

## TECHNICAL TABLE A-2

## Companies in the target population and selected for the sample, by industry and company size: 2016

(Number of companies)

Industry and company size	NAICS code	Companies in target population <sup>a</sup>	Companies selected for the sample		
			All companies	Noncertainties	Certainties
All industries	21-23, 31-33, 42-81	1,485,151	44,861	24,015	20,846
Manufacturing industries	31-33	143,100	18,391	9,884	8,507
Food	311	12,840	941	616	325
Beverages and tobacco products	312	3,440	288	189	99
Textiles, apparel, and leather products	313-16	6,770	681	439	242
Wood products	321	7,047	600	409	191
Paper	322	1,879	403	236	167
Printing and related support activities	323	11,113	988	774	214
Petroleum and coal products <sup>b</sup>	324	467	195	62	133
Chemicals	325	6,335	2,197	871	1,326
Basic chemicals	3251	875	288	102	186
Resins, synthetic rubber, and artificial synthetic fibers and filaments	3252	682	297	147	150
Pesticides, fertilizers, and other agricultural chemicals	3253	381	139	70	69
Pharmaceuticals and medicines	3254	1,578	630	77	553
Soaps, cleaning compounds, and toilet preparations	3256	1,126	364	221	143
Paints, coatings, adhesives, and other chemicals	3255, 3259	1,693	479	254	225
Plastics and rubber products	326	6,490	1,070	558	512
Nonmetallic mineral products	327	5,551	467	274	193
Primary metals	331	2,384	458	174	284
Fabricated metal products	332	30,303	2,024	1,208	816
Machinery	333	13,427	2,120	1,071	1,049
Agricultural implements	33311	764	242	138	104
Semiconductor machinery	333242	125	123	0	123
Engines, turbines, and power transmission equipment	3336	561	170	80	90
Other machinery	other 333	11,977	1,585	853	732
Computer and electronic products	334	6,860	1,915	782	1,133
Communications equipment	3342	807	232	51	181
Semiconductors and other electronic components	3344	2,403	529	250	279
Navigational, measuring, electromedical, and control instruments	3345	2,601	869	349	520
Electromedical, electrotherapeutic, and irradiation apparatuses	334510, 334517	413	198	63	135
Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments	334511	314	129	33	96
Other measuring and controlling devices	other 3345	1,874	542	253	289
Other computer and electronic products	other 334	1,049	285	132	153
Electrical equipment, appliances, and components	335	3,101	725	385	340
Transportation equipment	336	6,237	1,162	537	625
Motor vehicles, bodies, trailers, and parts	3361-63	3,926	584	294	290
Aerospace products and parts	3364	993	253	73	180
Aircraft, aircraft engine, and aircraft parts	336411-13	942	206	73	133
Guided missile, space vehicle, and related parts	336414, 336415, 336419	51	47	0	47
Military armored vehicle, tank, and tank component	336992	38	36	0	36

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			All companies	Noncertainties	Certainties
Other transportation equipment	other 336	1,280	289	170	119
Furniture and related products	337	7,245	677	446	231
Miscellaneous manufacturing	339	10,986	1,383	818	565
Medical equipment and supplies	3391	4,012	642	353	289
Other miscellaneous	3399	6,974	741	465	276
Unclassified	–	625	97	35	62
Nonmanufacturing industries	21–23, 42–81	1,342,051	26,470	14,131	12,339
Mining, extraction, and support activities <sup>b</sup>	21	8,803	601	314	287
Utilities	22	1,248	184	41	143
Wholesale trade	42	120,894	3,536	2,327	1,209
Electronic shopping and electronic auctions	454111–12	6,790	415	314	101
Transportation and warehousing	48–49	56,527	858	499	359
Information	51	24,430	2,445	1,144	1,301
Publishing	511	8,241	1,068	515	553
Newspaper, periodical, book, and directory publishers	5111	5,018	458	312	146
Software publishers	5112	3,223	610	203	407
Telecommunications	517	3,396	283	138	145
Data processing, hosting, and related services	518	4,102	724	283	441
Other information	other 51	8,691	370	208	162
Finance and insurance	52	59,349	1,145	363	782
Real estate and rental and leasing	53	54,307	684	389	295
Lessors of nonfinancial intangible assets (except copyrighted works)	533	747	100	4	96
Other real estate and rental and leasing	other 53	53,560	584	385	199
Professional, scientific, and technical services	54	198,358	10,572	4,238	6,334
Architectural, engineering, and related services	5413	30,414	1,665	976	689
Computer systems design and related services	5415	27,201	2,262	1,538	724
Scientific research and development services	5417	3,993	3,993	0	3,993
Biotechnology research and development	541711	1,043	1,043	0	1,043
Physical, engineering, and life sciences (except biotechnology) research and development	541712	2,696	2,696	0	2,696
Social sciences and humanities research and development	541720	254	254	0	254
Other professional, scientific, and technical services	other 54	136,750	2,652	1,724	928
Health care services	621–23	222,535	2,297	1,637	660
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	587,725	3,483	2,719	764
Unclassified	–	1,085	250	146	104
Company size (number of domestic employees)					
All companies	–	1,485,151	44,861	24,015	20,846
< 5 <sup>c</sup>	–	10,373	424	193	231
5–9	–	407,520	7,230	5,296	1,934
10–19	–	533,994	7,417	5,748	1,669
20–49	–	343,379	8,064	5,813	2,251
50–99	–	103,825	5,366	3,096	2,270
100–249	–	55,149	6,425	2,577	3,848
250–499	–	15,905	3,564	784	2,780

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**Companies in the target population and selected for the sample, by industry and company size: 2016**

(Number of companies)

Industry and company size	NAICS code	Companies in target population <sup>a</sup>	Companies selected for the sample		
			All companies	Noncertainties	Certainties
500–999	–	7,419	2,407	289	2,118
1,000–4,999	–	5,920	2,837	155	2,682
5,000–9,999	–	822	530	33	497
10,000–24,999	–	508	344	18	326
25,000 or more	–	337	253	13	240

NAICS = 2012 North American Industry Classification System.

<sup>a</sup> Estimates of the number of companies in the target population are based on the original sampling frame that was created to select the 2016 Business R&D and Innovation Survey (BRDIS) sample. These estimates do not include 90 R&D performers from the previous year's sample, which were not on the original sampling frame but were found during the survey's annual contact update procedures. These companies were added to the 2016 sample with certainty but are not reflected in the number of certainties selected for the sample.

<sup>b</sup> Because of the widespread practice of the larger petroleum extraction and refining companies vertically integrating their activities, petroleum refineries (NAICS 32411) and oil and gas extraction (NAICS 211) were combined during sampling.

<sup>c</sup> This category includes companies that are represented on the sampling frame as having missing data, but these companies are in scope to BRDIS because they have at least \$250,000 in annual payroll.

**Note(s)**

Certainties are companies whose probability of selection is 1 based on prior year R&D expenditures equal to or greater than \$3 million as well as others included in the sample for analytical purposes (analytical certainties). Noncertainties are companies whose probability of selection is less than 1. Companies that were missing or had an incomplete NAICS code at the time of sampling were assigned to an "unclassified" industry category temporarily. If an unclassified company reported R&D expenditures, its primary industrial activity was investigated, and a NAICS code was assigned during statistical processing. The total sample size reflects the time between sample selection and survey mailout; that is, the sample was updated before actual mailout took place.

**Source(s)**

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