## January - March 2017 Results Production and Shipments of Manipulators and Robots by Applications [JARA Member Companies]

Number of units, (): million yen

	January - March 2016	January - March 2017	Change from 2016		
Production	36,920	47,438	28.5%		
	(138,955)	(157,974)	(13.7%)		

Shipments	Janu	ary - March	2016	January - March 2017			Change from 2016			January - March 2016 (percentage distribution)			January - March 2017 (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	864	1,322	2,186	858	1,412	2,270	-0.7%	6.8%	3.8%	8.4%	4.9%	5.9%	8.3%	3.9%	4.8%
Arc welding	996	3,748	4,744	1,033	4,142	5,175	3.7%	10.5%	9.1%	9.6%	14.0%	12.8%	10.0%	11.3%	11.0%
Spot welding	1,671	4,273	5,944	1,179	4,663	5,842	-29.4%	9.1%	-1.7%	16.2%	16.0%	16.0%	11.5%	12.7%	12.4%
Laser welding	5	32	37	18	2	20									
Others	11	1	12	4	159	163									
Welding Units	2,683	8,054	10,737	2,234	8,966	11,200	-16.7%	11.3%	4.3%	26.0%	30.1%	29.0%	21.7%	24.5%	23.9%
(million yen)	(12,573)	(20,881)	(33,454)	(11,117)	(22,998)	(34,115)	(-11.6%)	(10.1%)	(2.0%)	(26.2%)	(23.2%)	(24.2%)	(22.9%)	(20.5%)	(21.3%)
Painting	256	339	595	300	730	1,030	17.2%	115.3%	73.1%	2.5%	1.3%	1.6%	2.9%	2.0%	2.2%
Loading/unloading	525	1,079	1,604	446	2,829	3,275	-15.0%	162.2%	104.2%	5.1%	4.0%	4.3%	4.3%	7.7%	7.0%
Mechanical cutting		1	1	3		3									
Grinding/deburring	56	7	63	66	103	169									
Others	39		39	15	3	18									
Machining Units	620	1,087	1,707	530	2,935	3,465	-14.5%	170.0%	103.0%	6.0%	4.1%	4.6%	5.2%	8.0%	7.4%
(million yen)	(1,800)	(2,108)	(3,908)	(1,744)	(3,245)	(4,989)	(-3.1%)	(53.9%)	(27.7%)	(3.7%)	(2.3%)	(2.8%)	(3.6%)	(2.9%)	(3.1%)
Surface Mount Technology	338	1,859	2,197	291	2,363	2,654	-13.9%	27.1%	20.8%	3.3%	7.0%	5.9%	2.8%	6.4%	5.7%
General Assembly	1,786	4,102	5,888	1,463	5,524	6,987	-18.1%	34.7%	18.7%	17.3%	15.4%	15.9%	14.2%	15.1%	14.9%
Other Assembly	88	141	229	78	145	223	-11.4%	2.8%	-2.6%	0.9%	0.5%	0.6%	0.8%	0.4%	0.5%
Bonding	2		2												
Soldering															
Sealing/glueing	61	31	92	59	47	106									
Screwing	3		3	4	1	5									
Others	22	110	132	15	97	112									
<b>Assembly</b> Units	1,874	4,243	6,117	1,541	5,669	7,210	-17.8%	33.6%	17.9%	18.1%	15.9%	16.5%	15.0%	15.5%	15.4%
(million yen)	(3,617)	(5,069)	(8,686)	(3,290)	(6,364)	(9,654)	(-9.1%)	(25.5%)	(11.1%)	(7.5%)	(5.6%)	(6.3%)	(6.8%)	(5.7%)	(6.0%)
Palletizing/depalletizing	250	436	686	247	689	936	-1.2%	58.0%	36.4%	2.4%	1.6%	1.9%	2.4%	1.9%	2.0%
Material handling	1,857	6,765	8,622	2,159	10,796	12,955	16.3%	59.6%	50.3%	18.0%	25.3%	23.3%	21.0%	29.4%	27.6%
FPD	89	87	176	58	146	204	-34.8%	67.8%	15.9%	0.9%	0.3%	0.5%	0.6%	0.4%	0.4%
Semiconductor	898	1,623	2,521	1,306	2,326	3,632	45.4%	43.3%	44.1%	8.7%	6.1%	6.8%	12.7%	6.3%	7.7%
Others															
Cleanroom Units		1,710	2,697	1,364	2,472	3,836	38.2%	44.6%	42.2%	9.6%		7.3%	13.3%	6.7%	8.2%
(million yen)		(5,242)	(11,070)	(7,370)	(7,135)	(14,505)	(26.5%)	(36.1%)	(31.0%)	(12.1%)	(5.8%)	(8.0%)	(15.2%)	(6.4%)	(9.0%)
Other applications	599	905	1,504	765	631	1,396	27.7%	-30.3%	-7.2%	5.8%		4.1%	7.4%	1.7%	3.0%
<b>Total</b> Units	10,328	26,720	37,048	10,289	36,663	46,952	-0.4%	37.2%	26.7%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(million yen)	(48,052)	(90,059)	(138,111)	(48,466)	(112,058)	(160,524)	(0.9%)	(24.4%)	(16.2%)	(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.

## January - March 2017 Results Shipments of Manipulators and Robots by Industries [JARA Member Companies]

Number of units, (): million yen

		Number of units, ( ) : million yet  2016 2017 Change Percentage distribution							
Industries	2016	2016 2017		Percentage distribution					
	Jan Mar.	Jan Mar.	from 2016	2016	2017				
Metal products	472	644	36.4%	4.6%	6.3%				
Construction and mining mac	38	16	-57.9%	0.4%	0.2%				
Metalworking machinery		156	127	-18.6%	1.5%	1.2%			
Other machinery and equipm	ent	557	548	-1.6%	5.4%	5.3%			
Machinery and equipment	Units	751	691	-8.0%	7.3%	6.7%			
	(million yen)	(3,606)	(3,768)	(4.5%)	(7.5%)	(7.8%)			
Electronic computers		12	19	58.3%	0.1%	0.2%			
Consumer electrical machine	ry	536	489	-8.8%	5.2%	4.8%			
Industrial electrical machinery	<i>'</i>	179	298	66.5%	1.7%	2.9%			
Communication equipment		163	145	-11.0%	1.6%	1.4%			
Video and audio equipment		1	4		0.0%	0.0%			
Electronic components/device	674	1,235	83.2%	6.5%	12.0%				
Other electrical machinery		881	707	-19.8%	8.5%	6.9%			
Electrical machinery	Units	2,446	2,897	18.4%	23.7%	28.2%			
	(million yen)	(12,605)	(14,011)	(11.2%)	(26.2%)	(28.9%)			
Precision instruments		119	111	-6.7%	1.2%	1.1%			
Motor vehicles		1,904	1,662	-12.7%	18.4%	16.2%			
Auto parts		2,244	2,036	-9.3%	21.7%	19.8%			
Motor vehicles and auto parts	Units	4,148	3,698	-10.8%	40.2%	35.9%			
	(million yen)	(17,536)	(15,949)	(-9.1%)	(36.5%)	(32.9%)			
Other transport equpment	64	80	25.0%	0.6%	0.8%				
Food products, beverages, and tobac	144	207	43.8%	1.4%	2.0%				
Chemical products		109	95	-12.8%	1.1%	0.9%			
Plastic products		381	304	-20.2%	3.7%	3.0%			
Other industries		1,624	1,467	-9.7%	15.7%	14.3%			
Non-manufacturing industry		70	95		0.7%	0.9%			
Total domestic shipments	Units	10,328	10,289	-0.4%	100.0%	100.0%			
•					(27.9%)	(21.9%)			
	(million yen)	(48,052)	(48,466)	(0.9%)	(100.0%)	(100.0%)			
	. , ,	, ,		`	(34.8%)	(30.2%)			
Export	Units	26,720	36,663	37.2%	(72.1%)	(78.1%)			
	(million yen)	(90,059)	(112,058)	(24.4%)	(65.2%)	(69.8%)			
Grand total	Units	37,048	46,952	26.7%	(100.0%)	(100.0%)			
	(million yen)	(138,111)	(160,524)	(16.2%)	(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.