

TABLE 51. Companies that introduced new or significantly improved products or processes and the proportion of companies in each industry and company size classification: 2009–11
(Percent)

Industry and company size	NAICS code	Companies (number) ^a	New or significantly improved products or processes		New or significantly improved products					
			Yes	No	Any good or service		New goods		New services	
					Yes	No	Yes	No	Yes	No
All industries	21–23, 31–33, 42–81	1,220,114	14.3	83.9	9.4	87.7	5.4	92.0	6.8	90.3
Manufacturing industries	31–33	103,220	29.4	69.2	21.7	75.8	19.1	78.5	8.8	88.1
Food	311	8,333	26.1	73.6	17.3	81.4	16.2	82.2	5.8	92.2
Beverage and tobacco products	312	1,245	35.1	64.2	21.2	75.8	16.0	81.3	10.0	85.7
Textile, apparel, and leather products	313–316	4,641	21.7	75.7	15.6	81.3	12.5	84.2	4.8	91.5
Wood products	321	4,876	12.0	87.5	6.8	91.0	5.3	92.5	3.2	94.3
Paper	322	1,218	26.5	72.9	16.5	82.2	13.7	85.0	5.9	89.8
Printing and related support activities	323	8,249	21.6	77.1	10.5	85.9	7.1	90.6	9.4	87.1
Petroleum and coal products	324	369	55.0	44.4	52.2	47.2	52.2	47.2	16.0	83.5
Chemicals	325	4,660	48.9	48.3	37.0	59.3	35.7	61.0	11.8	81.9
Basic chemicals	3251	867	58.5	40.8	48.2	51.1	47.6	51.8	20.9	75.9
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	392	34.8	51.9	29.9	56.8	29.1	57.6	10.7	75.0
Pesticide, fertilizer, and other agricultural chemical	3253	429	18.0	82.0	15.6	84.2	13.2	86.5	7.6	92.2
Pharmaceuticals and medicines	3254	941	43.8	52.2	36.3	59.2	35.4	60.6	9.2	85.0
Soap, cleaning compound, and toilet preparation	3256	840	64.3	34.8	41.7	56.1	39.8	57.7	13.8	83.7
Paint, coating, adhesive, and other chemicals	3255, 3259	1,189	50.7	46.9	36.1	59.3	34.5	62.3	7.5	81.1
Plastics and rubber products	326	4,851	34.9	63.6	26.4	71.1	25.1	72.7	7.7	89.6
Nonmetallic mineral products	327	3,765	16.4	83.1	12.3	84.4	10.5	87.7	5.3	92.3
Primary metals	331	1,433	17.4	82.1	11.8	87.7	10.9	88.7	4.1	95.3
Fabricated metal products	332	24,026	23.5	75.6	14.6	82.9	10.8	86.8	8.1	89.7
Machinery	333	9,881	38.5	59.3	31.8	65.5	29.3	68.3	10.5	85.5
Agricultural implement	33311	375	50.4	48.4	44.0	53.3	43.5	55.3	10.1	85.9
Semiconductor machinery	333295	169	24.3	74.0	24.3	74.0	23.7	74.6	7.7	89.3
Engine, turbine, and power transmission equipment	3336	366	50.5	48.1	44.9	53.2	31.2	67.4	21.2	75.6
Other machinery	other 333	8,971	37.8	60.0	30.9	66.3	28.7	68.7	10.1	85.8
Computer and electronic products	334	5,637	54.3	43.7	49.3	48.1	44.6	52.8	21.0	75.7
Communications equipment	3342	674	59.2	37.1	56.3	39.8	55.1	40.9	14.7	79.1
Semiconductor and other electronic components	3344	1,782	51.2	46.8	41.3	56.1	35.6	61.7	18.0	79.2
Navigational, measuring, electromedical, and control instruments	3345	2,253	51.5	46.9	48.1	49.1	46.3	51.1	18.2	79.2
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	265	42.4	55.3	39.1	51.4	38.7	51.8	8.2	88.8
Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments	334511	218	73.3	26.2	72.0	27.6	71.5	28.0	22.1	77.0
Other measuring and controlling device	other 3345	1,770	50.2	48.2	46.5	51.4	44.3	53.8	19.2	78.0
Other computer and electronic products	other 334	928	63.6	35.1	62.4	36.4	49.9	48.7	38.4	57.9
Electrical equipment, appliances, and components	335	2,530	39.3	59.5	34.0	64.0	31.7	66.3	12.5	84.9
Transportation equipment	336	4,441	35.5	61.5	29.1	66.7	28.2	67.1	9.6	83.7
Motor vehicles, bodies, trailers, and parts	3361, 3362, 3363	2,718	32.7	64.8	26.0	70.5	24.8	70.7	9.8	86.7
Aerospace products and parts	3364	629	41.9	57.0	33.3	63.5	31.9	65.0	8.8	87.5
Aircraft, aircraft engine, and aircraft parts	336411–13	607	41.6	57.4	33.1	63.8	31.8	65.2	8.1	88.2
Guided missile, space vehicle, and related parts	336414–15, 336419	22	50.0	45.5	40.9	54.5	36.4	59.1	27.3	68.2

TABLE 51. Companies that introduced new or significantly improved products or processes and the proportion of companies in each industry and company size classification: 2009–11
(Percent)

Industry and company size	NAICS code	Companies (number) ^a	New or significantly improved products or processes		New or significantly improved products					
			Yes	No	Any good or service		New goods		New services	
					Yes	No	Yes	No	Yes	No
Military armored vehicle, tank, and tank component	336992	60	D	D	D	D	D	D	D	D
Other transportation equipment	other 336	1,034	D	D	D	D	D	D	D	D
Furniture and related products	337	4,855	23.5	75.9	15.3	83.6	14.9	84.0	3.1	96.0
Miscellaneous manufacturing	339	8,208	34.4	64.4	29.2	68.9	26.9	71.3	11.3	84.1
Medical equipment and supplies	3391	3,194	39.1	59.9	35.0	63.3	31.0	66.6	15.2	78.0
Other miscellaneous manufacturing	3399	5,014	31.4	67.3	25.5	72.5	24.2	74.2	8.9	88.0
Nonmanufacturing industries	21–23, 42–81	1,116,895	12.9	85.3	8.3	88.8	4.2	93.3	6.6	90.5
Mining, extraction, and support activities	21	5,526	12.4	86.0	6.1	92.1	3.8	94.3	5.3	92.9
Utilities	22	660	15.7	84.0	5.5	94.2	2.6	96.4	4.6	95.1
Wholesale trade	42	81,652	19.1	79.5	11.7	86.1	8.6	89.7	6.0	91.5
Electronic shopping and electronic auctions	454111–12	2,322	32.1	67.4	22.0	77.5	14.4	82.9	16.6	82.8
Transportation and warehousing	48–49	35,067	7.5	91.7	4.0	93.9	0.2	98.3	3.9	94.7
Information	51	17,587	34.4	64.0	28.3	69.5	16.2	80.9	21.9	74.7
Publishing	511	7,152	40.2	59.2	32.4	65.8	24.3	73.4	19.2	76.1
Newspaper, periodical, book, and directory publishers	5111	4,945	28.9	70.7	18.8	79.7	13.3	84.4	10.0	84.5
Software publishers	5112	2,208	65.3	33.4	63.0	34.6	48.9	48.6	39.8	57.3
Telecommunications	517	2,065	26.8	70.2	18.8	77.8	3.9	92.7	18.1	78.5
Data processing, hosting, and related services	518	2,285	41.0	55.0	39.9	56.1	23.7	72.2	37.5	57.9
Other information	other 51	6,085	27.8	71.0	22.3	76.2	8.0	89.1	20.5	78.0
Finance and insurance	52	40,467	12.7	86.1	7.1	90.3	2.2	94.5	6.3	91.0
Real estate and rental and leasing	53	31,730	6.7	91.7	3.4	93.5	3.2	93.6	1.8	95.0
Lessors of nonfinancial intangible assets (except copyrighted works)	533	543	48.4	51.4	48.3	51.6	47.9	51.9	1.5	98.3
Other real estate and rental and leasing	other 53	31,187	6.0	92.4	2.6	94.2	2.4	94.3	1.8	95.0
Professional, scientific, and technical services	54	135,127	17.5	81.1	14.1	83.0	5.9	91.9	11.9	85.4
Architectural, engineering, and related services	5413	23,027	20.4	78.2	15.0	82.9	7.0	91.0	11.5	85.4
Computer systems design and related services	5415	15,507	44.4	54.3	35.4	61.8	20.7	76.6	27.7	68.6
Scientific research and development services	5417	2,670	42.9	55.9	37.6	59.4	28.7	69.2	21.1	75.5
Biotechnology research and development	541711	849	36.1	62.8	30.3	68.2	23.5	73.9	16.6	81.5
Physical, engineering, and life sciences (except biotechnology) research and development	541712	1,657	48.9	49.8	43.5	52.9	33.5	64.7	24.4	71.7
Social sciences and humanities research and development	541720	163	18.1	81.2	16.3	78.5	8.0	91.4	10.8	83.4
Other professional, scientific, and technical services	other 54	93,923	11.7	86.9	9.7	87.2	2.5	95.3	9.1	88.4
Health care services	621–23	160,040	15.8	81.8	9.8	86.9	3.0	93.7	9.5	87.2
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	606,717	10.2	87.9	6.1	90.9	3.6	93.9	4.7	92.4
All companies (number of domestic employees)	–	1,220,114	14.3	83.9	9.4	87.7	5.4	92.0	6.8	90.3
Small companies ^b										
5–499	–	1,210,429	14.2	84.0	9.4	87.8	5.4	92.1	6.8	90.3
5–99	–	1,155,721	14.0	84.2	9.3	87.9	5.2	92.2	6.8	90.3
5–49	–	1,072,528	14.0	84.3	9.2	88.1	5.1	92.4	6.8	90.4
5–9	–	468,836	12.4	85.6	8.4	88.6	4.0	93.2	6.7	90.2

TABLE 51. Companies that introduced new or significantly improved products or processes and the proportion of companies in each industry and company size classification: 2009–11 (Percent)

Industry and company size	NAICS code	Companies (number) ^a	New or significantly improved products or processes		New or significantly improved products					
			Yes	No	Any good or service		New goods		New services	
					Yes	No	Yes	No	Yes	No
10–24	–	438,543	13.9	84.5	9.2	87.9	5.4	92.1	6.7	90.6
25–49	–	165,150	18.7	80.2	11.4	86.9	7.4	90.9	7.5	90.5
50–99	–	83,193	14.8	82.6	9.9	85.6	6.5	89.6	6.3	89.0
100–249	–	42,412	17.9	80.5	11.9	85.0	9.0	89.1	6.4	90.3
250–499	–	12,297	20.6	76.1	11.7	85.0	8.6	88.1	6.0	90.1
Medium and large companies										
500–999	–	4,326	16.7	82.6	13.4	85.6	11.2	87.9	5.7	93.2
1,000–4,999	–	4,068	22.6	75.6	14.6	83.4	12.9	85.0	6.9	90.9
5,000–9,999	–	692	20.8	76.5	18.5	78.6	16.6	80.7	9.8	87.1
10,000–24,999	–	397	27.4	66.8	24.2	69.5	21.9	72.1	14.3	78.6
25,000 or more	–	202	40.1	56.4	37.2	58.2	32.2	63.6	30.2	65.3
Industry and company size	NAICS code	Companies (number) ^a	New or significantly improved processes							
			Any process		Manufacturing or production methods		Logistics, delivery, or distribution methods		Support activities	
			Yes	No	Yes	No	Yes	No	Yes	No
All industries	21–23, 31–33, 42–81	1,220,114	9.5	87.1	3.8	93.2	3.2	93.6	7.2	89.5
Manufacturing industries	31–33	103,220	20.6	76.7	15.8	81.8	6.0	91.4	12.6	84.9
Food	311	8,333	18.8	79.7	15.1	83.4	6.6	91.8	11.1	87.5
Beverage and tobacco products	312	1,245	28.4	66.8	24.3	70.8	13.0	82.2	14.3	80.8
Textile, apparel, and leather products	313–316	4,641	14.0	81.9	11.2	85.8	4.0	91.9	8.7	87.6
Wood products	321	4,876	9.6	89.1	6.3	92.4	1.8	96.6	4.6	93.7
Paper	322	1,218	20.4	78.0	12.3	86.1	7.0	91.3	13.7	84.6
Printing and related support activities	323	8,249	18.2	79.8	12.1	85.9	5.2	92.1	9.6	87.7
Petroleum and coal products	324	369	22.2	77.2	20.7	78.8	16.9	82.5	19.9	79.6
Chemicals	325	4,660	35.3	61.5	22.1	74.7	9.2	87.5	26.5	70.2
Basic chemicals	3251	867	47.1	52.0	38.8	60.3	15.8	83.3	39.0	60.1
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	392	23.4	62.9	16.0	69.3	5.5	80.5	14.9	71.3
Pesticide, fertilizer, and other agricultural chemical	3253	429	9.4	90.6	7.8	92.2	2.8	97.2	3.4	96.6
Pharmaceuticals and medicines	3254	941	28.7	67.1	22.3	73.5	5.2	90.3	15.2	80.4
Soap, cleaning compound, and toilet preparation	3256	840	47.3	51.0	15.2	83.5	10.3	88.2	41.1	57.2
Paint, coating, adhesive, and other chemicals	3255, 3259	1,189	36.8	60.3	21.9	75.3	10.5	86.7	28.1	68.9
Plastics and rubber products	326	4,851	24.2	72.9	21.3	75.8	6.7	90.1	13.8	83.1
Nonmetallic mineral products	327	3,765	12.1	83.6	9.1	86.6	4.6	94.4	6.5	92.5
Primary metals	331	1,433	13.7	85.7	11.2	88.3	3.5	95.9	5.1	94.3
Fabricated metal products	332	24,026	18.4	78.8	14.1	83.9	4.0	93.4	11.4	86.0
Machinery	333	9,881	25.1	72.2	20.8	76.7	7.3	89.7	15.4	81.7
Agricultural implement	33311	375	25.0	73.5	21.1	77.5	7.4	91.2	12.9	85.6
Semiconductor machinery	333295	169	10.7	87.6	10.1	88.2	3.6	94.7	5.9	92.3
Engine, turbine, and power transmission equipment	3336	366	38.0	58.6	33.9	62.8	20.2	76.1	24.3	72.0
Other machinery	other 333	8,971	24.8	72.4	20.4	77.0	6.8	90.0	15.4	81.8
Computer and electronic products	334	5,637	30.3	66.1	25.6	71.0	10.6	85.6	18.0	78.4

TABLE 51. Companies that introduced new or significantly improved products or processes and the proportion of companies in each industry and company size classification: 2009–11 (Percent)

Industry and company size	NAICS code	Companies (number) ^a	New or significantly improved processes							
			Any process		Manufacturing or production methods		Logistics, delivery, or distribution methods		Support activities	
			Yes	No	Yes	No	Yes	No	Yes	No
Communications equipment	3342	674	18.0	70.4	15.3	73.2	8.9	79.5	13.2	75.2
Semiconductor and other electronic components	3344	1,782	33.7	63.8	30.0	67.7	10.4	86.9	22.1	75.5
Navigational, measuring, electromedical, and control instruments	3345	2,253	28.8	68.9	24.8	73.0	7.9	89.6	12.4	85.3
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	265	19.0	77.6	17.5	79.1	3.9	92.3	7.3	89.3
Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments	334511	218	37.5	62.0	33.1	66.5	8.3	91.3	32.7	66.8
Other measuring and controlling device	other 3345	1,770	29.2	68.5	24.9	72.9	8.5	88.9	10.7	86.9
Other computer and electronic products	other 334	928	36.3	60.6	26.5	70.5	19.0	78.0	26.9	69.9
Electrical equipment, appliances, and components	335	2,530	21.7	75.3	14.1	83.0	5.6	91.5	14.7	82.7
Transportation equipment	336	4,441	26.0	69.3	22.9	72.4	10.3	84.3	17.1	77.7
Motor vehicles, bodies, trailers, and parts	3361, 3362, 3363	2,718	25.4	71.6	22.0	74.9	8.0	87.9	15.0	80.9
Aerospace products and parts	3364	629	30.0	68.6	27.1	71.5	6.4	92.2	20.9	77.7
Aircraft, aircraft engine, and aircraft parts	336411–13	607	29.8	68.9	27.1	71.6	D	D	20.5	78.2
Guided missile, space vehicle, and related parts	336414–15, 336419	22	36.4	59.1	27.3	68.2	D	D	31.8	63.6
Military armored vehicle, tank, and tank component	336992	60	10.1	6.7	10.1	6.7	D	D	5.0	11.8
Other transportation equipment	other 336	1,034	26.0	67.3	23.6	70.3	D	D	20.8	73.1
Furniture and related products	337	4,855	16.7	82.5	10.7	88.6	5.6	93.6	10.2	89.0
Miscellaneous manufacturing	339	8,208	22.5	75.7	17.0	81.6	6.1	91.8	12.9	85.1
Medical equipment and supplies	3391	3,194	27.2	71.1	19.7	79.0	8.0	90.0	14.6	83.5
Other miscellaneous manufacturing	3399	5,014	19.4	78.7	15.2	83.3	5.0	92.9	11.9	86.2
Nonmanufacturing industries	21–23, 42–81	1,116,895	8.5	88.0	2.7	94.2	2.9	93.8	6.7	89.9
Mining, extraction, and support activities	21	5,526	8.4	89.0	4.8	92.5	2.3	94.6	6.9	90.0
Utilities	22	660	13.5	84.8	3.8	94.5	3.0	95.3	11.7	86.7
Wholesale trade	42	81,652	13.4	84.2	4.8	92.9	5.3	92.3	10.5	87.0
Electronic shopping and electronic auctions	454111–12	2,322	24.0	75.2	10.5	88.1	14.5	84.8	15.9	83.4
Transportation and warehousing	48–49	35,067	6.0	89.5	0.0	97.7	3.2	94.5	4.6	91.7
Information	51	17,587	20.3	75.9	7.4	90.0	11.3	86.2	11.6	85.3
Publishing	511	7,152	17.9	80.1	6.8	92.6	10.5	88.1	8.8	90.0
Newspaper, periodical, book, and directory publishers	5111	4,945	17.0	80.8	7.4	92.3	10.1	88.6	6.8	92.0
Software publishers	5112	2,208	20.1	78.5	5.4	93.3	11.5	87.0	13.3	85.4
Telecommunications	517	2,065	16.2	80.7	1.2	95.7	7.9	89.0	10.9	85.9
Data processing, hosting, and related services	518	2,285	29.6	66.1	10.2	85.6	7.2	88.4	23.3	72.3
Other information	other 51	6,085	21.0	73.0	9.1	86.7	14.8	82.2	10.8	84.4
Finance and insurance	52	40,467	8.5	90.2	1.9	96.9	1.7	97.0	8.2	90.5
Real estate and rental and leasing	53	31,730	5.1	90.1	1.0	94.3	1.9	92.6	5.1	90.9
Lessors of nonfinancial intangible assets (except copyrighted works)	533	543	1.3	98.5	0.9	98.9	D	D	0.7	99.1
Other real estate and rental and leasing	other 53	31,187	5.2	90.0	1.0	94.2	D	D	5.2	90.8
Professional, scientific, and technical services	54	135,127	9.9	87.3	4.1	93.5	3.2	93.8	7.4	89.9
Architectural, engineering, and related services	5413	23,027	12.7	84.6	6.4	90.9	6.3	91.3	8.7	87.8
Computer systems design and related services	5415	15,507	28.6	69.6	9.1	89.1	11.0	87.2	24.2	74.5

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Industry and company size	NAICS code	Companies (number) ^a	New or significantly improved processes							
			Any process		Manufacturing or production methods		Logistics, delivery, or distribution methods		Support activities	
			Yes	No	Yes	No	Yes	No	Yes	No
Scientific research and development services	5417	2,670	28.8	69.2	19.9	78.2	6.1	92.1	13.6	84.3
Biotechnology research and development	541711	849	26.1	71.7	21.1	76.9	9.7	88.4	9.4	88.5
Physical, engineering, and life sciences (except biotechnology) research and development	541712	1,657	32.3	65.7	21.1	77.0	4.5	93.6	16.8	81.0
Social sciences and humanities research and development	541720	163	6.4	92.9	1.8	97.5	3.4	96.0	3.7	95.7
Other professional, scientific, and technical services	other 54	93,923	5.6	91.3	2.3	95.3	1.1	95.6	4.1	93.1
Health care services	621–23	160,040	10.6	86.0	3.4	93.0	3.9	92.7	7.9	88.8
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	606,717	6.8	89.3	2.0	94.7	2.1	94.3	5.7	90.6
All companies (number of domestic employees)	–	1,220,114	9.5	87.1	3.8	93.2	3.2	93.6	7.2	89.5
Small companies ^b										
5–499	–	1,210,429	9.5	87.1	3.8	93.2	3.1	93.6	7.2	89.5
5–99	–	1,155,721	9.2	87.3	3.6	93.3	3.1	93.6	7.0	89.7
5–49	–	1,072,528	9.2	87.4	3.6	93.5	3.1	93.7	6.9	89.8
5–9	–	468,836	7.8	88.0	3.0	93.2	2.7	93.2	5.9	90.1
10–24	–	438,543	9.3	87.7	3.8	93.6	3.3	94.1	7.0	90.1
25–49	–	165,150	12.6	85.4	4.6	93.8	3.7	94.5	9.7	88.4
50–99	–	83,193	10.1	85.4	4.5	91.4	3.2	92.3	7.9	88.0
100–249	–	42,412	13.5	84.0	6.1	91.4	3.9	93.6	10.5	87.0
250–499	–	12,297	16.5	79.6	7.3	89.2	3.7	92.7	13.1	82.9
Medium and large companies										
500–999	–	4,326	11.6	86.7	7.8	90.8	4.9	93.3	7.4	90.8
1,000–4,999	–	4,068	17.4	80.3	8.2	89.5	5.3	92.3	14.1	83.5
5,000–9,999	–	692	15.2	81.2	10.4	86.1	8.8	87.6	11.0	85.3
10,000–24,999	–	397	18.6	72.6	12.8	78.3	12.8	78.1	14.9	76.1
25,000 or more	–	202	34.2	61.4	24.8	70.8	24.8	70.8	27.2	68.3

D = data withheld to avoid disclosing operations of individual companies.

NAICS = 2007 North American Industry Classification System.

^a Statistics for number of companies 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.

^b Upper bound based on U.S. Small Business Administration's definition of a small business; Business R&D and Innovation Survey does not include companies with fewer than five domestic employees.

NOTES: Detail may not add to total because of rounding. Industry classification based on dominant business code for domestic R&D performance where available. For companies that did not report business codes, classification used for sampling was assigned. Sum of yes and no percentages may not add to 100% due to item nonresponse to some innovation question items.

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