic, and irradiation apparatuses	334510, 334517	420	336	156	312	475
Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments	334511	2,402	2,128	1,282	1,914	1,756
Other measuring and controlling devices	other 3345	2,054	1,451	1,061	987	1,483
Other computer and electronic products	other 334	8,277	6,022	1,559	5,829	6,650
Electrical equipment, appliances, and components	335	4,047	2,677	1,699	2,526	2,395
Transportation equipment	336	14,090	12,123	9,594	7,842	9,452
Automobiles, bodies, trailers, and parts	3361–63	6,522	5,448	4,613	D	4,335
Aerospace products and parts	3364	7,132	6,372	4,820	3,893	4,920
Aircraft, aircraft engines, and aircraft parts	336411–13	7,071	6,333	4,797	D	4,872
Guided missiles, space vehicles, and related parts	336414–15, 336419	61	39	23	D	48
Military armored vehicles, tanks, and tank components	336992	0	0	0	0	D

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Other transportation	other 336	436	303	161	D	D
Furniture and related products	337	295	171	78	D	168
Miscellaneous manufacturing	339	7,768	4,933	3,117	4,606	5,035
Medical equipment and supplies	3391	6,480	4,354	2,931	4,065	4,435
Other miscellaneous manufacturing	3399	1,288	579	186	541	600
Nonmanufacturing industries	21–23, 42–81	42,148	35,344	9,584	22,029	29,808
Mining, extraction, and support activities	21	3,126	2,483	2,071	2,425	2,469
Utilities	22	D	D	7	D	18
Wholesale trade	42	93	D	9	24	30
Electronic shopping and electronic auctions	454111–12	D	D	D	D	D
Transportation and warehousing	48–49	D	D	D	D	D
Information	51	18,108	14,179	5,307	10,161	13,880
Publishing	511	8,123	6,327	2,664	5,089	5,619
Newspaper, periodical, book, and directory publishers	5111	D	0	0	0	0
Software publishers	5112	D	6,327	2,664	5,089	5,619
Telecommunications	517	2,301	1,444	100	1,038	2,776
Data processing, hosting, and related services	518	2,573	2,083	477	1,280	1,549
Other information	other 51	5,111	4,325	2,066	2,754	3,936
Finance and insurance	52	2,066	1,554	56	D	525
Real estate and rental and leasing	53	D	87	D	D	D
Lessors of nonfinancial intangible assets (except copyrighted works)	533	D	D	0	D	D
Other real estate and rental and leasing	other 53	D	D	D	D	D
Professional, scientific, and technical services	54	15,975	14,488	1,813	D	10,842
Architectural, engineering, and related services	5413	448	266	157	D	215
Computer systems design and related services	5415	12,785	12,605	D	D	9,364
Scientific research and development services	5417	2,274	1,324	713	D	943
Biotechnology research and development	541711	D	198	D	D	D
Physical, engineering, and life sciences (except biotechnology) research and development	541712	1,863	1,120	551	D	838
Social sciences and humanities research and development	541720	D	6	D	D	D
Other professional, scientific, and technical services	other 54	468	293	D	286	319
Health care services	621–23	218	173	109	D	100
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	D	D	32	59	D
All companies (number of domestic employees)	–	135,702	101,428	47,920	75,310	92,099
Micro companies <sup>d</sup>						
5–9	–	420	217	131	197	190
Small companies						
10–19	–	1,074	500	333	449	535
20–49	–	2,701	1,580	1,057	1,402	1,109
Medium companies						

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50–99	–	2,608	1,541	888	1,405	1,278
100–249	–	4,583	2,394	1,373	2,096	2,182
Large companies						
250–499	–	4,314	2,650	1,064	2,299	2,871
500–999	–	5,276	3,241	1,816	2,794	3,083
1,000–4,999	–	19,066	12,729	6,405	10,783	12,552
5,000–9,999	–	14,171	10,938	4,792	7,685	9,624
10,000–24,999	–	27,267	19,910	12,784	19,055	16,754
25,000 or more	–	54,222	45,728	17,276	27,146	41,921

D = data withheld to avoid disclosing operations of individual companies; i = > 50% of the estimate is imputation to account for nonresponse.

NAICS = 2012 North American Industry Classification System.

<sup>a</sup> Also includes patent applications that company planned to apply for in foreign jurisdictions.

<sup>b</sup> Includes patent applications in which the named inventor(s) were R&D employees.

<sup>c</sup> For a small number of companies issued more than 100 patents by the U.S. Patent and Trademark Office (USPTO), counts from USPTO.gov were used to supplement survey data.

<sup>d</sup> Business R&D and Innovation Survey does not include companies with fewer than five domestic employees.

**Note(s)**

Detail may not add to total because of rounding. Industry is classification 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. Statistics are based on companies in the United States that reported to the survey. These statistics do not include an adjustment to the weight to account for unit nonresponse.

**Source(s)**

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