

**January - December 2010 Results**  
**Production and Shipments of Manipulators and Robots by Application Areas (based on Value)**  
**(JARA Member Companies)**

(Unit: million yen)

Production	January - December 2009	January - December 2010	Change from 2009
		219,768	448,021

Shipments	January - December 2009			January - December 2010			Change from 2009			January - December 2009 (percentage distribution)			January - December 2010 (percentage distribution)			
	Application area	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total
<b>Plastic moulding</b>		<b>6,511</b>	<b>7,648</b>	<b>14,159</b>	<b>6,446</b>	<b>7,971</b>	<b>14,417</b>	<b>-1.0%</b>	<b>4.2%</b>	<b>1.8%</b>	<b>7.4%</b>	<b>5.4%</b>	<b>6.2%</b>	<b>6.0%</b>	<b>2.3%</b>	<b>3.2%</b>
Arc welding	(11,489)	(11,414)	(22,903)	(12,300)	(24,000)	(36,301)	7.1%	110.3%	58.5%	13.1%	8.0%	10.0%	11.5%	7.0%	8.1%	
Spot welding	(6,419)	(12,173)	(18,592)	(6,155)	(23,285)	(29,439)	-4.1%	91.3%	58.3%	7.3%	8.6%	8.1%	5.8%	6.8%	6.6%	
Gas welding																
Laser welding	(11)		(11)	(71)	(61)	(132)										
Others	(125)	(17)	(142)	(95)	(42)	(138)										
<b>Welding</b>	<b>18,044</b>	<b>23,605</b>	<b>41,648</b>	<b>18,621</b>	<b>47,389</b>	<b>66,009</b>	<b>3.2%</b>	<b>100.8%</b>	<b>58.5%</b>	<b>20.6%</b>	<b>16.6%</b>	<b>18.1%</b>	<b>17.5%</b>	<b>13.9%</b>	<b>14.7%</b>	
<b>Painting</b>	<b>8,406</b>	<b>4,449</b>	<b>12,855</b>	<b>3,067</b>	<b>4,814</b>	<b>7,881</b>	<b>-63.5%</b>	<b>8.2%</b>	<b>-38.7%</b>	<b>9.6%</b>	<b>3.1%</b>	<b>5.6%</b>	<b>2.9%</b>	<b>1.4%</b>	<b>1.8%</b>	
Loading/unloading	(2,162)	(1,718)	(3,880)	(2,433)	(4,883)	(7,315)										
Mechanical cutting				(3)		(3)										
Grinding/deburring	(218)	(19)	(237)	(389)	(121)	(509)										
Others	(136)	(4)	(140)	(286)	(8)	(294)										
<b>Machining</b>	<b>2,516</b>	<b>1,741</b>	<b>4,257</b>	<b>3,110</b>	<b>5,011</b>	<b>8,122</b>	<b>23.6%</b>	<b>187.9%</b>	<b>90.8%</b>	<b>2.9%</b>	<b>1.2%</b>	<b>1.9%</b>	<b>2.9%</b>	<b>1.5%</b>	<b>1.8%</b>	
General Assembly	5,339	3,818	9,156	8,438	8,868	17,306	58.1%	132.3%	89.0%	6.1%	2.7%	4.0%	7.9%	2.6%	3.9%	
Surface Mount Technology	13,882	64,411	78,292	19,900	197,438	217,338	43.4%	206.5%	177.6%	15.9%	45.3%	34.1%	18.7%	57.9%	48.5%	
Other Assembly	415	268	683	1,338	718	2,057	222.4%	167.8%	201.0%	0.5%	0.2%	0.3%	1.3%	0.2%	0.5%	
(Bonding)				(577)		(577)										
(Soldering)																
(Sealing/glueing)	(320)	(206)	(526)	(129)	(348)	(477)										
(Screwing)	(3)		(3)	(15)	(4)	(19)										
(Others)	(92)	(62)	(154)	(618)	(367)	(984)										
<b>Assembly</b>	<b>19,635</b>	<b>68,497</b>	<b>88,132</b>	<b>29,676</b>	<b>207,024</b>	<b>236,701</b>	<b>51.1%</b>	<b>202.2%</b>	<b>168.6%</b>	<b>22.4%</b>	<b>48.2%</b>	<b>38.4%</b>	<b>27.8%</b>	<b>60.7%</b>	<b>52.9%</b>	
<b>Palletizing/depalletizing</b>	<b>6,018</b>	<b>2,795</b>	<b>8,814</b>	<b>6,061</b>	<b>5,448</b>	<b>11,508</b>	<b>0.7%</b>	<b>94.9%</b>	<b>30.6%</b>	<b>6.9%</b>	<b>2.0%</b>	<b>3.8%</b>	<b>5.7%</b>	<b>1.6%</b>	<b>2.6%</b>	
<b>Material handling</b>	<b>7,860</b>	<b>11,032</b>	<b>18,892</b>	<b>10,956</b>	<b>22,888</b>	<b>33,844</b>	<b>39.4%</b>	<b>107.5%</b>	<b>79.1%</b>	<b>9.0%</b>	<b>7.8%</b>	<b>8.2%</b>	<b>10.3%</b>	<b>6.7%</b>	<b>7.6%</b>	
(FPD)	(11,250)	(18,400)	(29,650)	(10,523)	(26,176)	(36,699)	-6.5%	42.3%	23.8%	12.9%	12.9%	12.9%	9.9%	7.7%	8.2%	
(Semiconductor)	(4,815)	(2,202)	(7,017)	(12,886)	(8,703)	(21,589)	167.6%	295.2%	207.7%	5.5%	1.5%	3.1%	12.1%	2.6%	4.8%	
(Others)	(96)	(3)	(98)	(721)	(21)	(742)										
<b>Cleanroom</b>	<b>16,160</b>	<b>20,604</b>	<b>36,765</b>	<b>24,130</b>	<b>34,900</b>	<b>59,029</b>	<b>49.3%</b>	<b>69.4%</b>	<b>60.6%</b>	<b>18.5%</b>	<b>14.5%</b>	<b>16.0%</b>	<b>22.6%</b>	<b>10.2%</b>	<b>13.2%</b>	
<b>Other applications</b>	<b>2,339</b>	<b>1,720</b>	<b>4,059</b>	<b>4,529</b>	<b>5,783</b>	<b>10,312</b>	<b>93.7%</b>	<b>236.3%</b>	<b>154.1%</b>	<b>2.7%</b>	<b>1.2%</b>	<b>1.8%</b>	<b>4.2%</b>	<b>1.7%</b>	<b>2.3%</b>	
<b>Total</b>	<b>87,490</b>	<b>142,091</b>	<b>229,580</b>	<b>106,597</b>	<b>341,227</b>	<b>447,824</b>	<b>21.8%</b>	<b>140.1%</b>	<b>95.1%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	

Note)

These statistics include dedicated type (Surface Mount Technology / Bonding).

These statistics are 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.

**January - December 2010 Results**  
**Shipments of Manipulators and Robots by Industrial Branches (based on Value)**  
**(JARA Member Companies)**

Industrial branches	2009	2010	Change from 2009	Percentage distribution	
	million yen	million yen		2009	2010
<b>Metal products</b>	<b>2,629</b>	<b>3,840</b>	<b>46.1%</b>	<b>3.0%</b>	<b>3.6%</b>
Construction Machinery	(1,163)	(470)	-59.6%	1.3%	0.4%
Metalworking machinery	(454)	(573)	26.1%	0.5%	0.5%
Other machinery and equipment	(1,472)	(1,686)	14.5%	1.7%	1.6%
<b>Machinery and equipment</b>	<b>3,089</b>	<b>2,729</b>	<b>-11.7%</b>	<b>3.5%</b>	<b>2.6%</b>
Computers	(371)	(440)	18.7%	0.4%	0.4%
Consumer electrical machinery	(1,097)	(2,042)	86.2%	1.3%	1.9%
Industrial electrical machinery	(2,366)	(1,191)	-49.6%	2.7%	1.1%
Info-communications equipment	(8,550)	(14,785)	72.9%	9.8%	13.9%
VTR	(173)	(435)	151.4%	0.2%	0.4%
Electronic components/devices	(12,101)	(16,017)	32.4%	13.8%	15.0%
Other electrical machinery	(7,966)	(16,060)	101.6%	9.1%	15.1%
<b>Electrical machinery</b>	<b>32,624</b>	<b>50,971</b>	<b>56.2%</b>	<b>37.3%</b>	<b>47.8%</b>
<b>Precision and optical instruments</b>	<b>802</b>	<b>1,763</b>	<b>119.7%</b>	<b>0.9%</b>	<b>1.7%</b>
Motor vehicles	(15,053)	(7,448)	-50.5%	17.2%	7.0%
Auto parts	(14,170)	(15,740)	11.1%	16.2%	14.8%
<b>Motor vehicles and auto parts</b>	<b>29,223</b>	<b>23,188</b>	<b>-20.7%</b>	<b>33.4%</b>	<b>21.8%</b>
<b>Food products, beverages, and tobacco products</b>	<b>2,587</b>	<b>2,742</b>	<b>6.0%</b>	<b>3.0%</b>	<b>2.6%</b>
<b>Plastic products</b>	<b>6,251</b>	<b>6,297</b>	<b>0.7%</b>	<b>7.1%</b>	<b>5.9%</b>
<b>EMS companies (Subconstructors)</b>	<b>98</b>	<b>67</b>	<b>-31.6%</b>	<b>0.1%</b>	<b>0.1%</b>
<b>Non-manufacturing</b>	<b>1,809</b>	<b>4,586</b>	<b>153.5%</b>	<b>2.1%</b>	<b>4.3%</b>
<b>Other industries</b>	<b>8,377</b>	<b>10,414</b>	<b>24.3%</b>	<b>9.6%</b>	<b>9.8%</b>
<b>Total domestic shipments</b>	<b>87,490</b>	<b>106,597</b>	<b>21.8%</b>	<b>100.0%</b>	<b>100.0%</b>
				<b>(38.1%)</b>	<b>(23.8%)</b>
<b>Export</b>	<b>142,091</b>	<b>341,227</b>	<b>140.1%</b>	<b>(61.9%)</b>	<b>(76.2%)</b>
<b>Grand total</b>	<b>229,580</b>	<b>447,824</b>	<b>95.1%</b>	<b>(100.0%)</b>	<b>(100.0%)</b>

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