

2018 Results
Production and Shipments of Manipulators and Robots by Applications
[JARA Member Companies]

Number of units, () : million yen

	2017	2018	Change from 2017
Orders	211,833 (759,376)	220,934 (780,835)	4.3% (2.8%)
Production	212,826 (699,930)	215,513 (733,055)	1.3% (4.7%)

Shipments Applications	2017			2018			Change from 2017			2017 (percentage distribution)			2018 (percentage distribution)		
	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total
Plastic moulding	3,354	5,536	8,890	3,661	5,258	8,919	9.2%	-5.0%	0.3%	8.4%	3.2%	4.2%	7.8%	3.1%	4.1%
Arc welding	3,916	17,507	21,423	4,934	18,566	23,500	26.0%	6.0%	9.7%	9.8%	10.2%	10.2%	10.5%	11.0%	10.9%
Spot welding	3,928	23,296	27,224	4,495	17,788	22,283	14.4%	-23.6%	-18.1%	9.9%	13.6%	12.9%	9.6%	10.6%	10.4%
Laser welding	26	37	63	7	21	28	-73.1%	-43.2%	-55.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Others	45	354	399	70	47	117	55.6%	-86.7%	-70.7%	0.1%	0.2%	0.2%	0.1%	0.0%	0.1%
Welding Units	7,915	41,194	49,109	9,506	36,422	45,928	20.1%	-11.6%	-6.5%	19.9%	24.1%	23.3%	20.3%	21.6%	21.3%
(million yen)	(39,130)	(102,270)	(141,400)	(42,630)	(92,957)	(135,587)	(8.9%)	(-9.1%)	(-4.1%)	(21.2%)	(19.4%)	(19.8%)	(21.6%)	(17.0%)	(18.2%)
Painting	716	2,042	2,758	546	2,252	2,798	-23.7%	10.3%	1.5%	1.8%	1.2%	1.3%	1.2%	1.3%	1.3%
Loading/unloading	2,023	9,194	11,217	2,382	8,370	10,752	17.7%	-9.0%	-4.1%	5.1%	5.4%	5.3%	5.1%	5.0%	5.0%
Mechanical cutting	14	10	24	9		9	-35.7%		-62.5%	0.0%	0.0%	0.0%	0.0%		0.0%
Grinding/deburring	308	891	1,199	311	114	425	1.0%	-87.2%	-64.6%	0.8%	0.5%	0.6%	0.7%	0.1%	0.2%
Others	50	16	66	41	26	67	-18.0%	62.5%	1.5%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%
Machining Units	2,395	10,111	12,506	2,743	8,510	11,253	14.5%	-15.8%	-10.0%	6.0%	5.9%	5.9%	5.9%	5.1%	5.2%
(million yen)	(7,103)	(13,209)	(20,312)	(7,141)	(10,966)	(18,107)	(0.5%)	(-17.0%)	(-10.9%)	(3.9%)	(2.5%)	(2.9%)	(3.6%)	(2.0%)	(2.4%)
Surface Mount Technology	1,647	12,378	14,025	1,620	13,501	15,121	-1.6%	9.1%	7.8%	4.1%	7.2%	6.6%	3.5%	8.0%	7.0%
General Assembly	6,476	32,275	38,751	7,909	37,344	45,253	22.1%	15.7%	16.8%	16.3%	18.9%	18.4%	16.9%	22.2%	21.0%
Other Assembly	118	1,241	1,359	144	838	982	22.0%	-32.5%	-27.7%	0.3%	0.7%	0.6%	0.3%	0.5%	0.5%
Bonding				1		1						0.0%			0.0%
Soldering	2		2	3		3	50.0%		50.0%	0.0%		0.0%	0.0%		0.0%
Sealing/glueing	87	725	812	57	405	462	-34.5%	-44.1%	-43.1%	0.2%	0.4%	0.4%	0.1%	0.2%	0.2%
Screwing	7	14	21	58	4	62	728.6%	-71.4%	195.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
Others	22	502	524	25	429	454	13.6%	-14.5%	-13.4%	0.1%	0.3%	0.2%	0.1%	0.3%	0.2%
Assembly Units	6,594	33,516	40,110	8,053	38,182	46,235	22.1%	13.9%	15.3%	16.6%	19.6%	19.0%	17.2%	22.7%	21.5%
(million yen)	(13,418)	(34,963)	(48,381)	(15,925)	(40,395)	(56,320)	(18.7%)	(15.5%)	(16.4%)	(7.3%)	(6.6%)	(6.8%)	(8.1%)	(7.4%)	(7.6%)
Palletizing/depalletizing	910	1,886	2,796	942	2,228	3,170	3.5%	18.1%	13.4%	2.3%	1.1%	1.3%	2.0%	1.3%	1.5%
Material handling	8,103	50,578	58,681	9,924	46,820	56,744	22.5%	-7.4%	-3.3%	20.3%	29.5%	27.8%	21.2%	27.8%	26.4%
FPD	149	972	1,121	167	622	789	12.1%	-36.0%	-29.6%	0.4%	0.6%	0.5%	0.4%	0.4%	0.4%
Semiconductor	5,398	9,829	15,227	5,892	9,495	15,387	9.2%	-3.4%	1.1%	13.6%	5.7%	7.2%	12.6%	5.6%	7.2%
Others	6	4	10	2	2	4	-66.7%	-50.0%	-60.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cleanroom Units	5,553	10,805	16,358	6,061	10,119	16,180	9.1%	-6.3%	-1.1%	13.9%	6.3%	7.8%	12.9%	6.0%	7.5%
(million yen)	(25,313)	(31,617)	(56,930)	(21,929)	(25,963)	(47,891)	(-13.4%)	(-17.9%)	(-15.9%)	(13.7%)	(6.0%)	(8.0%)	(11.1%)	(4.7%)	(6.4%)
Other applications	2,645	3,164	5,809	3,780	5,050	8,830	42.9%	59.6%	52.0%	6.6%	1.8%	2.8%	8.1%	3.0%	4.1%
Total Units	39,832	171,210	211,042	46,836	168,342	215,178	17.6%	-1.7%	2.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(million yen)	(184,214)	(528,419)	(712,633)	(197,746)	(546,698)	(744,444)	(7.3%)	(3.5%)	(4.5%)	(100.0%)	(100.0%)	(100.0%)	(100.0%)	(100.0%)	(100.0%)

Note)

Data includes dedicated type (Surface Mount Technology / Bonding).

Data is collected in unit of 10,000 yen. However, the results are shown in unit of million yen by rounding the figures of 100,000 yen.

2018 Results
Shipments of Manipulators and Robots by Industries
[JARA Member Companies]

Number of units, () : million yen

Industries	2017	2018	Change from 2017	Percentage distribution	
				2017	2018
Metal products	2,571	3,544	37.8%	6.5%	7.6%
Construction and mining machinery	79	106	34.2%	0.2%	0.2%
Metalworking machinery	613	748	22.0%	1.5%	1.6%
Other machinery and equipment	2,835	3,378	19.2%	7.1%	7.2%
Machinery and equipment Units	3,527	4,232	20.0%	8.9%	9.0%
(million yen)	(14,854)	(17,880)	(20.4%)	(8.1%)	(9.0%)
Electronic computers	29	11	-62.1%	0.1%	0.0%
Consumer electrical machinery	1,626	1,530	-5.9%	4.1%	3.3%
Industrial electrical machinery	913	1,371	50.2%	2.3%	2.9%
Communication equipment	1,031	885	-14.2%	2.6%	1.9%
Video and audio equipment	6	28	366.7%	0.0%	0.1%
Electronic components/devices/circuits	4,821	5,294	9.8%	12.1%	11.3%
Other electrical machinery	3,283	3,558	8.4%	8.2%	7.6%
Electrical machinery Units	11,709	12,677	8.3%	29.4%	27.1%
(million yen)	(59,601)	(60,394)	(1.3%)	(32.4%)	(30.5%)
Precision instruments	523	592	13.2%	1.3%	1.3%
Motor vehicles	5,096	4,994	-2.0%	12.8%	10.7%
Auto parts	8,605	11,275	31.0%	21.6%	24.1%
Motor vehicles and auto parts Units	13,701	16,269	18.7%	34.4%	34.7%
(million yen)	(57,582)	(65,454)	(13.7%)	(31.3%)	(33.1%)
Other transport equipment	228	285	25.0%	0.6%	0.6%
Food products, beverages, and tobacco products	778	1,068	37.3%	2.0%	2.3%
Chemical products	319	419	31.3%	0.8%	0.9%
Plastic products	1,264	1,418	12.2%	3.2%	3.0%
Other industries	4,935	6,017	21.9%	12.4%	12.8%
Non-manufacturing industry	277	315	13.7%	0.7%	0.7%
Total domestic shipments Units	39,832	46,836	17.6%	100.0%	100.0%
(million yen)	(184,214)	(197,746)	(7.3%)	(18.9%)	(21.8%)
Export Units	171,210	168,342	-1.7%	(81.1%)	(78.2%)
(million yen)	(528,419)	(546,698)	(3.5%)	(74.2%)	(73.4%)
Grand total Units	211,042	215,178	2.0%	(100.0%)	(100.0%)
(million yen)	(712,633)	(744,444)	(4.5%)	(100.0%)	(100.0%)

Note)

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