

**January - December 2014 Results**  
**Production and Shipments of Manipulators and Robots by Application Areas**  
**[JARA Member Companies]**

Number of units, ( ): million yen

Production	January - December 2013		January - December 2014		Change from 2013	
		97,576 (396,763)		127,305 (492,697)		+30.5% (+24.2%)

Shipments	January - December 2013			January - December 2014			Change from 2013			January - December 2013 (percentage distribution)			January - December 2014 (percentage distribution)		
	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total
<b>Application area</b>															
<b>Plastic moulding</b>	<b>2,074</b>	<b>4,713</b>	<b>6,787</b>	<b>2,684</b>	<b>4,623</b>	<b>7,307</b>	<b>+29.4%</b>	<b>-1.9%</b>	<b>+7.7%</b>	<b>9.0%</b>	<b>6.2%</b>	<b>6.9%</b>	<b>9.4%</b>	<b>4.7%</b>	<b>5.7%</b>
Arc welding	2,924	14,268	17,192	3,431	17,824	21,255	<b>+17.3%</b>	<b>+24.9%</b>	<b>+23.6%</b>	12.7%	18.8%	17.4%	12.0%	18.0%	16.7%
Spot welding	2,513	12,262	14,775	3,449	17,229	20,678	<b>+37.2%</b>	<b>+40.5%</b>	<b>+40.0%</b>	10.9%	16.1%	14.9%	12.1%	17.4%	16.2%
Laser welding	42	4	46	33	126	159									
Others	29	7	36	21	19	40									
<b>Welding</b> Units	<b>5,508</b>	<b>26,541</b>	<b>32,049</b>	<b>6,934</b>	<b>35,198</b>	<b>42,132</b>	<b>+25.9%</b>	<b>+32.6%</b>	<b>+31.5%</b>	<b>24.0%</b>	<b>35.0%</b>	<b>32.4%</b>	<b>24.2%</b>	<b>35.6%</b>	<b>33.0%</b>
(million yen)	<b>(25,309)</b>	<b>(67,676)</b>	<b>(92,986)</b>	<b>(31,273)</b>	<b>(88,294)</b>	<b>(119,567)</b>	<b>(+23.6%)</b>	<b>(+30.5%)</b>	<b>(+28.6%)</b>	<b>(22.4%)</b>	<b>(23.5%)</b>	<b>(23.2%)</b>	<b>(24.9%)</b>	<b>(24.6%)</b>	<b>(24.6%)</b>
<b>Painting</b>	<b>320</b>	<b>1,252</b>	<b>1,572</b>	<b>463</b>	<b>1,258</b>	<b>1,721</b>	<b>+44.7%</b>	<b>+0.5%</b>	<b>+9.5%</b>	<b>1.4%</b>	<b>1.6%</b>	<b>1.6%</b>	<b>1.6%</b>	<b>1.3%</b>	<b>1.3%</b>
Loading/unloading	1,102	3,909	5,011	1,499	4,005	5,504	<b>+36.0%</b>	<b>+2.5%</b>	<b>+9.8%</b>	4.8%	5.1%	5.1%	5.2%	4.1%	4.3%
Mechanical cutting	4	28	32		26	26									
Grinding/deburring	124	26	150	156	41	197									
Others	37	10	47	43	12	55									
<b>Machining</b> Units	<b>1,267</b>	<b>3,973</b>	<b>5,240</b>	<b>1,698</b>	<b>4,084</b>	<b>5,782</b>	<b>+34.0%</b>	<b>+2.8%</b>	<b>+10.3%</b>	<b>5.5%</b>	<b>5.2%</b>	<b>5.3%</b>	<b>5.9%</b>	<b>4.1%</b>	<b>4.5%</b>
(million yen)	<b>(3,290)</b>	<b>(6,597)</b>	<b>(9,887)</b>	<b>(3,971)</b>	<b>(6,422)</b>	<b>(10,394)</b>	<b>(+20.7%)</b>	<b>(-2.7%)</b>	<b>(+5.1%)</b>	<b>(2.9%)</b>	<b>(2.3%)</b>	<b>(2.5%)</b>	<b>(3.2%)</b>	<b>(1.8%)</b>	<b>(2.1%)</b>
<b>Surface Mount Technology</b>	914	7,258	8,172	1,158	8,682	9,840	<b>+26.7%</b>	<b>+19.6%</b>	<b>+20.4%</b>	4.0%	9.6%	8.3%	4.0%	8.8%	7.7%
General Assembly	4,216	7,872	12,088	5,185	15,612	20,797	<b>+23.0%</b>	<b>+98.3%</b>	<b>+72.0%</b>	18.4%	10.4%	12.2%	18.1%	15.8%	16.3%
Other Assembly	91	453	544	74	183	257	<b>-18.7%</b>	<b>-59.6%</b>	<b>-52.8%</b>	0.4%	0.6%	0.6%	0.3%	0.2%	0.2%
Bonding		6	6	2		2									
Soldering	1		1	1		1									
Sealing/glueing	46	234	280	33	135	168									
Screwing	7		7	1		1									
Others	37	213	250	37	48	85									
<b>Assembly</b> Units	<b>4,307</b>	<b>8,325</b>	<b>12,632</b>	<b>5,259</b>	<b>15,795</b>	<b>21,054</b>	<b>+22.1%</b>	<b>+89.7%</b>	<b>+66.7%</b>	<b>18.7%</b>	<b>11.0%</b>	<b>12.8%</b>	<b>18.4%</b>	<b>16.0%</b>	<b>16.5%</b>
(million yen)	<b>(24,129)</b>	<b>(117,265)</b>	<b>(141,394)</b>	<b>(29,510)</b>	<b>(158,768)</b>	<b>(188,278)</b>	<b>(+22.3%)</b>	<b>(+35.4%)</b>	<b>(+33.2%)</b>	<b>(21.4%)</b>	<b>(40.8%)</b>	<b>(35.3%)</b>	<b>(23.5%)</b>	<b>(44.2%)</b>	<b>(38.8%)</b>
<b>Palletizing/depalletizing</b>	<b>862</b>	<b>1,844</b>	<b>2,706</b>	<b>884</b>	<b>1,723</b>	<b>2,607</b>	<b>+2.6%</b>	<b>-6.6%</b>	<b>-3.7%</b>	<b>3.8%</b>	<b>2.4%</b>	<b>2.7%</b>	<b>3.1%</b>	<b>1.7%</b>	<b>2.0%</b>
<b>Material handling</b>	<b>3,596</b>	<b>15,231</b>	<b>18,827</b>	<b>5,054</b>	<b>20,688</b>	<b>25,742</b>	<b>+40.5%</b>	<b>+35.8%</b>	<b>+36.7%</b>	<b>15.7%</b>	<b>20.1%</b>	<b>19.0%</b>	<b>17.7%</b>	<b>20.9%</b>	<b>20.2%</b>
FPD	302	859	1,161	167	564	731	<b>-44.7%</b>	<b>-34.3%</b>	<b>-37.0%</b>	1.3%	1.1%	1.2%	0.6%	0.6%	0.6%
Semiconductor	2,426	3,385	5,811	2,919	3,585	6,504	<b>+20.3%</b>	<b>+5.9%</b>	<b>+11.9%</b>	10.6%	4.5%	5.9%	10.2%	3.6%	5.1%
Others	2		2												
<b>Cleanroom</b> Units	<b>2,730</b>	<b>4,244</b>	<b>6,974</b>	<b>3,086</b>	<b>4,149</b>	<b>7,235</b>	<b>+13.0%</b>	<b>-2.2%</b>	<b>+3.7%</b>	<b>11.9%</b>	<b>5.6%</b>	<b>7.1%</b>	<b>10.8%</b>	<b>4.2%</b>	<b>5.7%</b>
(million yen)	<b>(17,900)</b>	<b>(22,269)</b>	<b>(40,169)</b>	<b>(15,512)</b>	<b>(16,828)</b>	<b>(32,341)</b>	<b>(-13.3%)</b>	<b>(-24.4%)</b>	<b>(-19.5%)</b>	<b>(15.9%)</b>	<b>(7.7%)</b>	<b>(10.0%)</b>	<b>(12.4%)</b>	<b>(4.7%)</b>	<b>(6.7%)</b>
<b>Other applications</b>	<b>1,394</b>	<b>2,552</b>	<b>3,946</b>	<b>1,389</b>	<b>2,682</b>	<b>4,071</b>	<b>-0.4%</b>	<b>+5.1%</b>	<b>+3.2%</b>	<b>6.1%</b>	<b>3.4%</b>	<b>4.0%</b>	<b>4.9%</b>	<b>2.7%</b>	<b>3.2%</b>
<b>Total</b> Units	<b>22,972</b>	<b>75,933</b>	<b>98,905</b>	<b>28,609</b>	<b>98,882</b>	<b>127,491</b>	<b>+24.5%</b>	<b>+30.2%</b>	<b>+28.9%</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>
(million yen)	<b>(112,808)</b>	<b>(287,652)</b>	<b>(400,460)</b>	<b>(125,546)</b>	<b>(359,567)</b>	<b>(485,113)</b>	<b>(+11.3%)</b>	<b>(+25.0%)</b>	<b>(+21.1%)</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)

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.

**January - December 2014 Results**  
**Shipments of Manipulators and Robots by Industrial Branches**  
**[JARA Member Companies]**

Number of units, ( ): million yen

Industrial branches	2013 Jan-Dec	2014 Jan-Dec	Change from 2013	Percentage distribution	
				2013	2014
<b>Metal products</b>	<b>1,033</b>	<b>1,374</b>	<b>+33.0%</b>	<b>4.5%</b>	<b>4.8%</b>
Construction Machinery	86	140	+62.8%	0.4%	<b>0.5%</b>
Metalworking machinery	502	701	+39.6%	2.2%	2.5%
Other machinery and equipment	421	705	+67.5%	1.8%	2.5%
<b>Machinery and equipment</b>	<b>1,009</b>	<b>1,546</b>	<b>+53.2%</b>	<b>4.4%</b>	<b>5.4%</b>
Units					
(million yen)	<b>(3,671)</b>	<b>(5,158)</b>	<b>(+40.5%)</b>	<b>(3.3%)</b>	<b>(4.1%)</b>
Computers	32	63	+96.9%	0.1%	0.2%
Consumer electrical machinery	470	601	+27.9%	2.0%	2.1%
Industrial electrical machinery	569	390	-31.5%	2.5%	1.4%
Info-communications equipment	602	1,018	+69.1%	2.6%	3.6%
VTR	0	0		0.0%	0.0%
Electronic components/devices	2,883	3,167	+9.9%	12.6%	11.1%
Other electrical machinery	2,265	2,571	+13.5%	9.9%	9.0%
<b>Electrical machinery</b>	<b>6,821</b>	<b>7,810</b>	<b>+14.5%</b>	<b>29.7%</b>	<b>27.3%</b>
Units					
(million yen)	<b>(40,855)</b>	<b>(40,817)</b>	<b>(-0.1%)</b>	<b>(36.2%)</b>	<b>(32.5%)</b>
<b>Precision and optical instruments</b>	<b>407</b>	<b>361</b>	<b>-11.3%</b>	<b>1.8%</b>	<b>1.3%</b>
Motor vehicles	2,363	3,529	+49.3%	10.3%	12.3%
Auto parts	5,307	6,508	+22.6%	23.1%	22.7%
<b>Motor vehicles and auto parts</b>	<b>7,670</b>	<b>10,037</b>	<b>+30.9%</b>	<b>33.4%</b>	<b>35.1%</b>
Units					
(million yen)	<b>(34,151)</b>	<b>(41,502)</b>	<b>(+21.5%)</b>	<b>(30.3%)</b>	<b>(33.1%)</b>
<b>Food products, beverages, and tobacco products</b>	<b>735</b>	<b>679</b>	<b>-7.6%</b>	<b>3.2%</b>	<b>2.4%</b>
<b>Plastic products</b>	<b>2138</b>	<b>2782</b>	<b>+30.1%</b>	<b>9.3%</b>	<b>9.7%</b>
<b>Chemical products</b>	<b>271</b>	<b>400</b>	<b>+47.6%</b>	<b>1.2%</b>	<b>1.4%</b>
<b>Other industries</b>	<b>2,888</b>	<b>3,620</b>	<b>+25.3%</b>	<b>12.6%</b>	<b>12.7%</b>
<b>Total domestic shipments</b>	<b>22,972</b>	<b>28,609</b>	<b>+24.5%</b>	<b>100.0%</b>	<b>100.0%</b>
Units					
(million yen)	<b>(112,808)</b>	<b>(125,546)</b>	<b>(+11.3%)</b>	<b>23.2%</b>	<b>22.4%</b>
				<b>(100.0%)</b>	<b>(100.0%)</b>
				<b>(28.2%)</b>	<b>(25.9%)</b>
<b>Export</b>	<b>75,933</b>	<b>98,882</b>	<b>+30.2%</b>	<b>76.8%</b>	<b>77.6%</b>
Units					
(million yen)	<b>(287,652)</b>	<b>(359,567)</b>	<b>(+25.0%)</b>	<b>(71.8%)</b>	<b>(74.1%)</b>
<b>Grand total</b>	<b>98,905</b>	<b>127,491</b>	<b>+28.9%</b>	<b>100.0%</b>	<b>100.0%</b>
Units					
(million yen)	<b>(400,460)</b>	<b>(485,113)</b>	<b>(+21.1%)</b>	<b>(100.0%)</b>	<b>(100.0%)</b>

Note) Data includes dedicated type (Surface Mount Technology / Bonding).

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