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

Number of units, ( ): million yen

|            | October - December 2013 | October - December 2014 | Change from 2013 |  |  |
|------------|-------------------------|-------------------------|------------------|--|--|
| Production | 25,655                  | 30,220                  | +17.8%           |  |  |
|            | (96,741)                | (114,998)               | (+18.9%)         |  |  |

| Shipments                 | October - December 2013 |          |          | October - December 2014 |          |           | Change from 2013   |          |          | October - December 2013<br>(percentage distribution) |          |          | October - December 2014<br>(percentage distribution) |          |          |
|---------------------------|-------------------------|----------|----------|-------------------------|----------|-----------|--------------------|----------|----------|--|----------|----------|--|----------|----------|
| Application area          | Domestic shipments      | Exports  | Total    | Domestic shipments      | Exports  | Total     | Domestic shipments | Exports  | Total    | Domestic shipments                                   | Exports  | Total    | Domestic shipments                                   | Exports  | Total    |
| Plastic moulding          | 564                     | 1,060    | 1,624    | 683                     | 1,054    | 1,737     | +21.1%             | -0.6%    | +7.0%    | 9.6%   | 5.3%     | 6.3%     | 10.0%  | 4.5%     | 5.7%     |
| Arc welding               | 750                     | 3,564    | 4,314    | 755                     | 4,783    | 5,538     | +0.7%              | +34.2%   | +28.4%   | 12.8%  | 17.8%    | 16.6%    | 11.0%  | 20.3%    | 18.2%    |
| Spot welding              | 457                     | 3,389    | 3,846    | 627                     | 4,645    | 5,272     | +37.2%             | +37.1%   | +37.1%   | 7.8%   | 16.9%    | 14.8%    | 9.2%   | 19.7%    | 17.3%    |
| Laser welding             | 16                      | 1        | 17       | 5                       | 3        | 8         |                    |          |          |  |          |          |  |          |          |
| Others                    | 9                       | 2        | 11       | 2                       |          | 2         |                    |          |          |  |          |          |  |          |          |
| Welding Units             | 1,232                   | 6,956    | 8,188    | 1,389                   | 9,431    | 10,820    | +12.7%             | +35.6%   | +32.1%   | 21.0%  | 34.6%    | 31.5%    | 20.3%  | 40.0%    | 35.6%    |
| (million yen)             | (5,737)                 | (18,711) | (24,448) | (7,795)                 | (23,136) | (30,931)  | (+35.9%)           | (+23.6%) | (+26.5%) | (21.8%)  | (26.6%)  | (25.2%)  | (25.9%)  | (26.9%)  | (26.7%)  |
| Painting                  | 33                      | 231      | 264      | 61                      | 213      | 274       | +84.8%             | -7.8%    | +3.8%    | 0.6%   | 1.2%     | 1.0%     | 0.9%   | 0.9%     | 0.9%     |
| Loading/unloading         | 283                     | 788      | 1,071    | 381                     | 809      | 1,190     | +34.6%             | +2.7%    | +11.1%   | 4.8%   | 3.9%     | 4.1%     | 5.6%   | 3.4%     | 3.9%     |
| Mechanical cutting        | 1                       | 22       | 23       |                         |          |           |                    |          |          |  |          |          |  |          |          |
| Grinding/deburring        | 55                      | 2        | 57       | 48                      | 10       | 58        |                    |          |          |  |          |          |  |          |          |
| Others                    | 6                       | 8        | 14       | 8                       | 1        | 9         |                    |          |          |  |          |          |  |          |          |
| Machining Units           | 345                     | 820      | 1,165    | 437                     | 820      | 1,257     | +26.7%             |          | +7.9%    | 5.9%   | 4.1%     | 4.5%     | 6.4%   | 3.5%     | 4.1%     |
| (million yen)             | (833)                   | (1,553)  | (2,386)  | (1,045)                 | (1,409)  | (2,454)   | (+25.4%)           | (-9.3%)  | (+2.8%)  | (3.2%)   | (2.2%)   | (2.5%)   | (3.5%)   | (1.6%)   | (2.1%)   |
| Surface Mount Technology  | 249                     | 1,475    | 1,724    | 279                     | 1,841    | 2,120     | +12.0%             | +24.8%   | +23.0%   | 4.2%   | 7.3%     | 6.6%     | 4.1%   | 7.8%     | 7.0%     |
| General Assembly          | 1,090                   | 1,895    | 2,985    | 1,474                   | 2,501    | 3,975     | +35.2%             | +32.0%   | +33.2%   | 18.5%  | 9.4%     | 11.5%    | 21.5%  | 10.6%    | 13.1%    |
| Other Assembly            | 13                      | 72       | 85       | 31                      | 44       | 75        | +138.5%            | -38.9%   | -11.8%   | 0.2%   | 0.4%     | 0.3%     | 0.5%   | 0.2%     | 0.2%     |
| Bonding                   |                         |          |          | 2                       |          | 2         |                    |          |          |  |          |          |  |          |          |
| Soldering                 |                         |          |          |                         |          |           |                    |          |          |  |          |          |  |          |          |
| Sealing/glueing           | 7                       | 23       | 30       | 9                       | 35       | 44        |                    |          |          |  |          |          |  |          |          |
| Screwing                  | 1                       |          | 1        |                         |          |           |                    |          |          |  |          |          |  |          |          |
| Others                    | 5                       | 49       | 54       | 20                      | 9        | 29        |                    |          |          |  |          |          |  |          |          |
| Assembly Units            | 1,103                   | 1,967    | 3,070    | 1,505                   | 2,545    | 4,050     | +36.4%             | +29.4%   | +31.9%   | 18.8%  | 9.8%     | 11.8%    | 22.0%  | 10.8%    | 13.3%    |
| (million yen)             | (6,350)                 | (24,013) | (30,363) | (7,498)                 | (34,671) | (42,169)  | (+18.1%)           | (+44.4%) | (+38.9%) | (24.1%)  | (34.1%)  | (31.4%)  | (24.9%)  | (40.4%)  | (36.4%)  |
| Palletizing/depalletizing | 222                     | 568      | 790      | 213                     | 428      | 641       | -4.1%              | -24.6%   | -18.9%   | 3.8%   | 2.8%     | 3.0%     | 3.1%   | 1.8%     | 2.1%     |
| Material handling         | 1,005                   | 5,012    | 6,017    | 1,168                   | 5,533    | 6,701     | +16.2%             | +10.4%   | +11.4%   | 17.1%  | 25.0%    | 23.2%    | 17.0%  | 23.5%    | 22.0%    |
| FPD                       | 32                      | 117      | 149      | 28                      | 156      | 184       | -12.5%             | +33.3%   | +23.5%   | 0.5%   | 0.6%     | 0.6%     | 0.4%   | 0.7%     | 0.6%     |
| Semiconductor             | 808                     | 1,006    | 1,814    | 696                     | 827      | 1,523     | -13.9%             | -17.8%   | -16.0%   | 13.7%  | 5.0%     | 7.0%     | 10.2%  | 3.5%     | 5.0%     |
| Others                    |                         |          |          |                         |          |           |                    |          |          |  |          |          |  |          |          |
| Cleanroom Units           | 840                     | 1,123    | 1,963    | 724                     | 983      | 1,707     | -13.8%             | -12.5%   | -13.0%   | 14.3%  | 5.6%     | 7.6%     | 10.6%  | 4.2%     | 5.6%     |
| (million yen)             | (4,230)                 | (4,940)  | (9,171)  | (3,657)                 | (4,676)  | (8,333)   | (-13.5%)           | (-5.4%)  | (-9.1%)  | (16.0%)  | (7.0%)   | (9.5%)   | (12.2%)  | (5.4%)   | (7.2%)   |
| Other applications        | 285                     | 866      | 1,151    | 393                     | 733      | 1,126     | +37.9%             | -15.4%   | -2.2%    | 4.8%   | 4.3%     | 4.4%     | 5.7%   | 3.1%     | 3.7%     |
| Total Units               | 5,878                   | 20,078   | 25,956   | 6,852                   | 23,581   | 30,433    | +16.6%             | +17.4%   | +17.2%   | 100.0%   | 100.0%   | 100.0%   | 100.0%   | 100.0%   | 100.0%   |
| (million yen)             | (26,369)                | (70,465) | (96,834) | (30,072)                | (85,916) | (115,988) | (+14.0%)           | (+21.9%) | (+19.8%) | (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.

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

|  |  |   | Number  | of units, ():  |  |  |
|--|--|---|---|--|--|--|
| Industrial branches                            |  |   |   | Percentage distribution  |  |  |
|  |  |   | from 2013   | 2013   | 2014   |  |
| Metal products<br>Construction machinery       |  |   |   |  | 5.9%   |  |
|  | 28   | 34  | +21.4%  | 0.5%   | 0.5%   |  |
|  | 135  | 161   | +19.3%  | 2.3%   | 2.3%   |  |
|  | 132  | 144   | +9.1%   | 2.2%   | 2.1%<br><b>4.9%</b>  |  |
| Units  | 295  | 339   | +14.9%  | 5.0%   | 4.9%   |  |
| (million yen)                                  | (1,030)  | (1,387)   | (+34.7%)  | (3.9%)   | (4.6%)   |  |
|  | 6  | 14  | +133.3%   | 0.1%   | 0.2%   |  |
|  | 98   | 161   | +64.3%  | 1.7%   | 2.3%   |  |
|  | 82   | 141   | +72.0%  | 1.4%   | 2.1%   |  |
|  | 157  | 323   | +105.7%   | 2.7%   | 4.7%   |  |
|  | 0  | 0   |   | 0.0%   | 0.0%   |  |
|  | 935  | 777   | -16.9%  | 15.9%  | 11.3%  |  |
|  | 589  | 673   | +14.3%  | 10.0%  | 9.8%   |  |
| Units  | 1,867  | 2,089   | +11.9%  | 31.8%  | 30.5%  |  |
| (million yen)                                  | (10,068)   | (10,281)  | (+2.1%)   | (38.2%)  | (34.2%)  |  |
|  | 106  | 86  | -18.9%  | 1.8%   | 1.3%   |  |
|  | 397  | 649   | +63.5%  | 6.8%   | 9.5%   |  |
|  | 1,299  | 1,425   | +9.7%   | 22.1%  | 20.8%  |  |
| Units  | 1,696  | 2,074   | +22.3%  | 28.9%  | 30.3%  |  |
| (million yen)                                  | (7,074)  | (8,589)   | (+21.4%)  | (26.8%)  | (28.6%)  |  |
| Food products, beverages, and tobacco products |  |   |   | 3.4%   | 2.0%   |  |
|  | 585  | 712   | +21.7%  | 10.0%  | 10.4%  |  |
|  | 93   | 99  | +6.5%   | 1.6%   | 1.4%   |  |
|  | 748  | 913   | +22.1%  | 12.7%  | 13.3%  |  |
| Units  | 5,878  | 6,852   | +16.6%  | 100.0%   | 100.0%   |  |
|  |  |   |   | 22.6%  | 22.5%  |  |
| (million yen)                                  | (26,369)   | (30,072)  | (+14.0%)  | (100.0%)   | (100.0%)   |  |
| ,  | · · ·  |   |   | (27.2%)  | (25.9%)  |  |
| Units  | 20,078   | 23,581  | +17.4%  | 77.4%  | 77.5%  |  |
| (million yen)                                  | (70,465)   | (85,916)  | (+21.9%)  | (72.8%)  | (74.1%)  |  |
| Units  | 25,956   | 30,433  | +17.2%  | 100.0%   | 100.0%   |  |
| (million yen)                                  |  |   | (+19.8%)  | (100.0%)   | (100.0%)   |  |
|  | Units<br>(million yen)<br>Units<br>(million yen)<br>Cco products<br>Units<br>(million yen)<br>Cco products<br>(million yen)<br>Units<br>(million yen)<br>Units<br>(million yen)<br>Units | Oct-Dec   288   28   135   132   Units 295   (million yen) (1,030)   (million yen) (1,030)   6 98   82 157   0 935   589 11867   Units 1,867   (million yen) (10,068)   106 397   1,299 11,299   Units 1,696   (million yen) (7,074)   Cco products 200   585 93   0 585   93 748   Units 5,878   (million yen) (26,369)   Units 20,078   (million yen) (70,465)   Units 25,956 | Oct-Dec Oct-Dec   288 403   288 34   135 161   132 144   Units 295 339   (million yen) (1,030) (1,387)   (million yen) (1,030) (1,387)   (million yen) (1,030) (1,387)   (million yen) (1,030) (1,387)   0 0 0   935 777 323   0 0 0   935 777 589   673 0 0   935 777 589   (million yen) (10,068) (10,281)   (million yen) (10,068) (10,281)   1,299 1,425 1,425   Units 1,696 2,074   (million yen) (7,074) (8,589)   Cco products 200 137   5,878 6,852 112   93 99 748 913 | 2013 2014 Change<br>from 2013   288 403 +39.9%   28 34 +21.4%   135 161 +19.3%   132 144 +9.1%   Units 295 339 +14.9%   (million yen) (1,030) (1,387) (+34.7%)   0 6 14 +133.3%   98 161 +64.3%   82 141 +72.0%   157 323 +105.7%   0 0 0   935 777 -16.9%   589 673 +14.3%   Units 1,867 2,089 +11.9%   (million yen) (10,068) (10,281) (+2.1%)   0 0 0 137 -31.5%   1,299 1,425 +9.7% 1,299 1,425 +9.7%   Units 1,696 2,074 +22.3% (million yen) (7,074) (8,589) (+21.4%)   Cco products | 2013<br>Oct-Dec 2014<br>Oct-Dec Change<br>from 2013<br>Form 2013 Percentage of<br>2013   288 403 +39.9% 4.9%   28 34 +21.4% 0.5%   135 161 +19.3% 2.3%   132 144 +9.1% 2.2%   Units 295 339 +14.9% 6.05%   (million yen) (1,030) (1,387) (+34.7%) (3.9%)   6 14 +133.3% 0.1% 8.2   98 161 +64.3% 1.7% 2.7%   0 0 0 0 0.0%   935 777 -16.9% 15.9%   589 673 +14.3% 10.0%   (million yen) (10,068) (10,281) (+2.1%) (38.2%)   0 0 0 31.8% 6.8%   (million yen) (7074) (8,589) (+21.4%) (26.8%)   0 137 -31.5% 3.4% 10.0%   0 1 |  |

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