

TABLE 13

Companies with 1–4 employees that reported innovation by industry, industry proportions, and type of innovation: 2014–16

(Number and percent)

Industry	NAICS code	Product innovation			Process innovation			Marketing innovation			Organizational innovation		
		Companies ^a	Yes	No	Companies ^a	Yes	No	Companies ^a	Yes	No	Companies ^a	Yes	No
Industries (number)													
All industries	21–23, 31–33, 42–81	1,696,380	474,603	1,221,777	1,698,302	428,230	1,270,072	1,705,094	284,632	1,420,462	2,036,079	352,028	1,684,051
Manufacturing industries	31–33	57,830	21,960	35,870	58,185	18,382	39,803	58,097	14,089	44,008	64,227	12,733	51,494
Food	311	3,509	1,353	2,156	3,569	997	2,572	3,479	1,145	2,334	4,108	814	3,293
Beverages and tobacco products	312	1,079	482	597	1,051	397	654	1,079	539	540	1,136	398	738
Textiles, apparel, and leather products	313–16	3,905	1,183	2,722	3,844	819	3,025	3,935	577	3,358	4,358	606	3,752
Wood products	321	2,503	673	1,830	2,530	700	1,830	2,530	296	2,234	2,747	323	2,423
Paper	322	376	107	269	403	s	322	403	s	322	429	D	D
Printing and related support activities	323	8,435	3,375	5,060	8,490	3,213	5,276	8,462	2,314	6,148	9,169	2,096	7,073
Petroleum and coal products	324	117	D	D	140	D	D	140	D	D	117	0	117
Chemicals	325	1,878	899	979	1,863	773	1,090	1,876	663	1,213	2,028	647	1,382
Basic chemicals	3251	146	146	0	146	D	D	146	D	D	175	s	s
Resins, synthetic rubber, and artificial synthetic fibers and filaments	3252	95	53	42	93	39	54	96	26	70	108	28	81
Pesticides, fertilizers, and other agricultural chemicals	3253	168	D	D	168	D	D	168	D	D	168	49	119
Pharmaceuticals and medicines	3254	287	140	147	278	116	162	284	107	178	338	116	222
Soaps, cleaning compounds, and toilet preparations	3256	606	270	336	606	270	336	606	236	369	606	203	403
Paints, coatings, adhesives, and other chemicals	3255, 3259	576	D	D	573	D	D	576	D	D	634	164	470
Plastics and rubber products	326	1,361	395	967	1,387	394	994	1,361	370	991	1,440	290	1,149
Nonmetallic mineral products	327	1,779	557	1,221	1,805	424	1,381	1,858	451	1,407	1,964	319	1,645
Primary metals	331	651	180	471	651	179	472	651	D	D	742	119	623
Fabricated metal products	332	10,562	3,223	7,339	10,562	3,204	7,358	10,562	2,003	8,559	11,992	2,241	9,751
Machinery	333	3,922	1,594	2,328	4,083	1,289	2,794	3,929	882	3,047	4,634	777	3,857
Agricultural implements	33311	247	s	154	278	154	124	247	D	D	340	s	247
Semiconductor machinery	333242	14	8	6	13	5	8	14	4	10	55	9	46
Engines, turbines, and power transmission equipment	3336	108	D	D	108	D	D	87	D	D	s	D	s
Other machinery	other 333	3,553	D	D	3,685	D	D	3,581	D	D	4,131	D	D
Computer and electronic products	334	2,463	1,472	990	2,446	1,094	1,352	2,434	899	1,535	2,660	766	1,895

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		Companies ^a	Yes	No	Companies ^a	Yes	No	Companies ^a	Yes	No	Companies ^a	Yes	No
Communications equipment	3342	230	142	88	231	101	130	232	82	150	247	61	185
Semiconductors and other electronic components	3344	639	330	308	639	288	350	641	205	436	712	226	486
Navigational, measuring, electromedical, and control instruments	3345	962	573	388	953	417	537	961	353	608	1,028	277	751
Electromedical, electrotherapeutic, and irradiation apparatuses	334510, 334517	122	68	54	119	45	74	120	49	72	143	46	97
Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments	334511	82	40	42	84	32	52	82	28	54	79	19	60
Other measuring and controlling devices	other 3345	758	465	293	750	340	411	758	276	482	805	211	595
Other computer and electronic products	other 334	633	427	206	623	288	335	600	260	341	674	202	472
Electrical equipment, appliances, and components	335	924	469	455	912	326	586	920	272	648	997	230	766
Transportation equipment	336	1,933	1,031	902	1,959	550	1,409	1,986	679	1,308	2,101	572	1,529
Automobiles, bodies, trailers, and parts	3361–63	1,081	595	486	1,081	324	757	1,108	459	649	1,162	324	838
Aerospace products and parts	3364	214	s	124	214	s	150	214	s	181	246	s	185
Aircraft, aircraft engines, and aircraft parts	336411–13	209	90	119	209	D	D	209	D	D	239	D	D
Guided missiles, space vehicles, and related parts	336414–15, 336419	5	s	5	5	D	D	5	D	D	7	D	D
Military armored vehicles, tanks, and tank components	336992	6	D	D	6	D	D	6	D	D	8	D	D
Other transportation	other 336	633	D	D	659	D	D	659	D	D	685	D	D
Furniture and related products	337	4,080	1,135	2,945	4,135	798	3,337	4,163	715	3,448	4,520	523	3,997
Miscellaneous	339	8,355	D	D	8,355	D	D	8,330	D	D	9,088	D	D
Medical equipment and supplies	3391	3,732	1,606	2,126	3,732	1,403	2,329	3,706	692	3,014	4,113	989	3,124
Other miscellaneous manufacturing	3399	4,624	D	D	4,624	D	D	4,624	D	D	4,974	D	D
Nonmanufacturing industries	21–23, 42–81	1,638,550	452,644	1,185,907	1,640,117	409,848	1,230,269	1,646,996	270,543	1,376,453	1,971,852	339,295	1,632,557
Mining, extraction, and support activities	21	5,863	852	5,011	5,975	1,025	4,950	5,918	682	5,236	7,732	875	6,858

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Utilities	22	871	207	664	895	99	797	920	s	846	1,168	331	837
Wholesale trade	42	102,517	35,230	67,287	102,483	27,049	75,434	103,007	27,405	75,602	116,636	20,666	95,971
Electronic shopping and electronic auctions	454111–12	11,214	5,578	5,637	11,244	5,246	5,998	11,242	4,944	6,298	11,994	3,058	8,936
Transportation and warehousing	48–49	50,015	10,587	39,428	50,105	9,350	40,755	50,137	4,543	45,594	66,321	8,576	57,745
Information	51	23,719	11,524	12,195	23,824	10,019	13,805	23,781	7,285	16,496	27,207	6,204	21,004
Publishing	511	5,618	3,122	2,496	5,576	2,350	3,226	5,612	2,035	3,577	6,266	1,582	4,684
Newspaper, periodical, book, and directory publishers	5111	3,876	1,800	2,076	3,849	1,445	2,404	3,877	1,254	2,623	4,397	958	3,440
Software publishers	5112	1,742	1,322	420	1,727	905	822	1,735	781	954	1,869	624	1,245
Telecommunications	517	2,658	1,163	1,495	2,691	1,030	1,661	2,725	831	1,894	3,025	665	2,361
Data processing, hosting, and related services	518	2,651	1,343	1,308	2,681	1,194	1,486	2,681	837	1,843	2,799	599	2,200
Other information	other 51	12,792	5,896	6,896	12,877	5,445	7,432	12,763	3,582	9,182	15,117	3,358	11,759
Finance and insurance	52	93,864	24,619	69,245	94,071	25,939	68,132	94,941	14,172	80,769	117,138	26,853	90,286
Real estate and rental and leasing	53	97,150	20,445	76,705	97,651	21,762	75,889	98,240	12,568	85,672	145,208	23,100	122,109
Lessors of nonfinancial intangible assets (except copyrighted works)	533	494	s	415	494	D	D	468	78	390	832	104	728
Other real estate and rental and leasing	other 53	96,657	20,366	76,290	97,158	D	D	97,773	12,491	85,282	144,376	22,995	121,381
Professional, scientific, and technical services	54	347,588	103,694	243,894	347,996	102,608	245,388	348,255	60,008	288,247	389,336	81,900	307,436
Architectural, engineering, and related services	5413	35,878	11,210	24,668	35,729	11,796	23,933	35,606	5,491	30,115	39,512	7,628	31,884
Computer systems design and related services	5415	53,021	25,663	27,359	52,746	21,132	31,615	52,770	13,627	39,143	58,003	17,026	40,977
Scientific research and development services	5417	2,842	1,497	1,345	2,795	1,115	1,680	2,846	861	1,985	3,849	1,235	2,615
Biotechnology research and development	541711	600	378	222	563	262	302	601	207	394	980	388	591
Physical, engineering, and life sciences (except biotechnology) research and development	541712	1,862	964	899	1,857	716	1,141	1,870	578	1,292	2,436	736	1,700
Social sciences and humanities research and development	541720	380	155	225	375	138	237	375	76	299	433	110	323

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		Companies ^a	Yes	No	Companies ^a	Yes	No	Companies ^a	Yes	No	Companies ^a	Yes	No
Other professional, scientific, and technical services	other 54	255,846	65,325	190,521	256,725	68,565	188,160	257,033	40,029	217,003	287,972	56,011	231,961
Health care services	621–23	145,738	42,532	103,206	145,933	39,415	106,518	147,514	19,395	128,119	176,983	35,446	141,537
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	760,012	197,377	562,635	759,939	167,337	592,602	763,043	119,468	643,575	912,127	132,289	779,838
Industry proportions (percent)													
All industries	21–23, 31–33, 42–81	1,696,380	28.0	72.0	1,698,302	25.2	74.8	1,705,094	16.7	83.3	2,036,079	17.3	82.7
Manufacturing industries	31–33	57,830	38.0	62.0	58,185	31.6	68.4	58,097	24.3	75.7	64,227	19.8	80.2
Food	311	3,509	38.6	61.4	3,568	27.9	72.1	3,479	32.9	67.1	4,107	19.8	80.2
Beverages and tobacco products	312	1,079	44.7	55.3	1,051	37.8	62.2	1,079	49.9	50.1	1,136	35.0	65.0
Textiles, apparel, and leather products	313–16	3,905	30.3	69.7	3,844	21.3	78.7	3,935	14.7	85.3	4,358	13.9	86.1
Wood products	321	2,503	26.9	73.1	2,530	27.7	72.3	2,530	11.7	88.3	2,747	11.8	88.2
Paper	322	376	28.5	71.5	402	19.9	80.1	402	19.9	80.1	429	D	D
Printing and related support activities	323	8,435	40.0	60.0	8,490	37.8	62.2	8,462	27.3	72.7	9,169	22.9	77.1
Petroleum and coal products	324	117	D	D	140	D	D	140	D	D	117	0.0	100.0
Chemicals	325	1,878	47.9	52.1	1,863	41.5	58.5	1,876	35.3	64.7	2,028	31.9	68.1
Basic chemicals	3251	146	100.0	0.0	146	D	D	146	D	D	175	50.0	50.0
Resins, synthetic rubber, and artificial synthetic fibers and filaments	3252	95	55.5	44.5	93	42.1	57.9	96	27.4	72.6	108	25.5	74.5
Pesticides, fertilizers, and other agricultural chemicals	3253	168	D	D	168	D	D	168	D	D	168	29.1	70.9
Pharmaceuticals and medicines	3254	287	48.8	51.2	278	41.8	58.2	284	37.5	62.5	338	34.3	65.7
Soaps, cleaning compounds, and toilet preparations	3256	606	44.5	55.5	606	44.5	55.5	606	39.0	61.0	606	33.5	66.5
Paints, coatings, adhesives, and other chemicals	3255, 3259	576	D	D	572	D	D	576	D	D	634	25.8	74.2
Plastics and rubber products	326	1,361	29.0	71.0	1,387	28.4	71.6	1,361	27.2	72.8	1,440	20.2	79.8
Nonmetallic mineral products	327	1,778	31.3	68.7	1,805	23.5	76.5	1,858	24.3	75.7	1,964	16.2	83.8
Primary metals	331	651	27.7	72.3	651	27.5	72.5	651	D	D	742	16.1	83.9
Fabricated metal products	332	10,562	30.5	69.5	10,562	30.3	69.7	10,562	19.0	81.0	11,992	18.7	81.3
Machinery	333	3,922	40.6	59.4	4,083	31.6	68.4	3,929	22.4	77.6	4,634	16.8	83.2

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		Companies ^a	Yes	No	Companies ^a	Yes	No	Companies ^a	Yes	No	Companies ^a	Yes	No
Agricultural implements	33311	247	37.5	62.5	278	55.6	44.4	247	D	D	340	27.3	72.7
Semiconductor machinery	333295	14	54.5	45.5	13	40.0	60.0	14	27.3	72.7	s	15.9	84.1
Engines, turbines, and power transmission equipment	3336	108	D	D	108	D	D	87	D	D	108	D	D
Other machinery	other 333	3,553	D	D	3,685	D	D	3,581	D	D	4,131	D	D
Computer and electronic products	334	2,463	59.8	40.2	2,446	44.7	55.3	2,434	36.9	63.1	2,660	28.8	71.2
Communications equipment	3342	230	61.9	38.1	231	43.6	56.4	232	35.3	64.7	247	24.9	75.1
Semiconductors and other electronic components	3344	639	51.7	48.3	639	45.1	54.9	641	31.9	68.1	712	31.7	68.3
Navigational, measuring, electromedical, and control instruments	3345	962	59.6	40.4	953	43.7	56.3	960	36.7	63.3	1,028	26.9	73.1
Electromedical, electrotherapeutic, and irradiation apparatuses	334510, 334517	122	55.8	44.2	119	37.8	62.2	120	40.5	59.5	143	32.5	67.5
Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments	334511	82	49.2	50.8	83	38.2	61.8	82	33.8	66.2	79	24.5	75.5
Other measuring and controlling devices	other 3345	758	61.4	38.6	750	45.2	54.8	758	36.4	63.6	805	26.2	73.8
Other computer and electronic products	other 334	633	67.4	32.6	623	46.2	53.8	600	43.3	56.7	674	29.9	70.1
Electrical equipment, appliances, and components	335	924	50.8	49.2	912	35.8	64.2	920	29.6	70.4	997	23.1	76.9
Transportation equipment	336	1,933	53.4	46.6	1,959	28.1	71.9	1,986	34.2	65.8	2,101	27.2	72.8
Automobiles, bodies, trailers, and parts	3361–63	1,081	55.0	45.0	1,081	30.0	70.0	1,108	41.4	58.6	1,162	27.9	72.1
Aerospace products and parts	3364	214	41.9	58.1	214	29.6	70.4	214	15.5	84.5	246	24.9	75.1
Aircraft, aircraft engines, and aircraft parts	336411–13	209	42.9	57.1	209	D	D	209	D	D	239	D	D
Guided missiles, space vehicles, and related parts	336414–15, 336419	5	0.0	100.0	5	D	D	5	D	D	7	D	D
Military armored vehicles, tanks, and tank components	336992	6	D	D	6	D	D	6	D	D	8	D	D
Other transportation	other 336	633	D	D	659	D	D	659	D	D	685	D	D
Furniture and related products	337	4,080	27.8	72.2	4,135	19.3	80.7	4,163	17.2	82.8	4,520	11.6	88.4
Miscellaneous	339	8,355	D	D	8,355	D	D	8,330	D	D	9,087	D	D

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Medical equipment and supplies	3391	3,731	43.0	57.0	3,731	37.6	62.4	3,706	18.7	81.3	4,113	24.0	76.0
Other miscellaneous manufacturing	3399	4,624	D	D	4,624	D	D	4,624	D	D	4,974	D	D
Nonmanufacturing industries	21–23, 42–81	1,638,550	27.6	72.4	1,640,117	25.0	75.0	1,646,996	16.4	83.6	1,971,852	17.2	82.8
Mining, extraction, and support activities	21	5,863	14.5	85.5	5,975	17.2	82.8	5,918	11.5	88.5	7,732	11.3	88.7
Utilities	22	871	23.8	76.2	895	11.0	89.0	920	8.0	92.0	1,168	28.3	71.7
Wholesale trade	42	102,517	34.4	65.6	102,483	26.4	73.6	103,007	26.6	73.4	116,636	17.7	82.3
Electronic shopping and electronic auctions	454111–12	11,214	49.7	50.3	11,244	46.7	53.3	11,242	44.0	56.0	11,994	25.5	74.5
Transportation and warehousing	48–49	50,015	21.2	78.8	50,105	18.7	81.3	50,137	9.1	90.9	66,321	12.9	87.1
Information	51	23,719	48.6	51.4	23,824	42.1	57.9	23,781	30.6	69.4	27,207	22.8	77.2
Publishing	511	5,618	55.6	44.4	5,576	42.1	57.9	5,612	36.3	63.7	6,266	25.2	74.8
Newspaper, periodical, book, and directory publishers	5111	3,876	46.4	53.6	3,849	37.5	62.5	3,877	32.4	67.6	4,397	21.8	78.2
Software publishers	5112	1,742	75.9	24.1	1,727	52.4	47.6	1,735	45.0	55.0	1,869	33.4	66.6
Telecommunications	517	2,658	43.8	56.2	2,691	38.3	61.7	2,725	30.5	69.5	3,025	22.0	78.0
Data processing, hosting, and related services	518	2,651	50.7	49.3	2,681	44.6	55.4	2,681	31.2	68.8	2,799	21.4	78.6
Other information	other 51	12,792	46.1	53.9	12,876	42.3	57.7	12,763	28.1	71.9	15,117	22.2	77.8
Finance and insurance	52	93,864	26.2	73.8	94,071	27.6	72.4	94,940	14.9	85.1	117,138	22.9	77.1
Real estate and rental and leasing	53	97,150	21.0	79.0	97,651	22.3	77.7	98,240	12.8	87.2	145,208	15.9	84.1
Lessors of nonfinancial intangible assets (except copyrighted works)	533	493	16.0	84.0	493	D	D	468	16.6	83.4	832	12.5	87.5
Other real estate and rental and leasing	other 53	96,657	21.1	78.9	97,158	D	D	97,773	12.8	87.2	144,376	15.9	84.1
Professional, scientific, and technical services	54	347,588	29.8	70.2	347,995	29.5	70.5	348,254	17.2	82.8	389,336	21.0	79.0
Architectural, engineering, and related services	5413	35,878	31.2	68.8	35,729	33.0	67.0	35,606	15.4	84.6	39,512	19.3	80.7
Computer systems design and related services	5415	53,021	48.4	51.6	52,746	40.1	59.9	52,770	25.8	74.2	58,003	29.4	70.6
Scientific research and development services	5417	2,842	52.7	47.3	2,795	39.9	60.1	2,846	30.2	69.8	3,849	32.1	67.9

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Biotechnology research and development	541711	600	63.0	37.0	563	46.5	53.5	601	34.4	65.6	980	39.6	60.4
Physical, engineering, and life sciences (except biotechnology) research and development	541712	1,862	51.7	48.3	1,857	38.5	61.5	1,870	30.9	69.1	2,436	30.2	69.8
Social sciences and humanities research and development	541720	380	40.9	59.1	375	36.7	63.3	375	20.2	79.8	433	25.4	74.6
Other professional, scientific, and technical services	other 54	255,846	25.5	74.5	256,725	26.7	73.3	257,032	15.6	84.4	287,972	19.5	80.5
Health care services	621–23	145,738	29.2	70.8	145,933	27.0	73.0	147,514	13.1	86.9	176,983	20.0	80.0
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	760,012	26.0	74.0	759,939	22.0	78.0	763,043	15.7	84.3	912,127	14.5	85.5

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.

^a Statistics for number of companies are based on companies in the United States responding either yes to at least one of the items or no to all of the items on the survey relating to product, process, marketing, or organizational innovations, regardless of whether the company performed or funded R&D. These statistics do include an adjustment to the weight to account for unit nonresponse.

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.

Source(s)

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