

2021 Results
Production and Shipments of Manipulators and Robots by Applications
[JARA Member Companies]

Number of units, () : million yen

	2020	2021	Change from 2020
Orders	191,373 (725,549)	271,294 (940,533)	41.8% (29.6%)
Production	177,652 (658,741)	236,522 (832,604)	33.1% (26.4%)

Shipments Applications	2020			2021			Change from 2020			2020 (percentage distribution)			2021 (percentage distribution)		
	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total
Plastic moulding	2,257	3,002	5,259	2,965	3,872	6,837	31.4%	29.0%	30.0%	6.6%	2.1%	2.9%	7.4%	2.0%	2.9%
Arc welding	3,121	14,754	17,875	3,419	23,164	26,583	9.5%	57.0%	48.7%	9.1%	10.2%	10.0%	8.5%	11.7%	11.2%
Spot welding	2,581	11,873	14,454	2,930	15,993	18,923	13.5%	34.7%	30.9%	7.5%	8.2%	8.1%	7.3%	8.1%	7.9%
Laser welding	29	145	174	7	575	582	-75.9%	296.6%	234.5%	0.1%	0.1%	0.1%	0.0%	0.3%	0.2%
Others	51	75	126	62	102	164	21.6%	36.0%	30.2%	0.1%	0.1%	0.1%	0.2%	0.1%	0.1%
Welding Units	5,782	26,847	32,629	6,418	39,834	46,252	11.0%	48.4%	41.8%	16.8%	18.6%	18.2%	15.9%	20.1%	19.4%
(million yen)	(32,507)	(57,549)	(90,056)	(34,523)	(81,338)	(115,862)	(6.2%)	(41.3%)	(28.7%)	(19.3%)	(11.8%)	(13.7%)	(18.6%)	(12.4%)	(13.8%)
Painting	514	1,230	1,744	647	1,926	2,573	25.9%	56.6%	47.5%	1.5%	0.8%	1.0%	1.6%	1.0%	1.1%
Loading/unloading	1,476	7,218	8,694	1,959	5,881	7,840	32.7%	-18.5%	-9.8%	4.3%	5.0%	4.9%	4.9%	3.0%	3.3%
Mechanical cutting	27	22	49	15	15	15	-44.4%	-100.0%	-69.4%	0.1%	0.0%	0.0%	0.0%		0.0%
Grinding/deburring	135	453	588	158	760	918	17.0%	67.8%	56.1%	0.4%	0.3%	0.3%	0.4%	0.4%	0.4%
Others	42	54	96	49	37	86	16.7%	-31.5%	-10.4%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%
Machining Units	1,680	7,747	9,427	2,181	6,678	8,859	29.8%	-13.8%	-6.0%	4.9%	5.4%	5.3%	5.4%	3.4%	3.7%
(million yen)	(5,624)	(14,394)	(20,018)	(6,457)	(10,280)	(16,737)	(14.8%)	(-28.6%)	(-16.4%)	(3.3%)	(2.9%)	(3.0%)	(3.5%)	(1.6%)	(2.0%)
Surface Mount Technology	868	14,466	15,334	918	18,760	19,678	5.8%	29.7%	28.3%	2.5%	10.0%	8.6%	2.3%	9.5%	8.3%
General Assembly	5,920	26,304	32,224	7,172	33,266	40,438	21.1%	26.5%	25.5%	17.2%	18.2%	18.0%	17.8%	16.8%	17.0%
Other Assembly	585	723	1,308	609	487	1,096	4.1%	-32.6%	-16.2%	1.7%	0.5%	0.7%	1.5%	0.2%	0.5%
Bonding	2	1	3	1		1	-50.0%	-100.0%	-66.7%	0.0%	0.0%	0.0%	0.0%		0.0%
Soldering	2		2	7	1	8	250.0%		300.0%	0.0%		0.0%	0.0%	0.0%	0.0%
Sealing/glueing	141	516	657	135	426	561	-4.3%	-17.4%	-14.6%	0.4%	0.4%	0.4%	0.3%	0.2%	0.2%
Screwing	12	3	15	12	1	13		-66.7%	-13.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Others	428	203	631	454	59	513	6.1%	-70.9%	-18.7%	1.2%	0.1%	0.4%	1.1%	0.0%	0.2%
Assembly Units	6,505	27,027	33,532	7,781	33,753	41,534	19.6%	24.9%	23.9%	18.9%	18.7%	18.7%	19.3%	17.1%	17.4%
(million yen)	(19,394)	(28,035)	(47,428)	(22,577)	(34,827)	(57,404)	(16.4%)	(24.2%)	(21.0%)	(11.5%)	(5.7%)	(7.2%)	(12.2%)	(5.3%)	(6.8%)
Palletizing/depalletizing	1,695	2,352	4,047	1,742	4,011	5,753	2.8%	70.5%	42.2%	4.9%	1.6%	2.3%	4.3%	2.0%	2.4%
Material handling	7,272	38,510	45,782	7,506	61,941	69,447	3.2%	60.8%	51.7%	21.2%	26.6%	25.6%	18.6%	31.3%	29.2%
FPD	123	302	425	118	246	364	-4.1%	-18.5%	-14.4%	0.4%	0.2%	0.2%	0.3%	0.1%	0.2%
Semiconductor	5,373	9,575	14,948	7,548	13,144	20,692	40.5%	37.3%	38.4%	15.6%	6.6%	8.3%	18.7%	6.6%	8.7%
Others		382	382	3	496	499		29.8%	30.6%		0.3%	0.2%	0.0%	0.3%	0.2%
Cleanroom Units	5,496	10,259	15,755	7,669	13,886	21,555	39.5%	35.4%	36.8%	16.0%	7.1%	8.8%	19.0%	7.0%	9.1%
(million yen)	(20,318)	(24,637)	(44,955)	(26,595)	(31,302)	(57,897)	(30.9%)	(27.1%)	(28.8%)	(12.1%)	(5.0%)	(6.8%)	(14.3%)	(4.8%)	(6.9%)
Other applications	1,726	3,755	5,481	1,755	3,904	5,659	1.7%	4.0%	3.2%	5.0%	2.6%	3.1%	4.4%	2.0%	2.4%
Unspecified	557	9,527	10,084	737	9,201	9,938	32.3%	-3.4%	-1.4%	1.6%	6.6%	5.6%	1.8%	4.7%	4.2%
Total Units	34,352	144,722	179,074	40,319	197,766	238,085	17.4%	36.7%	33.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(million yen)	(168,153)	(489,505)	(657,658)	(185,570)	(654,705)	(840,275)	(10.4%)	(33.7%)	(27.8%)	(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.

2021 Results
Shipments of Manipulators and Robots by Industries
[JARA Member Companies]

Number of units, () : million yen

Industries	2020	2021	Change from 2020	Percentage distribution	
				2020	2021
Metal products	2,067	2,373	14.8%	6.0%	5.9%
Construction and mining machinery	127	172	35.4%	0.4%	0.4%
Metalworking machinery	564	647	14.7%	1.6%	1.6%
Other machinery and equipment	2,442	2,947	20.7%	7.1%	7.3%
Machinery and equipment Units	3,133	3,766	20.2%	9.1%	9.3%
(million yen)	(14,970)	(15,265)	(2.0%)	(8.9%)	(8.2%)
Electronic computers	55	280	409.1%	0.2%	0.7%
Consumer electrical machinery	930	944	1.5%	2.7%	2.3%
Industrial electrical machinery	627	1,032	64.6%	1.8%	2.6%
Communication equipment	975	1,239	27.1%	2.8%	3.1%
Video and audio equipment	18	51	183.3%	0.1%	0.1%
Electronic components/devices/circuits	4,577	6,069	32.6%	13.3%	15.1%
Other electrical machinery	2,159	2,874	33.1%	6.3%	7.1%
Electrical machinery Units	9,341	12,489	33.7%	27.2%	31.0%
(million yen)	(45,074)	(55,656)	(23.5%)	(26.8%)	(30.0%)
Precision instruments	313	320	2.2%	0.9%	0.8%
Motor vehicles	4,439	3,794	-14.5%	12.9%	9.4%
Auto parts	7,156	8,661	21.0%	20.8%	21.5%
Motor vehicles and auto parts Units	11,595	12,455	7.4%	33.8%	30.9%
(million yen)	(55,822)	(57,944)	(3.8%)	(33.2%)	(31.2%)
Other transport equipment	152	345	127.0%	0.4%	0.9%
Food products, beverages, and tobacco products	900	810	-10.0%	2.6%	2.0%
Chemical products	376	356	-5.3%	1.1%	0.9%
Plastic products	1,066	1,165	9.3%	3.1%	2.9%
Other industries	2,617	2,912	11.3%	7.6%	7.2%
Non-manufacturing industry	379	434	14.5%	1.1%	1.1%
Unspecified	2,413	2,894	19.9%	7.0%	7.2%
Total domestic shipments Units	34,352	40,319	17.4%	100.0%	100.0%
(million yen)	(168,153)	(185,570)	(10.4%)	(19.2%)	(16.9%)
Export Units	144,722	197,766	36.7%	(80.8%)	(83.1%)
(million yen)	(489,505)	(654,705)	(33.7%)	(74.4%)	(77.9%)
Grand total Units	179,074	238,085	33.0%	(100.0%)	(100.0%)
(million yen)	(657,658)	(840,275)	(27.8%)	(100.0%)	(100.0%)

Note)

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