

**April - June 2020 Results**  
**Production and Shipments of Manipulators and Robots by Applications**  
**[JARA Member Companies]**

Number of units, ( ) : million yen

	April - June 2019	April - June 2020	Change from 2019
<b>Orders</b>	46,405 (177,503)	44,817 (159,908)	-3.4% (-9.9%)
<b>Production</b>	41,964 (153,576)	43,269 (158,129)	3.1% (3.0%)

Shipments Applications	April - June 2019			April - June 2020			Change from 2019			April - June 2019 (percentage distribution)			April - June 2020 (percentage distribution)		
	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total
<b>Plastic moulding</b>	741	1,009	1,750	465	661	1,126	-37.2%	-34.5%	-35.7%	7.6%	3.1%	4.1%	6.3%	1.8%	2.5%
Arc welding	849	3,212	4,061	712	2,855	3,567	-16.1%	-11.1%	-12.2%	8.7%	9.8%	9.5%	9.6%	7.7%	8.1%
Spot welding	1,174	2,936	4,110	449	3,404	3,853	-61.8%	15.9%	-6.3%	12.0%	9.0%	9.7%	6.1%	9.2%	8.7%
Laser welding	1		1	11	47	58	1000.0%		5700.0%	0.0%		0.0%	0.1%	0.1%	0.1%
Others	15	2	17	21	18	39	40.0%	800.0%	129.4%	0.2%	0.0%	0.0%	0.3%	0.0%	0.1%
<b>Welding</b> Units	2,039	6,150	8,189	1,193	6,324	7,517	-41.5%	2.8%	-8.2%	20.8%	18.8%	19.2%	16.1%	17.1%	17.0%
(million yen)	(9,686)	(13,579)	(23,265)	(6,401)	(14,122)	(20,523)	(-33.9%)	(4.0%)	(-11.8%)	(21.9%)	(11.9%)	(14.7%)	(18.5%)	(11.4%)	(12.9%)
<b>Painting</b>	80	300	380	46	250	296	-42.5%	-16.7%	-22.1%	0.8%	0.9%	0.9%	0.6%	0.7%	0.7%
Loading/unloading	516	1,786	2,302	330	2,950	3,280	-36.0%	65.1%	42.5%	5.3%	5.5%	5.4%	4.5%	8.0%	7.4%
Mechanical cutting	9	2	11	12	14	26	33.3%	600.0%	136.4%	0.1%	0.0%	0.0%	0.2%	0.0%	0.1%
Grinding/deburring	45	100	145	21	105	126	-53.3%	5.0%	-13.1%	0.5%	0.3%	0.3%	0.3%	0.3%	0.3%
Others	9	28	37	11	23	34	22.2%	-17.9%	-8.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Machining</b> Units	579	1,916	2,495	374	3,092	3,466	-35.4%	61.3%	38.9%	5.9%	5.9%	5.9%	5.0%	8.4%	7.8%
(million yen)	(1,707)	(4,217)	(5,924)	(1,141)	(6,359)	(7,499)	(-33.1%)	(50.8%)	(26.6%)	(3.9%)	(3.7%)	(3.7%)	(3.3%)	(5.1%)	(4.7%)
<b>Surface Mount Technology</b>	277	3,096	3,373	149	3,831	3,980	-46.2%	23.7%	18.0%	2.8%	9.5%	7.9%	2.0%	10.4%	9.0%
General Assembly	1,696	8,556	10,251	1,377	7,765	9,142	-18.8%	-9.2%	-10.8%	17.3%	26.1%	24.1%	18.6%	21.1%	20.6%
Other Assembly	153	125	278	126	193	319	-17.4%	54.4%	14.9%	1.6%	0.4%	0.7%	1.7%	0.5%	0.7%
Bonding			3		1	1	-100.0%		-100.0%	0.0%		0.0%		0.0%	0.0%
Soldering	3		3							0.0%		0.0%			
Sealing/glueing	26	94	120	29	144	173	11.5%	53.2%	44.2%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%
Screwing		17	17	5	5	5		-100.0%	-70.6%		0.1%	0.0%	0.1%		0.0%
Others	124	14	138	92	48	140	-25.6%	242.9%	1.7%	1.3%	0.0%	0.3%	1.2%	0.1%	0.3%
<b>Assembly</b> Units	1,848	8,681	10,529	1,503	7,958	9,461	-18.7%	-8.3%	-10.1%	18.8%	26.5%	24.8%	20.3%	21.6%	21.4%
(million yen)	(5,382)	(9,252)	(14,634)	(4,817)	(7,628)	(12,445)	(-10.5%)	(-17.6%)	(-15.0%)	(12.1%)	(8.1%)	(9.3%)	(13.9%)	(6.1%)	(7.8%)
<b>Palletizing/depalletizing</b>	388	520	908	392	535	927	0.9%	2.9%	2.1%	4.0%	1.6%	2.1%	5.3%	1.5%	2.1%
<b>Material handling</b>	2,384	6,569	8,953	1,655	8,073	9,728	-30.6%	22.9%	8.7%	24.3%	20.1%	21.0%	22.3%	21.9%	22.0%
FPD	26	80	106	15	73	88	-42.3%	-8.8%	-17.0%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%
Semiconductor	868	1,042	1,910	1,165	2,392	3,557	34.2%	129.6%	86.2%	8.8%	3.2%	4.5%	15.7%	6.5%	8.0%
Others		21	21		70	70		233.3%	233.3%		0.1%	0.0%		0.2%	0.2%
<b>Cleanroom</b> Units	894	1,143	2,037	1,180	2,535	3,715	32.0%	121.8%	82.4%	9.1%	3.5%	4.8%	15.9%	6.9%	8.4%
(million yen)	(3,370)	(3,094)	(6,464)	(3,993)	(6,188)	(10,180)	(18.5%)	(100.0%)	(57.5%)	(7.6%)	(2.7%)	(4.1%)	(11.5%)	(5.0%)	(6.4%)
<b>Other applications</b>	485	752	1,237	357	1,257	1,614	-26.5%	67.2%	30.4%	4.9%	2.3%	2.9%	4.8%	3.4%	3.6%
<b>Unspecified</b>	96	2,593	2,689	93	2,365	2,458	-3.1%	-8.8%	-8.6%	1.0%	7.9%	6.3%	1.3%	6.4%	5.6%
<b>Total</b> Units	9,812	32,729	42,541	7,407	36,881	44,288	-24.5%	12.7%	4.1%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(million yen)	(44,319)	(113,705)	(158,024)	(34,584)	(124,130)	(158,714)	(-22.0%)	(9.2%)	(0.4%)	(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.

**April - June 2020 Results**  
**Shipments of Manipulators and Robots by Industries**  
**[JARA Member Companies]**

Number of units, ( ) : million yen

Industries	2019 Apr. - Jun.	2020 Apr. - Jun.	Change from 2020	Percentage distribution	
				2019	2020
<b>Metal products</b>	<b>681</b>	<b>491</b>	<b>-27.9%</b>	<b>6.9%</b>	<b>6.6%</b>
Construction and mining machinery	27	25	-7.4%	0.3%	0.3%
Metalworking machinery	215	146	-32.1%	2.2%	2.0%
Other machinery and equipment	525	649	23.6%	5.4%	8.8%
<b>Machinery and equipment</b> Units	<b>767</b>	<b>820</b>	<b>6.9%</b>	<b>7.8%</b>	<b>11.1%</b>
(million yen)	<b>(3,005)</b>	<b>(3,685)</b>	<b>(22.6%)</b>	<b>(6.8%)</b>	<b>(10.7%)</b>
Electronic computers	3	12	300.0%	0.0%	0.2%
Consumer electrical machinery	332	182	-45.2%	3.4%	2.5%
Industrial electrical machinery	141	85	-39.7%	1.4%	1.1%
Communication equipment	296	172	-42.0%	3.0%	2.3%
Video and audio equipment	16	5	-68.8%	0.2%	0.1%
Electronic components/devices/circuits	785	940	19.8%	8.0%	12.7%
Other electrical machinery	789	493	-37.5%	8.0%	6.7%
<b>Electrical machinery</b> Units	<b>2,362</b>	<b>1,889</b>	<b>-20.0%</b>	<b>24.1%</b>	<b>25.5%</b>
(million yen)	<b>(12,024)</b>	<b>(8,840)</b>	<b>(-26.5%)</b>	<b>(27.1%)</b>	<b>(25.6%)</b>
<b>Precision instruments</b>	<b>66</b>	<b>47</b>	<b>-28.8%</b>	<b>0.7%</b>	<b>0.6%</b>
Motor vehicles	1,250	874	-30.1%	12.7%	11.8%
Auto parts	2,758	1,648	-40.2%	28.1%	22.2%
<b>Motor vehicles and auto parts</b> Units	<b>4,008</b>	<b>2,522</b>	<b>-37.1%</b>	<b>40.8%</b>	<b>34.0%</b>
(million yen)	<b>(16,842)</b>	<b>(11,053)</b>	<b>(-34.4%)</b>	<b>(38.0%)</b>	<b>(32.0%)</b>
<b>Other transport equipment</b>	<b>59</b>	<b>26</b>	<b>-55.9%</b>	<b>0.6%</b>	<b>0.4%</b>
<b>Food products, beverages, and tobacco products</b>	<b>153</b>	<b>200</b>	<b>30.7%</b>	<b>1.6%</b>	<b>2.7%</b>
<b>Chemical products</b>	<b>115</b>	<b>76</b>	<b>-33.9%</b>	<b>1.2%</b>	<b>1.0%</b>
<b>Plastic products</b>	<b>285</b>	<b>207</b>	<b>-27.4%</b>	<b>2.9%</b>	<b>2.8%</b>
<b>Other industries</b>	<b>663</b>	<b>509</b>	<b>-23.2%</b>	<b>6.8%</b>	<b>6.9%</b>
<b>Non-manufacturing industry</b>	<b>64</b>	<b>72</b>	<b>12.5%</b>	<b>0.7%</b>	<b>1.0%</b>
<b>Unspecified</b>	<b>589</b>	<b>548</b>	<b>-7.0%</b>	<b>6.0%</b>	<b>7.4%</b>
<b>Total domestic shipments</b> Units	<b>9,812</b>	<b>7,407</b>	<b>-24.5%</b>	<b>100.0%</b>	<b>100.0%</b>
(million yen)	<b>(44,319)</b>	<b>(34,584)</b>	<b>(-22.0%)</b>	<b>(23.1%)</b>	<b>(16.7%)</b>
<b>Export</b> Units	<b>32,729</b>	<b>36,881</b>	<b>12.7%</b>	<b>(76.9%)</b>	<b>(83.3%)</b>
(million yen)	<b>(113,705)</b>	<b>(124,130)</b>	<b>(9.2%)</b>	<b>(72.0%)</b>	<b>(78.2%)</b>
<b>Grand total</b> Units	<b>42,541</b>	<b>44,288</b>	<b>4.1%</b>	<b>(100.0%)</b>	<b>(100.0%)</b>
(million yen)	<b>(158,024)</b>	<b>(158,714)</b>	<b>(0.4%)</b>	<b>(100.0%)</b>	<b>(100.0%)</b>

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