

**January - December 2012 Results**  
**Production and Shipments of Manipulators and Robots by Application Areas (based on Value)**  
**(JARA Member Companies)**

(Unit: million yen)

Production	January - December 2011	January - December 2012	Change from 2011
		489,232	421,161

Shipments	January - December 2011			January - December 2012			Change from 2011			January - December 2011 (percentage distribution)			January - December 2012 (percentage distribution)		
	Application area	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports
<b>Plastic moulding</b>	<b>7,943</b>	<b>10,164</b>	<b>18,107</b>	<b>8,634</b>	<b>10,418</b>	<b>19,052</b>	<b>8.7%</b>	<b>2.5%</b>	<b>5.2%</b>	<b>6.3%</b>	<b>2.9%</b>	<b>3.8%</b>	<b>6.8%</b>	<b>3.5%</b>	<b>4.4%</b>
Arc welding	(14,588)	(33,326)	(47,914)	(15,781)	(30,439)	(46,220)	<b>8.2%</b>	<b>-8.7%</b>	<b>-3.5%</b>	<b>11.6%</b>	<b>9.4%</b>	<b>10.0%</b>	<b>12.4%</b>	<b>10.1%</b>	<b>10.8%</b>
Spot welding	(9,490)	(41,981)	(51,470)	(13,140)	(38,542)	(51,681)	<b>38.5%</b>	<b>-8.2%</b>	<b>0.4%</b>	<b>7.6%</b>	<b>11.8%</b>	<b>10.7%</b>	<b>10.3%</b>	<b>12.8%</b>	<b>12.0%</b>
Gas welding				(3)		(3)									
Laser welding	(143)	(51)	(194)	(502)	(32)	(534)									
Others	(121)	(40)	(161)	(63)	(18)	(82)									
<b>Welding</b>	<b>24,342</b>	<b>75,397</b>	<b>99,739</b>	<b>29,489</b>	<b>69,031</b>	<b>98,520</b>	<b>21.1%</b>	<b>-8.4%</b>	<b>-1.2%</b>	<b>19.4%</b>	<b>21.2%</b>	<b>20.7%</b>	<b>23.1%</b>	<b>22.9%</b>	<b>23.0%</b>
<b>Painting</b>	<b>2,782</b>	<b>10,241</b>	<b>13,024</b>	<b>5,012</b>	<b>10,373</b>	<b>15,385</b>	<b>80.1%</b>	<b>1.3%</b>	<b>18.1%</b>	<b>2.2%</b>	<b>2.9%</b>	<b>2.7%</b>	<b>3.9%</b>	<b>3.4%</b>	<b>3.6%</b>
Loading/unloading	(4,136)	(6,421)	(10,557)	(4,524)	(6,207)	(10,731)									
Mechanical cutting	(8)		(8)	(9)	(8)	(17)									
Grinding/deburring	(534)	(293)	(827)	(763)	(226)	(989)									
Others	(171)	(87)	(258)	(292)	(76)	(368)									
<b>Machining</b>	<b>4,849</b>	<b>6,801</b>	<b>11,649</b>	<b>5,588</b>	<b>6,516</b>	<b>12,104</b>	<b>15.2%</b>	<b>-4.2%</b>	<b>3.9%</b>	<b>3.9%</b>	<b>1.9%</b>	<b>2.4%</b>	<b>4.4%</b>	<b>2.2%</b>	<b>2.8%</b>
General Assembly	9,173	10,590	19,763	8,383	10,947	19,330	-8.6%	3.4%	-2.2%	7.3%	3.0%	4.1%	6.6%	3.6%	4.5%
Surface Mount Technology	21,354	167,186	188,540	19,590	129,239	148,829	-8.3%	-22.7%	-21.1%	17.0%	47.0%	39.2%	15.3%	42.9%	34.7%
Other Assembly	764	601	1,364	657	1,030	1,687	-14.0%	71.5%	23.6%	0.6%	0.2%	0.3%	0.5%	0.3%	0.4%
(Bonding)	(484)		(484)	(205)		(205)									
(Soldering)				(4)	(15)	(19)									
(Sealing/glueing)	(137)	(393)	(531)	(347)	(470)	(817)									
(Screwing)	(16)	(6)	(22)	(3)		(3)									
(Others)	(126)	(202)	(328)	(98)	(545)	(643)									
<b>Assembly</b>	<b>31,291</b>	<b>178,377</b>	<b>209,668</b>	<b>28,629</b>	<b>141,216</b>	<b>169,845</b>	<b>-8.5%</b>	<b>-20.8%</b>	<b>-19.0%</b>	<b>25.0%</b>	<b>50.1%</b>	<b>43.6%</b>	<b>22.4%</b>	<b>46.9%</b>	<b>39.6%</b>
<b>Palletizing/depalletizing</b>	<b>7,548</b>	<b>5,295</b>	<b>12,844</b>	<b>7,187</b>	<b>6,326</b>	<b>13,513</b>	<b>-4.8%</b>	<b>19.5%</b>	<b>5.2%</b>	<b>6.0%</b>	<b>1.5%</b>	<b>2.7%</b>	<b>5.6%</b>	<b>2.1%</b>	<b>3.1%</b>
<b>Material handling</b>	<b>14,056</b>	<b>32,932</b>	<b>46,988</b>	<b>12,647</b>	<b>29,876</b>	<b>42,523</b>	<b>-10.0%</b>	<b>-9.3%</b>	<b>-9.5%</b>	<b>11.2%</b>	<b>9.3%</b>	<b>9.8%</b>	<b>9.9%</b>	<b>9.9%</b>	<b>9.9%</b>
(FPD)	(10,170)	(20,964)	(31,134)	(7,772)	(10,567)	(18,339)	-23.6%	-49.6%	-41.1%	8.1%	5.9%	6.5%	6.1%	3.5%	4.3%
(Semiconductor)	(15,724)	(9,479)	(25,203)	(11,197)	(7,884)	(19,081)	-28.8%	-16.8%	-24.3%	12.5%	2.7%	5.2%	8.8%	2.6%	4.4%
(Others)	(303)	(1)	(304)	(21)	(1)	(22)									
<b>Cleanroom</b>	<b>26,197</b>	<b>30,444</b>	<b>56,641</b>	<b>18,991</b>	<b>18,452</b>	<b>37,443</b>	<b>-27.5%</b>	<b>-39.4%</b>	<b>-33.9%</b>	<b>20.9%</b>	<b>8.6%</b>	<b>11.8%</b>	<b>14.9%</b>	<b>6.1%</b>	<b>8.7%</b>
<b>Other applications</b>	<b>6,294</b>	<b>6,351</b>	<b>12,645</b>	<b>11,511</b>	<b>9,133</b>	<b>20,643</b>	<b>82.9%</b>	<b>43.8%</b>	<b>63.2%</b>	<b>5.0%</b>	<b>1.8%</b>	<b>2.6%</b>	<b>9.0%</b>	<b>3.0%</b>	<b>4.8%</b>
<b>Total</b>	<b>125,302</b>	<b>356,003</b>	<b>481,305</b>	<b>127,687</b>	<b>301,341</b>	<b>429,028</b>	<b>1.9%</b>	<b>-15.4%</b>	<b>-10.9%</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 2012 Results**  
**Shipments of Manipulators and Robots by Industrial Branches (based on Value)**  
**(JARA Member Companies)**

Industrial branches	2011	2012	Change from 2011	Percentage distribution	
	million yen	million yen		2011	2012
<b>Metal products</b>	<b>4,119</b>	<b>4,726</b>	<b>14.8%</b>	<b>3.3%</b>	<b>3.7%</b>
Construction Machinery	(930)	(1,402)	50.7%	0.7%	1.1%
Metalworking machinery	(925)	(1,325)	43.3%	0.7%	1.0%
Other machinery and equipment	(2,423)	(1,695)	-30.0%	1.9%	1.3%
<b>Machinery and equipment</b>	<b>4,278</b>	<b>4,422</b>	<b>3.4%</b>	<b>3.4%</b>	<b>3.5%</b>
Computers	(389)	(479)	23.3%	0.3%	0.4%
Consumer electrical machinery	(1,752)	(705)	-59.8%	1.4%	0.6%
Industrial electrical machinery	(3,638)	(2,771)	-23.8%	2.9%	2.2%
Info-communications equipment	(14,688)	(13,652)	-7.1%	11.7%	10.7%
VTR	(175)	(5)	-97.1%	0.1%	0.0%
Electronic components/devices	(20,134)	(13,860)	-31.2%	16.1%	10.9%
Other electrical machinery	(15,745)	(13,052)	-17.1%	12.6%	10.2%
<b>Electrical machinery</b>	<b>56,519</b>	<b>44,523</b>	<b>-21.2%</b>	<b>45.1%</b>	<b>34.9%</b>
<b>Precision and optical instruments</b>	<b>2,049</b>	<b>1,263</b>	<b>-38.4%</b>	<b>1.6%</b>	<b>1.0%</b>
Motor vehicles	(12,443)	(18,994)	52.7%	9.9%	14.9%
Auto parts	(20,200)	(24,462)	21.1%	16.1%	19.2%
<b>Motor vehicles and auto parts</b>	<b>32,643</b>	<b>43,457</b>	<b>33.1%</b>	<b>26.1%</b>	<b>34.0%</b>
<b>Food products, beverages, and tobacco products</b>	<b>3,843</b>	<b>3,300</b>	<b>-14.2%</b>	<b>3.1%</b>	<b>2.6%</b>
<b>Plastic products</b>	<b>7,642</b>	<b>8,321</b>	<b>8.9%</b>	<b>6.1%</b>	<b>6.5%</b>
<b>Chemical products</b>	<b>1,645</b>	<b>1,413</b>	<b>-14.1%</b>	<b>1.3%</b>	<b>1.1%</b>
<b>Non-manufacturing</b>	<b>1,509</b>	<b>1,391</b>	<b>-7.8%</b>	<b>1.2%</b>	<b>1.1%</b>
<b>Other industries</b>	<b>11,054</b>	<b>14,871</b>	<b>34.5%</b>	<b>8.8%</b>	<b>11.6%</b>
<b>Total domestic shipments</b>	<b>125,302</b>	<b>127,687</b>	<b>1.9%</b>	<b>100.0%</b>	<b>100.0%</b>
				<b>(26.0%)</b>	<b>(29.8%)</b>
<b>Export</b>	<b>356,003</b>	<b>301,341</b>	<b>-15.4%</b>	<b>(74.0%)</b>	<b>(70.2%)</b>
<b>Grand total</b>	<b>481,305</b>	<b>429,028</b>	<b>-10.9%</b>	<b>(100.0%)</b>	<b>(100.0%)</b>

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