

TABLE 103

Motivation for robotics technology adoption and utilization for companies using the technology, by industry: 2016–18

(Number and percent)

Industry	NAICS code	Companies (number)	To automate tasks performed by labor		To upgrade outdated processes or methods		To improve quality or reliability of processes or methods		To expand the range of goods or services		To adopt standards and accreditation		Some other reason	
All industries	11, 21–23, 31–33, 42–81	88,422	40.1		32.5		45.2		24.5		8.6		21.1	
Manufacturing industries	31–33	20,540	59.6		41.5		57.0		23.8		9.8		10.9	
Food	311	1,051	65.9		39.2		51.2		20.4		4.2		4.6	
Beverage and tobacco products	312	423	74.5		49.6		60.0		11.8		16.5	r	5.0	r
Textile, apparel, and leather products	313–16	378	56.6		38.4		53.7		7.4		D		18.8	r
Wood products	321	650	59.7		42.3		48.9		13.8		7.1	r	18.5	r
Paper	322	311	61.1		33.1	r	53.1		21.5	r	0.0		16.4	r
Printing and related support activities	323	680	44.0		26.0		40.9		20.6		1.3	r	21.6	r
Petroleum and coal products	324	23	34.8		73.9	r	30.4		D		D		26.1	
Chemicals	325	628	66.1		40.1		57.6		12.4		9.1		14.2	
Pesticide, fertilizer, and other agricultural chemical manufacturing	3253	40	75.0		32.5	r	35.0	r	D		D		D	
Pharmaceuticals and medicines	3254	143	67.1		42.0		58.7		15.4	r	16.1	r	7.0	r
Soap, cleaning compound, and toilet preparation manufacturing	3256	158	60.8	r	53.2	r	55.1	r	8.2	r	D		34.8	r
Other chemicals	other 325	288	67.4		34.0		61.5		13.2		9.7		8.7	r
Plastics and rubber products	326	1,817	69.6		48.2		73.0		23.7		12.6		12.5	
Nonmetallic mineral products	327	476	69.1		60.9		62.0		17.4	r	6.1	r	7.8	
Primary metals	331	532	64.5		37.4		42.5		7.3		18.4	r	3.9	
Fabricated metal products	332	5,100	54.8		40.0		51.3		24.5		6.0		10.7	
Machinery	333	3,190	63.2		42.4		58.8		33.3		15.6		9.5	
Computer and electronic products	334	1,318	50.2		29.1		54.1		22.5		11.8	r	16.4	
Communications equipment	3342	75	24.0		13.3		66.7		10.7	r	D		D	
Semiconductor and other electronic components	3344	498	66.9		34.9		52.0		23.5		7.6		12.0	r
Navigational, measuring, electromedical, and control instruments	3345	589	39.4		26.1		54.8		24.1		16.8	r	19.4	
Other computer and electronic products	other 334	156	50.0		28.8		51.3		18.6		10.3	r	19.9	
Electrical equipment, appliances, and components	335	432	68.5		46.3		56.5		28.0		5.3		22.7	r
Transportation equipment	336	1,157	66.2		47.7		66.9		21.3		17.2		4.5	
Automobiles, bodies, trailers, and parts	3361–63	940	69.4		47.2		68.9		21.6		18.6		2.4	
Aerospace products and parts	3364	155	52.9		51.0		63.9		24.5		12.9	r	11.0	r
Other transportation	other 336	62	51.6	r	46.8	r	43.5	r	8.1		D		21.0	
Furniture and related products	337	881	63.2		51.4		58.7		19.5		14.8	r	6.0	
Miscellaneous	339	1,492	46.5		40.2		66.9		34.4		8.2		9.0	
Medical equipment and supplies	3391	854	44.4		38.2		65.2		37.6		8.4		5.6	
Other miscellaneous manufacturing	3399	639	49.5		42.9		68.9		30.2		8.0	r	13.3	
Nonmanufacturing industries	11, 21–23, 42–81	67,883	34.2		29.8		41.7		24.7		8.3		24.2	
Agriculture, forestry, fishing, and hunting	11	259	78.0		20.8	r	D		D		D		D	
Mining, extraction, and support activities	21	233	59.7	r	12.9		36.9	r	5.2	r	2.6	r	1.7	
Utilities	22	36	47.2	r	38.9	r	50.0		13.9		D		8.3	
Construction	23	7,354	33.5		36.4		41.3		22.5		8.0		22.2	
Wholesale trade	42	5,924	39.5		30.0		44.1		21.8		4.3		20.0	

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Retail trade	44–45	10,449	43.7	29.7	44.0	23.1	6.8	16.3
Transportation and warehousing	48–49	983	25.4	15.6	33.6	9.6 r	4.0 r	37.5
Information	51	1,513	25.1	27.4	37.5	33.6	8.7	28.7
Publishing	511	409	30.3 r	21.3	37.9	25.9	5.9	33.0 r
Newspaper, periodical, book, and directory publishers	5111	97	22.7 r	43.3 r	35.1 r	D	16.5 r	28.9 r
Software publishers	5112	312	33.0 r	14.1 r	38.5	31.7	3.2	34.0 r
Telecommunications	517	110	19.1 r	22.7 r	28.2 r	44.5	D	21.8 r
Data processing, hosting, and related services	518	316	18.4	22.8	38.3	32.3	10.4 r	35.1
Other information	other 51	676	25.7	34.3	39.1	37.1	10.1 r	24.3
Finance and insurance	52	1,529	35.6	34.7	39.2	17.1	11.8	31.7
Real estate and rental and leasing	53	1,244	34.3	30.6	35.5	30.2	D	20.7
Lessors of nonfinancial intangible assets (except copyrighted works)	533	0	0.0	0.0	0.0	0.0	0.0	0.0
Other real estate and rental and leasing	other 53	1,244	34.3	30.6	35.5	30.2	D	20.7
Professional, scientific, and technical services	54	15,401	37.4	29.0	38.8	28.7	7.6	29.0
Legal services	5411	384	15.4 r	17.2 r	16.1 r	D	0.0	57.6
Accounting, tax preparation, bookkeeping, and payroll services	5412	423	64.5	15.1 r	23.2 r	20.8 r	9.7 r	30.5
Architectural, engineering, and related services	5413	7,090	41.9	34.5	43.8	29.8	7.3	23.6
Specialized design services	5414	414	14.5 r	26.3 r	40.3 r	51.0	D	24.2
Computer systems design and related services	5415	3,134	29.1	29.8	32.2	31.0	10.4	38.0
Management, scientific, and technical consulting services	5416	2,057	34.0	21.3	39.3	27.2	3.5	32.4
Scientific research and development services	5417	980	51.6	24.2	46.3	22.2	10.6	21.4
Advertising, public relations, and related services	5418	323	29.4	16.4 r	33.4	19.8	D	30.7 r
Other professional, scientific, and technical services	5419	596	30.4	19.6	28.0	31.5	15.9 r	29.2
Management of companies and enterprises	55	97 r	D	D	99.0	0.0	0.0	D
Administrative and support and waste management and remediation services	56	2,630	30.7	21.3	38.3	24.9	10.2	28.1
Educational services	61	581	14.8 r	D	D	43.7	D	48.9
Health care and social assistance	62	11,349	22.4	30.4	50.1	28.5	12.8	21.1
Health care services	621–23	11,050	22.6	30.6	50.8	29.0	12.9	20.3
Social assistance	624	299	D	D	D	D	D	49.8
Arts, entertainment, and recreation	71	753	19.9 r	25.5 r	40.0	32.4	D	28.2
Accommodation and food services	72	3,433	32.2	29.3	26.1	11.7	7.6	37.2
Other services	81	4,110	32.6	30.9	45.9	20.8	7.3	22.7

D = withheld to avoid disclosing data for individual companies; data are included in higher-level totals. r = relative standard error > 50%.

NAICS = 2017 North American Industry Classification System.

Note(s):

Detail may not add to total because of rounding or unavailable NAICS detail for select records beyond the 4-digit industry classification. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that reported a low, moderate, or high use of the technology (see Table 90).

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2019 Annual Business Survey: Data Year 2018.