## July - September 2015 Results **Production and Shipments of Manipulators and Robots by Applications** [JARA Member Companies]

Number of units, ( ): million yen

	July - September 2014	July - September 2015	Change from 2014		
Production	33,342	34,708	+4.1%		
	(135,200)	(133,643)	(-1.2%)		

Shipments	July - September 2014			July - September 2015			Change from 2014			July - September 2014 (percentage distribution)			July - September 2015 (percentage distribution)		
Applications	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total	Domestic shipments	Exports	Total
Plastic moulding	661	1,307	1,968	725	1,138	1,863	+9.7%	-12.9%	-5.3%	8.7%	5.0%	5.9%	8.9%	4.2%	5.3%
Arc welding	985	4,217	5,202	925	3,640	4,565	-6.1%	-13.7%	-12.2%	12.9%	16.3%	15.5%	11.4%	13.4%	12.9%
Spot welding	1,024	4,415	5,439	828	5,083	5,911	-19.1%	+15.1%	+8.7%	13.5%	17.1%	16.2%	10.2%	18.7%	16.8%
Laser welding	7	74	81	8		8									
Others	10	13	23	20		20									
<b>Welding</b> Units	2,026	8,719	10,745	1,781	8,723	10,504	-12.1%	+0.0%	-2.2%	26.6%	33.7%	32.1%	21.9%	32.1%	29.8%
(million yen)	(8,263)	(22,182)	(30,445)	(8,620)	(23,926)	(32,546)	(+4.3%)	(+7.9%)	(+6.9%)	(24.3%)	(22.3%)	(22.8%)	(23.0%)	(24.7%)	(24.2%)
Painting	163	337	500	186	428	614	+14.1%	+27.0%	+22.8%	2.1%	1.3%	1.5%	2.3%	1.6%	1.7%
Loading/unloading	393	1,237	1,630	526	1,577	2,103	+33.8%	+27.5%	+29.0%	5.2%	4.8%	4.9%	6.5%	5.8%	6.0%
Mechanical cutting		10	10	2	3	5									
Grinding/deburring	38	12	50	40	17	57									
Others	9	3	12	12		12									
<b>Machining</b> Units	440	1,262	1,702	580	1,597	2,177	+31.8%	+26.5%	+27.9%	5.8%	4.9%	5.1%	7.1%	5.9%	6.2%
(million yen)	(1,011)	(1,932)	(2,944)	(1,513)	(2,716)	(4,229)	(+49.6%)	(+40.6%)	(+43.7%)	(3.0%)	(1.9%)	(2.2%)	(4.0%)	(2.8%)	(3.1%)
Surface Mount Technology	354	2,707	3,061	296	2,014	2,310	-16.4%	-25.6%	-24.5%	4.7%	10.5%	9.1%	3.6%	7.4%	6.6%
General Assembly	1,266	4,259	5,525	1,649	4,022	5,671	+30.3%	-5.6%	+2.6%	16.6%	16.5%	16.5%	20.3%	14.8%	16.1%
Other Assembly	20	56	76	31	107	138	+55.0%	+91.1%	+81.6%	0.3%	0.2%	0.2%	0.4%	0.4%	0.4%
Bonding															
Soldering	1		1												
Sealing/glueing	10	54	64	12	52	64									
Screwing	1		1	6		6									
Others	8	2	10	13	55	68									
<b>Assembly</b> Units	1,286	4,315	5,601	1,680	4,129	5,809	+30.6%	-4.3%	+3.7%	16.9%	16.7%	16.7%	20.7%	15.2%	16.5%
(million yen)	(8,919)	(48,907)	(57,826)	(9,102)	(39,526)	(48,627)	(+2.0%)	(-19.2%)	(-15.9%)	(26.3%)	(49.1%)	(43.3%)	(24.3%)	(40.7%)	(36.2%)
Palletizing/depalletizing	242	374	616	216	597	813	-10.7%	+59.6%	+32.0%	3.2%	1.4%	1.8%	2.7%	2.2%	2.3%
Material handling	1,438	5,352	6,790	1,521	6,064	7,585	+5.8%	+13.3%	+11.7%	18.9%	20.7%	20.3%	18.7%	22.3%	21.5%
FPD	35	102	137	53	243	296	+51.4%	+138.2%	+116.1%	0.5%	0.4%	0.4%	0.7%	0.9%	0.8%
Semiconductor	634	774	1,408	705	1,443	2,148	+11.2%	+86.4%	+52.6%	8.3%	3.0%	4.2%	8.7%	5.3%	6.1%
Others					1	1									
<b>Cleanroom</b> Units	669	876	1,545	758	1,687	2,445	+13.3%	+92.6%	+58.3%	8.8%	3.4%	4.6%	9.3%	6.2%	6.9%
(million yen)	(3,331)	(3,349)	(6,680)	(4,840)	(5,966)	(10,806)	(+45.3%)	(+78.1%)	(+61.8%)	(9.8%)	(3.4%)	(5.0%)	(12.9%)	(6.1%)	(8.0%)
Other applications	333	638	971	374	757	1,131	+12.3%	+18.7%	+16.5%	4.4%	2.5%	2.9%	4.6%	2.8%	3.2%
<b>Total</b> Units	7,612	25,887	33,499	8,117	27,134	35,251	+6.6%	+4.8%	+5.2%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(million yen)	(33,939)	(99,514)	(133,453)	(37,480)	(97,017)	(134,497)	(+10.4%)	(-2.5%)	(+0.8%)	(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.

## July - September 2015 Results Shipments of Manipulators and Robots by Industries [JARA Member Companies]

Number of units, ( ): million yen

Industries			0044	0045		of units, ( ):	
Metal products   366   574   +56.8%   4.8%   7.1%     Construction and mining machinery   39   37   -5.1%   0.5%     Metalworking machinery   192   156   -18.8%   2.5%   1.9%     Other machinery and equipment   168   398   +118.9%   2.5%   1.9%     Machinery and equipment   Units   399   591   +48.1%   5.2%   7.3%     Electronic computers   171   407   +138.0%   2.2%   5.0%     Consumer electrical machinery   171   407   +138.0%   2.2%   5.0%     Industrial electrical machinery   119   161   +35.3%   1.6%   2.0%     Communication equipment   229   182   -20.5%   3.0%   2.2%     Video and audio equipment   0 0 0   0.0%   0.0%     Electronic components/devices/circuits   691   678   -1.9%   9.1%   8.4%     Other electrical machinery   Units   1,933   2,260   +16.9%   25.4%   27.8%     Electrical machinery   Units   1,933   2,260   +16.9%   25.4%   27.8%     Motor vehicles   1,007   1,010   +0.3%   41.2%   13.2%   12.4%     Motor vehicles and auto parts   Units   2,834   2,768   -2.3%   37.2%   34.1%     Motor vehicles and auto parts   Units   2,834   2,768   -2.3%   37.2%   34.1%     Other transport equpment   (11,774)   (12,588   -2.3%   37.2%   34.1%     Other transport equpment   (11,774)   (12,588   -2.3%   37.2%   34.1%     Other industries   937   1,228   +31.1%   12.3%   15.1%     Non-manufacturing industry   0   45   1.2%   1.3%     Export   Units   25,887   27,134   +4.8%   (72.5%   77.3%   77.0%     Grand total   Units   33,499   35,251   +5.2%   100.0%   100.0%	Industries	2014	2015	Change			
Construction and mining machinery   192   156   -18.8%   2.5%   1.9%     Other machinery and equipment   Units   399   591   +48.1%     Machinery and equipment   Units   399   591   +48.1%     Machinery and equipment   Units   399   591   +48.1%     Electronic computers   (million yen)   (1,162)   (3,282)   (+182.5%)   (3.4%)   (8.8%)     Electronic computers   22   35   +9.4%   0.4%   0.4%     Consumer electrical machinery   119   161   +35.3%   1.6%   2.2%   5.0%     Industrial electrical machinery   119   161   +35.3%   1.6%   2.2%     Video and audio equipment   0   0   0.0%   0.0%     Electronic components/devices/circuits   691   678   -1.9%   9.1%   8.4%     Other electrical machinery   Units   1,933   2,260   +16.9%   25.4%   27.8%     Electrical machinery   Units   1,933   2,260   +16.9%   25.4%   27.8%     Electrical machinery   (million yen)   (11,167)   (11,066)   (-0.9%)     Precision instruments   88   103   +17.0%   13.2%   12.4%     Auto parts   Units   2,834   2,768   -2.3%   37.2%   34.1%     Motor vehicles and auto parts   Units   2,834   2,768   -2.3%   37.2%   34.1%     Motor vehicles and auto parts   Units   2,834   2,768   -2.3%   37.2%   34.1%     Motor vehicles and auto parts   Units   2,834   2,768   -2.3%   37.2%   34.1%     Motor vehicles and auto parts   Units   2,834   2,768   -2.3%   37.2%   34.1%     Motor vehicles and auto parts   Units   2,834   2,768   -2.3%   37.2%   34.1%     Motor vehicles and auto parts   Units   2,834   2,768   -2.3%   37.2%   34.1%     Motor vehicles and auto parts   Units   2,834   2,768   -2.3%   37.2%   34.1%     Motor vehicles and auto parts   Units   2,834   2,768   -2.3%   37.2%   34.1%     Motor vehicles and auto parts   Units   2,834   2,768   -2.3%   37.2%   34.1%     Motor vehicles and auto parts   Units   2,834   2,768   -2.3%   37.2%   34.1%     Motor vehicles and auto parts   Units   2,834   2,768   -2.3%   37.2%   37.2%   34.1%     Motor vehicles and auto parts   Units   2,834   2,768   -2.3%   37.2%   37.2%   37.2%   37.2%   37.2%   37.2					2014		
Metalworking machinery   192   156   -18.8%   2.5%   1.9%     Other machinery and equipment   168   398   +136.9%   2.2%   4.9%     Machinery and equipment   Units   399   591   +48.1%   5.2%   7.3%     Electronic computers   32   35   +9.4%   0.4%   0.4%     Consumer electrical machinery   171   407   +138.0%   2.2%   5.0%     Industrial electrical machinery   119   161   +35.3%   1.6%   2.0%     Communication equipment   229   182   -20.5%   3.0%   2.2%     Video and audio equipment   0   0   0.0%   0.0%     Electronic components/devices/circuits   691   678   -1.9%   9.1%   8.4%     Other electrical machinery   Units   1,933   2,260   +16.9%   25.4%   27.8%     Electrical machinery   Units   1,933   2,260   +16.9%   25.4%   27.8%     Precision instruments   1,007   1,010   +0.3%   13.2%   12.4%     Auto parts   1,007   1,010   +0.3%   13.2%   12.4%     Auto parts   1,827   1,758   -3.8%   24.0%   21.7%     Motor vehicles and auto parts   Units   2,834   2,768   -2.3%   37.2%   34.1%     (million yen)   (11,774)   (12,588)   (+6.9%)   (34.7%)   (33.6%)     Other transport equpment   (49)   (60)   (+22.4%)   (0.6%)   (0.7%)     Food products   688   282   -59.0%   9.0%   3.5%     Other industries   937   1,228   +31.1%     Non-manufacturing industry   0   45   (10.0%)   (100.0%)     Export   Units   25,887   27,134   +4.8%   77.3%   77.0%     (million yen)   (99,514)   (97,017)   (-2.5%)   (74.6%)   (72.1%)     Grand total   Units   33,499   35,251   +5.2%   100.0%   100.0%	•						
Other machinery and equipment							
Machinery and equipment   Units (million yen)   (1,162)   (3,282)   (+182.5%)   (3.4%)   (8.8%)   (8.8%)							
Consumer electrical machinery					l		
Electronic computers	Machinery and equipment						
Consumer electrical machinery		(million yen)	(1,162)	(3,282)	(+182.5%)	(3.4%)	(8.8%)
Industrial electrical machinery	Electronic computers		32	35	+9.4%	0.4%	0.4%
Communication equipment	Consumer electrical machinery		171	407	+138.0%	2.2%	5.0%
Video and audio equipment   0   0   0   0.0%   0.0%   0.0%   Electronic components/devices/circuits   691   678   -1.9%   9.1%   8.4%   9.1%   9.8%   9.8%   9.1%   9.8%   9.8%   9.1%   9.8%   9.8%   9.1%   9.8%   9.8%   9.1%   9.8%   9.8%   9.1%   9.8%   9.8%   9.1%   9.8%   9.8%   9.9%   9.2%	Industrial electrical machinery		119	161	+35.3%	1.6%	2.0%
Electronic components/devices/circuits   691   678   -1.9%   9.1%   8.4%     Other electrical machinery   Units   1,933   2,260   +16.9%   25.4%   27.8%     (million yen)   (11,167)   (11,066)   (-0.9%)   (32.9%)   (29.5%)     Precision instruments   88   103   +17.0%   1.2%   1.3%     Motor vehicles   1,007   1,010   +0.3%   13.2%   12.4%     Auto parts   1,827   1,758   -3.8%   24.0%   21.7%     Motor vehicles and auto parts   Units   2,834   2,768   -2.3%   37.2%   34.1%     (million yen)   (11,774)   (12,588)   (+6.9%)   (34.7%)   (33.6%)     Other transport equpment   (49)   (60)   (+22.4%)   (0.6%)   (0.7%)     Food products, beverages, and tobacco products   192   131   -31.8%   2.5%   1.6%     Chemical products   126   75   -40.5%   1.7%   0.9%     Plastic products   688   282   -59.0%   9.0%   3.5%     Other industries   937   1,228   +31.1%   12.3%   15.1%     Non-manufacturing industry   0   45   0.0%   0.6%     Total domestic shipments   Units   7,612   8,117   +6.6%   100.0%   100.0%     (million yen)   (33,939)   (37,480)   (+10.4%)   (25.4%)   (27.9%)     Export   Units   25,887   27,134   +4.8%   77.3%   77.0%     (million yen)   (99,514)   (97,017)   (-2.5%)   (74.6%)   (72.1%)     Grand total   Units   33,499   35,251   +5.2%   100.0%   100.0%	Communication equipment		229	182	-20.5%	3.0%	2.2%
Other electrical machinery	Video and audio equipment					0.0%	0.0%
Comparison   Com	Electronic components/devices/circ	cuits	691	678	-1.9%	9.1%	8.4%
Motor vehicles	Other electrical machinery		691	797	+15.3%	9.1%	9.8%
Notor vehicles	Electrical machinery	Units	1,933	2,260	+16.9%	25.4%	27.8%
Motor vehicles		(million yen)	(11,167)	(11,066)	(-0.9%)	(32.9%)	(29.5%)
Auto parts	Precision instruments	88	103	+17.0%	1.2%	1.3%	
Motor vehicles and auto parts   Units   2,834   2,768   -2.3%   (million yen)   (11,774)   (12,588)   (+6.9%)   (34.7%)   (33.6%)	Motor vehicles		1,007	1,010	+0.3%	13.2%	12.4%
(million yen)         (11,774)         (12,588)         (+6.9%)         (34.7%)         (33.6%)           Other transport equpment         (49)         (60)         (+22.4%)         (0.6%)         (0.7%)           Food products, beverages, and tobacco products         192         131         -31.8%         2.5%         1.6%           Chemical products         126         75         -40.5%         1.7%         0.9%           Plastic products         688         282         -59.0%         9.0%         3.5%           Other industries         937         1,228         +31.1%         12.3%         15.1%           Non-manufacturing industry         0         45         0.0%         0.6%           Total domestic shipments         Units         7,612         8,117         +6.6%         100.0%         100.0%           (million yen)         (33,939)         (37,480)         (+10.4%)         (100.0%)         (25.4%)         (27.9%)           Export         Units         25,887         27,134         +4.8%         77.3%         77.0%           (million yen)         (99,514)         (97,017)         (-2.5%)         (74.6%)         (72.1%)           Grand total         Units         33,499	Auto parts		1,827	1,758	-3.8%	24.0%	21.7%
Other transport equpment         (49)         (60)         (+22.4%)         (0.6%)         (0.7%)           Food products, beverages, and tobacco products         192         131         -31.8%         2.5%         1.6%           Chemical products         126         75         -40.5%         1.7%         0.9%           Plastic products         688         282         -59.0%         9.0%         3.5%           Other industries         937         1,228         +31.1%         12.3%         15.1%           Non-manufacturing industry         0         45         0.0%         0.6%           Total domestic shipments         Units         7,612         8,117         +6.6%         100.0%         100.0%           (million yen)         (33,939)         (37,480)         (+10.4%)         (25.4%)         (27.9%)           Export         Units         25,887         27,134         +4.8%         77.3%         77.0%           (million yen)         (99,514)         (97,017)         (-2.5%)         (74.6%)         (72.1%)           Grand total         Units         33,499         35,251         +5.2%         100.0%         100.0%	Motor vehicles and auto parts	Units	2,834	2,768	-2.3%	37.2%	34.1%
Food products, beverages, and tobacco products   192   131   -31.8%   Chemical products   126   75   -40.5%   1.7%   0.9%   Plastic products   688   282   -59.0%   9.0%   3.5%   Other industries   937   1,228   +31.1%   12.3%   15.1%   Non-manufacturing industry   0   45   0.0%   0.6%   Total domestic shipments   Units   7,612   8,117   +6.6%   22.7%   23.0%   (million yen)   (33,939)   (37,480)   (+10.4%)   (100.0%)   (25.4%)   (27.9%)   Export   Units   25,887   27,134   +4.8%   (77.3%   77.0%   (74.6%)   (72.1%)   Grand total   Units   33,499   35,251   +5.2%   100.0%   100.0%	_	(million yen)	(11,774)	(12,588)	(+6.9%)	(34.7%)	(33.6%)
Chemical products         126         75         -40.5%         1.7%         0.9%           Plastic products         688         282         -59.0%         9.0%         3.5%           Other industries         937         1,228         +31.1%         12.3%         15.1%           Non-manufacturing industry         0         45         0.0%         0.6%           Total domestic shipments         Units         7,612         8,117         +6.6%         100.0%         100.0%           (million yen)         (33,939)         (37,480)         (+10.4%)         (100.0%)         (25.4%)         (27.9%)           Export         Units         25,887         27,134         +4.8%         77.3%         77.0%           (million yen)         (99,514)         (97,017)         (-2.5%)         (74.6%)         (72.1%)           Grand total         Units         33,499         35,251         +5.2%         100.0%         100.0%	Other transport equpment	•	(49)	(60)	(+22.4%)	(0.6%)	(0.7%)
Plastic products	Food products, beverages, and toba	192	131	-31.8%	2.5%	1.6%	
Other industries         937         1,228         +31.1%         12.3%         15.1%           Non-manufacturing industry         0         45         0.0%         0.6%           Total domestic shipments         Units         7,612         8,117         +6.6%         100.0%         22.7%         23.0%           (million yen)         Units         25,887         27,134         +4.8%         (72.1%)           Export         Units         25,887         27,134         +4.8%         77.3%         77.0%           (million yen)         (99,514)         (97,017)         (-2.5%)         (74.6%)         (72.1%)           Grand total         Units         33,499         35,251         +5.2%         100.0%         100.0%	Chemical products	-	126	75	-40.5%	1.7%	0.9%
Non-manufacturing industry         0         45         0.0%         0.6%           Total domestic shipments         Units         7,612         8,117         +6.6%         100.0%         100.0%         22.7%         23.0%         23.0%         (100.0%)         (100.0%)         (25.4%)         (27.9%)         27.134         +4.8%         77.3%         77.0%         77.0%         (74.6%)         (72.1%)         77.3%         77.0%         77.0%         77.0%         77.1%         77.0%         77.0%         77.1%         77.0%         77.0%         77.0%         77.0%         77.1%         77.0%         77.1%         7	Plastic products		688	282	-59.0%	9.0%	3.5%
Non-manufacturing industry   0   45     0.0%   0.6%         Total domestic shipments   Units   7,612   8,117   +6.6%   22.7%   23.0%       (million yen)   (33,939)   (37,480)   (+10.4%)   (100.0%)   (25.4%)   (27.9%)       Export   Units   25,887   27,134   +4.8%   (71.3%   77.0%   (74.6%)   (72.1%)     Grand total   Units   33,499   35,251   +5.2%   100.0%   100.0%	_		937	1,228	+31.1%	12.3%	15.1%
Total domestic shipments         Units         7,612         8,117         +6.6%         100.0%         100.0%           (million yen)         (33,939)         (37,480)         (+10.4%)         (100.0%)         (100.0%)         (100.0%)         (25.4%)         (27.9%)           Export         Units         25,887         27,134         +4.8%         77.3%         77.0%           (million yen)         (99,514)         (97,017)         (-2.5%)         (74.6%)         (72.1%)           Grand total         Units         33,499         35,251         +5.2%         100.0%         100.0%	Non-manufacturing industry	0	45		0.0%	0.6%	
(million yen)         (33,939)         (37,480)         (+10.4%)         (100.0%)         (25.4%)         (27.9%)           Export         Units (million yen)         25,887 (99,514)         27,134 (97,017)         +4.8% (77.3%)         77.0% (74.6%)         77.1%)           Grand total         Units (33,939)         35,251 (97,017)         +5.2%         100.0%         100.0%	Total domestic shipments	Units	7,612	8,117	+6.6%	100.0%	100.0%
(million yen)         (33,939)         (37,480)         (+10.4%)         (100.0%)         (25.4%)         (27.9%)           Export         Units (million yen)         25,887 (99,514)         27,134 (97,017)         +4.8% (77.3%)         77.0% (74.6%)         77.1%)           Grand total         Units (33,939)         35,251 (97,017)         +5.2%         100.0%         100.0%	·		·			22.7%	23.0%
Export     Units (million yen)     25,887 (99,514)     27,134 (97,017)     +4.8% (77.3% (72.1%)       Grand total     Units (33,499)     35,251 (35.2%)     +5.2%     100.0%     100.0%		(million ven)	(33.939)	(37.480)	(+10.4%)		
Export         Units (million yen)         25,887 (99,514)         27,134 (97,017)         +4.8% (77.3% (72.1%)           Grand total         Units (33,499)         35,251 (35.25)         +5.2% (74.6%)         100.0% (70.0%)		, , , , , , , , , , , , , , , , , , , ,	(==,==,=	( , , , , , ,		` '	` /
(million yen)         (99,514)         (97,017)         (-2.5%)         (74.6%)         (72.1%)           Grand total         Units         33,499         35,251         +5.2%         100.0%         100.0%	Export	Units	25,887	27,134	+4.8%		
Grand total Units 33,499 35,251 +5.2% 100.0% 100.0%		(million yen)	,				
(million yen) (133,453) (134,497) (+0.8%) (100.0%) (100.0%)	Grand total						
		(million yen)	(133,453)	(134,497)	(+0.8%)	(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.