

2020 Results
Production and Shipments of Manipulators and Robots by Applications
[JARA Member Companies]

Number of units, () : million yen

	2019	2020	Change from 2019
Orders	48,257 (164,170)	59,824 (222,287)	24.0% (35.4%)
Production	44,180 (161,138)	48,661 (173,714)	10.1% (7.8%)

Shipments Applications	2019			2020			Change from 2019			2019 (percentage distribution)			2020 (percentage distribution)		
	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total
Plastic moulding	761	845	1,606	586	870	1,456	-23.0%	3.0%	-9.3%	7.5%	2.5%	3.7%	7.0%	2.2%	3.1%
Arc welding	986	3,593	4,579	699	4,622	5,321	-29.1%	28.6%	16.2%	9.7%	10.6%	10.4%	8.3%	11.9%	11.2%
Spot welding	709	2,072	2,781	687	2,691	3,378	-3.1%	29.9%	21.5%	7.0%	6.1%	6.3%	8.2%	6.9%	7.1%
Laser welding	3	127	130	1	22	23	-66.7%	-82.7%	-82.3%	0.0%	0.4%	0.3%	0.0%	0.1%	0.0%
Others	35	7	42	11	26	37	-68.6%	271.4%	-11.9%	0.3%	0.0%	0.1%	0.1%	0.1%	0.1%
Welding Units	1,733	5,799	7,532	1,398	7,361	8,759	-19.3%	26.9%	16.3%	17.1%	17.2%	17.2%	16.6%	18.9%	18.5%
(million yen)	(8,872)	(11,817)	(20,689)	(8,204)	(14,982)	(23,186)	(-7.5%)	(26.8%)	(12.1%)	(18.7%)	(10.5%)	(12.9%)	(20.0%)	(11.7%)	(13.7%)
Painting	95	286	381	110	359	469	15.8%	25.5%	23.1%	0.9%	0.8%	0.9%	1.3%	0.9%	1.0%
Loading/unloading	483	2,075	2,558	340	974	1,314	-29.5%	-53.1%	-48.6%	4.8%	6.1%	5.8%	4.0%	2.5%	2.8%
Mechanical cutting	2	42	44	8		8	300.0%	-100.0%	-81.8%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%
Grinding/deburring	58	14	72	55	77	132	-5.2%	450.0%	83.3%	0.6%	0.0%	0.2%	0.7%	0.2%	0.3%
Others	8	12	20	7	12	19	-12.5%		-5.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%
Machining Units	551	2,143	2,694	410	1,063	1,473	-25.5%	-50.4%	-45.3%	5.4%	6.3%	6.1%	4.9%	2.7%	3.1%
(million yen)	(1,745)	(4,457)	(6,201)	(1,319)	(1,671)	(2,989)	(-24.4%)	(-62.5%)	(-51.8%)	(3.7%)	(3.9%)	(3.9%)	(3.2%)	(1.3%)	(1.8%)
Surface Mount Technology	353	2,934	3,287	228	4,257	4,485	-35.4%	45.1%	36.4%	3.5%	8.7%	7.5%	2.7%	10.9%	9.5%
General Assembly	1,826	8,209	10,035	1,575	6,325	7,900	-13.8%	-22.9%	-21.3%	18.0%	24.3%	22.9%	18.7%	16.2%	16.7%
Other Assembly	145	104	249	148	58	206	2.2%	-44.2%	-17.2%	1.4%	0.3%	0.6%	1.8%	0.1%	0.4%
Bonding			2				-100.0%		-100.0%	0.0%		0.0%			
Soldering	2														
Sealing/glueing	15	73	88	38	43	81	153.3%	-41.1%	-8.0%	0.1%	0.2%	0.2%	0.5%	0.1%	0.2%
Screwing	2	4	6	2	2	4		-50.0%	-33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Others	126	27	153	108	13	121	-14.2%	-51.9%	-20.8%	1.2%	0.1%	0.3%	1.3%	0.0%	0.3%
Assembly Units	1,971	8,313	10,284	1,723	6,383	8,106	-12.6%	-23.2%	-21.2%	19.5%	24.6%	23.4%	20.5%	16.4%	17.1%
(million yen)	(5,424)	(8,594)	(14,017)	(4,856)	(6,323)	(11,180)	(-10.5%)	(-26.4%)	(-20.2%)	(11.4%)	(7.6%)	(8.7%)	(11.8%)	(4.9%)	(6.6%)
Palletizing/depalletizing	439	533	971	407	610	1,017	-7.2%	14.5%	4.7%	4.3%	1.6%	2.2%	4.8%	1.6%	2.1%
Material handling	2,307	7,523	9,830	1,611	12,681	14,292	-30.2%	68.6%	45.4%	22.8%	22.3%	22.4%	19.1%	32.6%	30.2%
FPD	27	149	176	35	83	118	29.6%	-44.3%	-33.0%	0.3%	0.4%	0.4%	0.4%	0.2%	0.2%
Semiconductor	1,319	1,609	2,928	1,364	2,222	3,586	3.4%	38.1%	22.5%	13.0%	4.8%	6.7%	16.2%	5.7%	7.6%
Others		38	38		128	128		236.8%	236.8%	0.1%	0.1%	0.1%	0.3%	0.3%	0.3%
Cleanroom Units	1,346	1,796	3,142	1,399	2,433	3,832	3.9%	35.5%	22.0%	13.3%	5.3%	7.2%	16.6%	6.2%	8.1%
(million yen)	(4,538)	(5,314)	(9,852)	(5,067)	(5,539)	(10,606)	(11.7%)	(4.2%)	(7.7%)	(9.6%)	(4.7%)	(6.1%)	(12.4%)	(4.3%)	(6.3%)
Other applications	485	983	1,468	391	819	1,210	-19.3%	-16.7%	-17.6%	4.8%	2.9%	3.3%	4.6%	2.1%	2.6%
Unspecified	93	2,623	2,716	153	2,110	2,263	64.5%	-19.6%	-16.7%	0.9%	7.8%	6.2%	1.8%	5.4%	4.8%
Total Units	10,133	33,778	43,911	8,416	38,946	47,362	-16.9%	15.3%	7.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(million yen)	(47,504)	(112,954)	(160,458)	(41,024)	(128,302)	(169,326)	(-13.6%)	(13.6%)	(5.5%)	(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.

2020 Results
Shipments of Manipulators and Robots by Industries
[JARA Member Companies]

Number of units, () : million yen

Industries	2019	2020	Change from 2019	Percentage distribution	
				2019	2020
Metal products	779	439	-43.7%	7.7%	5.2%
Construction and mining machinery	38	39	1.5%	0.4%	0.5%
Metalworking machinery	179	105	-41.3%	1.8%	1.2%
Other machinery and equipment	729	521	-28.5%	7.2%	6.2%
Machinery and equipment Units	946	665	-29.7%	9.3%	7.9%
(million yen)	(3,965)	(2,984)	(-24.7%)	(8.3%)	(7.3%)
Electronic computers	5	37	640.0%	0.0%	0.4%
Consumer electrical machinery	329	181	-45.1%	3.3%	2.2%
Industrial electrical machinery	85	180	111.1%	0.8%	2.1%
Communication equipment	338	266	-21.3%	3.3%	3.2%
Video and audio equipment	9	6	-33.3%	0.1%	0.1%
Electronic components/devices/circuits	1,181	1,175	-0.5%	11.7%	14.0%
Other electrical machinery	849	518	-39.0%	8.4%	6.2%
Electrical machinery Units	2,796	2,363	-15.5%	27.6%	28.1%
(million yen)	(13,873)	(11,024)	(-20.5%)	(29.2%)	(26.9%)
Precision instruments	109	78	-28.4%	1.1%	0.9%
Motor vehicles	1,011	1,206	19.3%	10.0%	14.3%
Auto parts	2,476	1,630	-34.2%	24.4%	19.4%
Motor vehicles and auto parts Units	3,487	2,836	-18.7%	34.4%	33.7%
(million yen)	(15,182)	(13,620)	(-10.3%)	(32.0%)	(33.2%)
Other transport equipment	49	42	-14.8%	0.5%	0.5%
Food products, beverages, and tobacco products	198	178	-10.1%	2.0%	2.1%
Chemical products	71	96	35.2%	0.7%	1.1%
Plastic products	263	318	20.9%	2.6%	3.8%
Other industries	714	634	-11.2%	7.0%	7.5%
Non-manufacturing industry	109	92	-15.6%	1.1%	1.1%
Unspecified	611	675	10.5%	6.0%	8.0%
Total domestic shipments Units	10,133	8,416	-16.9%	100.0%	100.0%
(million yen)	(47,504)	(41,024)	(-13.6%)	(23.1%)	(17.8%)
Export Units	33,778	38,946	15.3%	(76.9%)	(82.2%)
(million yen)	(112,954)	(128,302)	(13.6%)	(70.4%)	(75.8%)
Grand total Units	43,911	47,362	7.9%	(100.0%)	(100.0%)
(million yen)	(160,458)	(169,326)	(5.5%)	(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.