

FY2015 Financial Results (Ended March 20, 2016)

FY2016 Financial Forecasts (Ending March 20, 2017)

YASKAWA ELECTRIC CORPORATION (TSE 6506)

April 20, 2016

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Business Overview

Motion Control (M)

[Core products]

- AC servo motors and controllers
- Linear servo motors
- AC drives
- Power conditioners
- Motor drive systems for EV etc.



AC servo drives



General purpose AC drive



Power conditioner for photovoltaic power generation



Motor drive system for EV



Robotics (R)

[Core products]

- Industrial Robots
 - Arc and spot welding robots, Painting robots
 - FPD glass sheet transfer robots, New generation robots, Handling robots,
- Semiconductor wafer transfer robots
- Biomedical robots etc.



New spot-welding robot with 7 axes



Robot system for preprocessing operations



Delta robot

System Engineering (S)

[Core products]

- Electrical systems for steel plants
- Electrical instrumentation systems for water supply plants and sewage treatment facilities
- Large-scale wind power generator and converter etc.



Large-scale wind power generator and converter



Continuous-casting machine



Electrical instrumentation systems for water and sewerage

Other

[Core products]

- IT-related services
- Logistics, etc.

1. FY2015 Financial Results (Ended March 20, 2016)

FY2015 Financial Highlights

- Sales, operating income and ordinary income were record high**

	<u>FY2015 Results</u>	FY2015 forecasts	Changes from the forecasts	FY2014 Results	<u>Changes</u>	
					<u>Amounts</u>	<u>%</u>
Net sales	<u>¥ 411.3bn.</u>	¥ 410.0bn.	+¥ 1.3bn.	¥ 400.2bn.	<u>+¥ 11.1bn.</u>	<u>+2.8%</u>
Operating income	<u>¥ 36.7bn.</u>	¥ 35.5bn.	+¥ 1.2bn.	¥ 31.5bn.	<u>+¥ 5.2bn.</u>	<u>+16.5%</u>
Ordinary income	<u>¥ 35.8bn.</u>	¥ 35.5bn.	+¥ 0.3bn.	¥ 33.9bn.	<u>+¥ 1.9bn.</u>	<u>+5.8%</u>
Net income	<u>¥ 22.4bn.</u>	¥ 23.0bn.	-¥ 0.6bn.	¥ 24.8bn.	<u>-¥ 2.5bn.</u>	<u>-9.9%</u>

Notes: The figures of FY2015 forecasts were announced on January 20, 2016

FY2015 Financial Highlights by Business Segment (1)

- **(R) led the growth in both sales and profits, that was sustained by firm demand**

(Unit: Billions of yen)

		FY2015		FY2015		Change from Forecasts	FY2014		Changes	
		Results	Income ratio	Forecasts	Income ratio		Results	Income ratio	Amounts	%
Net sales		411.3		410.0		+1.3	400.2		+11.1	+2.8%
(M)	Motion Control	187.5		186.0		+1.5	188.1		-0.6	-0.3%
(R)	Robotics	154.1		153.5		+0.6	136.0		+18.1	+13.3%
(S)	System Engineering	43.1		42.0		+1.1	41.0		+2.1	+5.1%
	Other	26.6		28.5		-1.9	35.1		-8.5	-24.2%
Operating income		36.7	8.9%	35.5	8.7%	+1.2	31.5	7.9%	+5.2	+16.5%
(M)	Motion Control	22.4	12.0%	20.7	11.1%	+1.8	21.7	11.6%	+0.7	+3.1%
(R)	Robotics	15.3	9.9%	16.2	10.6%	-0.9	10.6	7.8%	+4.7	+44.9%
(S)	System Engineering	-0.8	-	-1.1	-	+0.4	-0.8	-	+0.0	-
	Other	0.9	3.2%	0.9	3.3%	-0.1	1.3	3.6%	-0.4	-33.1%
	Elimination or Corporate	-1.1	-	-1.2	-	+0.1	-1.3	-	+0.2	-
Ordinary income		35.8	8.7%	35.5	8.7%	+0.3	33.9	8.5%	+1.9	+5.8%
Net income		22.4	5.4%	23.0	5.6%	-0.6	24.8	6.2%	-2.5	-9.9%

Notes: The figures of FY2015 forecasts were announced on January 20, 2016

FY2015 Financial Highlights by Business Segment (2)

Motion Control

- Sales of AC servo were led by the machine tool and the semiconductor industries in the U.S., although smart phone- and automotive-related demand in China was weak in 2H. The profitability improved as switch to the new product progressed.
- The demand of AC drive was sluggish in the U.S. oil/gas industry and the Chinese infrastructure markets. However, the overall sales were firm as the PV inverter sales of Solectia Renewables, LLC contributed.

Robotics

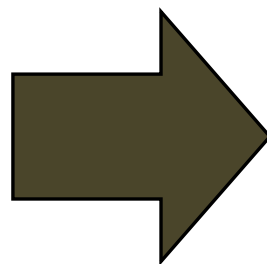
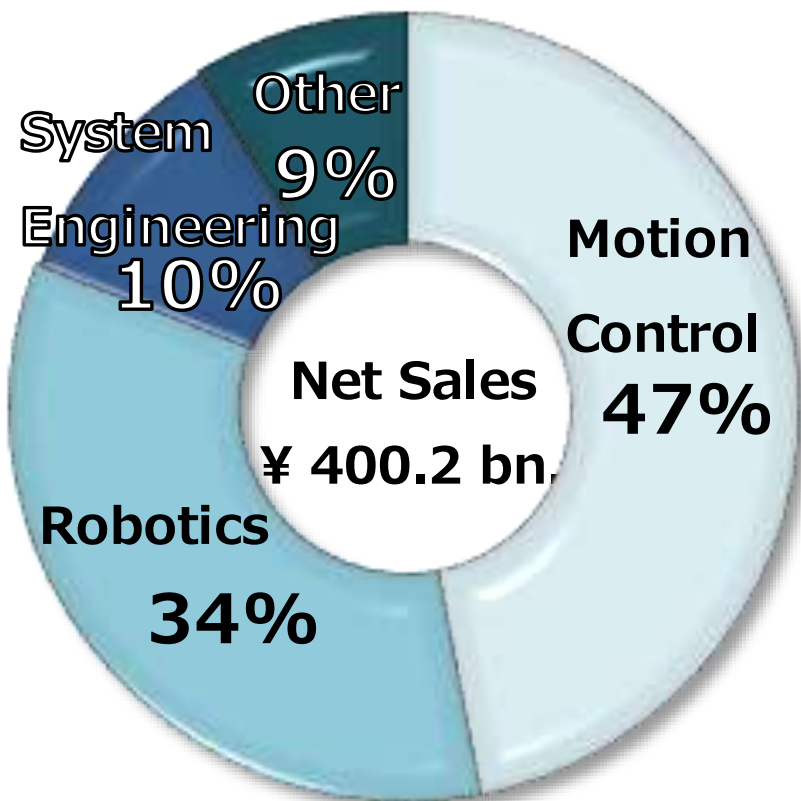
- The global automotive demand was strong especially in the U.S. and Europa, while the demand in China deteriorated in 2H.
- The non-automotive sales such as food industry expanded through robot centers.

System Engineering

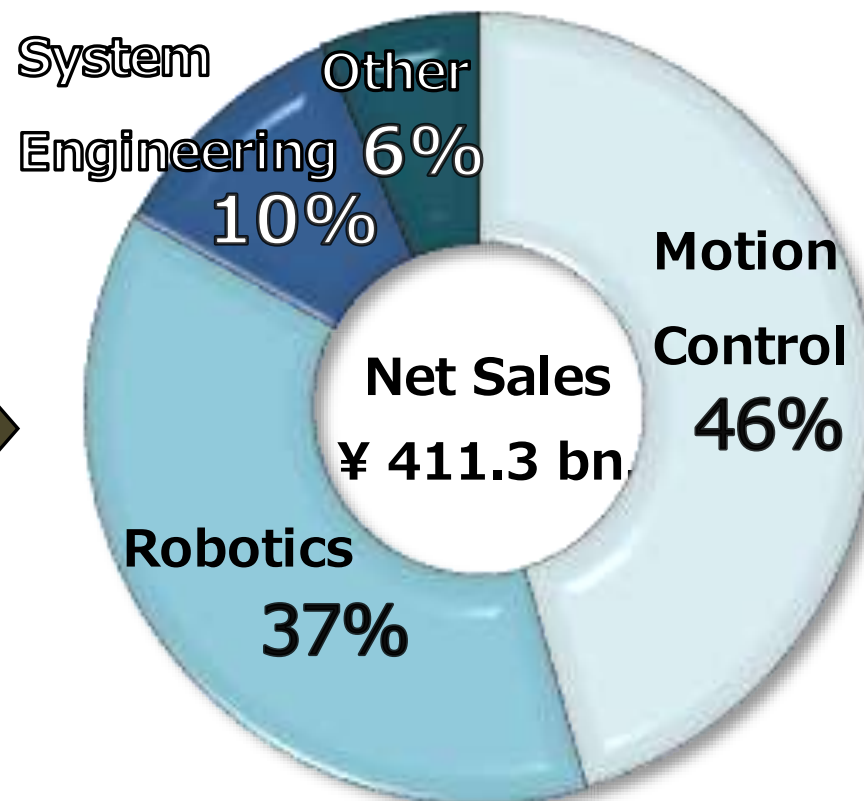
- The demand for steel plant and social system were solid.
- The sales in the large-scale wind generation increased by contribution from The Switch Engineering Oy in Finland.

Sales Breakdown by Business Segment

FY2014



FY2015



Sales Breakdown by Destination (1) (FY2014→FY2015)

- **Overseas sales expanded due to growth in the Americas and Europa**

(Unit: Billions of yen)

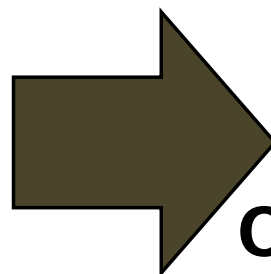
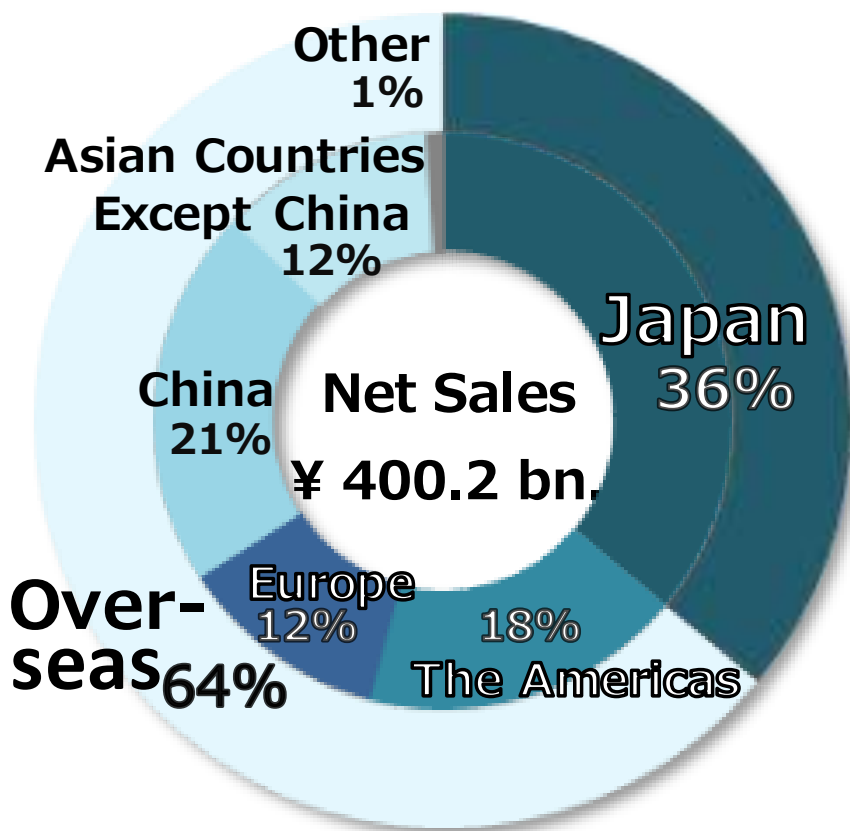
		FY2015	FY2014	Changes	
				Amounts	%
Net sales		411.3	400.2	+11.1	+2.8%
	Japan	135.5	144.2	-8.8	-6.1%
	Overseas	275.8	255.9	+19.9	+7.8%
	The Americas	85.1	72.6	+12.5	+17.2%
	Europe	52.0	46.9	+5.1	+10.8%
	China	81.9	85.0	-3.1	-3.6%
	Asian Countries Except China	52.4	47.8	+4.6	+9.6%
	Other	4.4	3.6	+0.8	+21.7%

Note: "Other" category includes Australia and South Africa, etc.

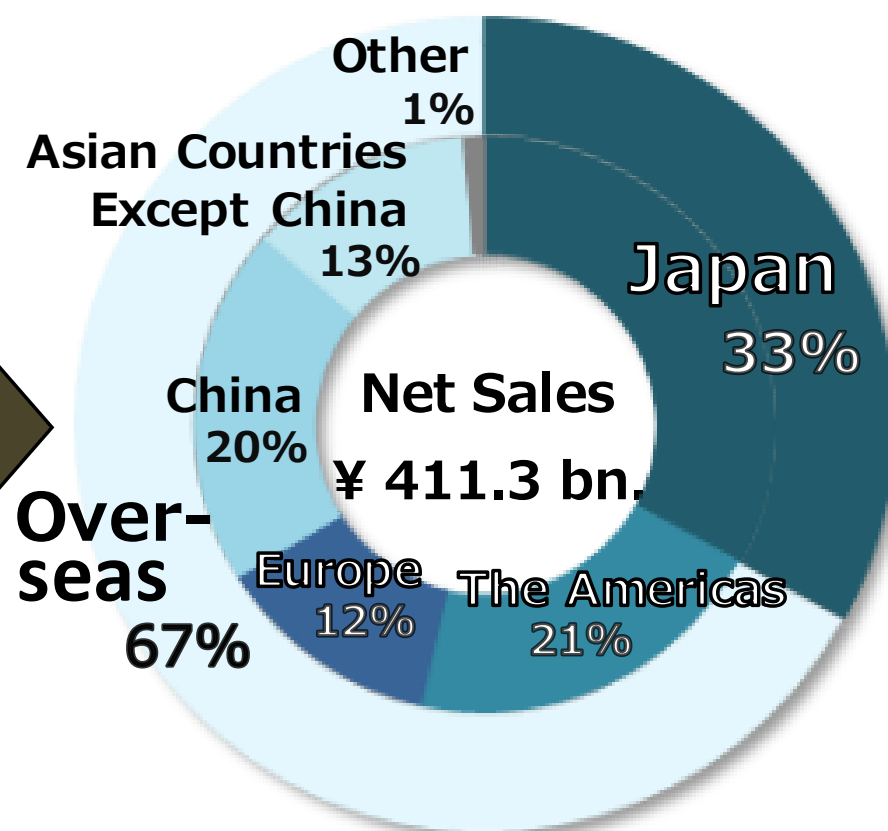
Sales Breakdown by Destination (2)

- Overseas sales ratio expanded mainly due to growth in the Americas

FY2014

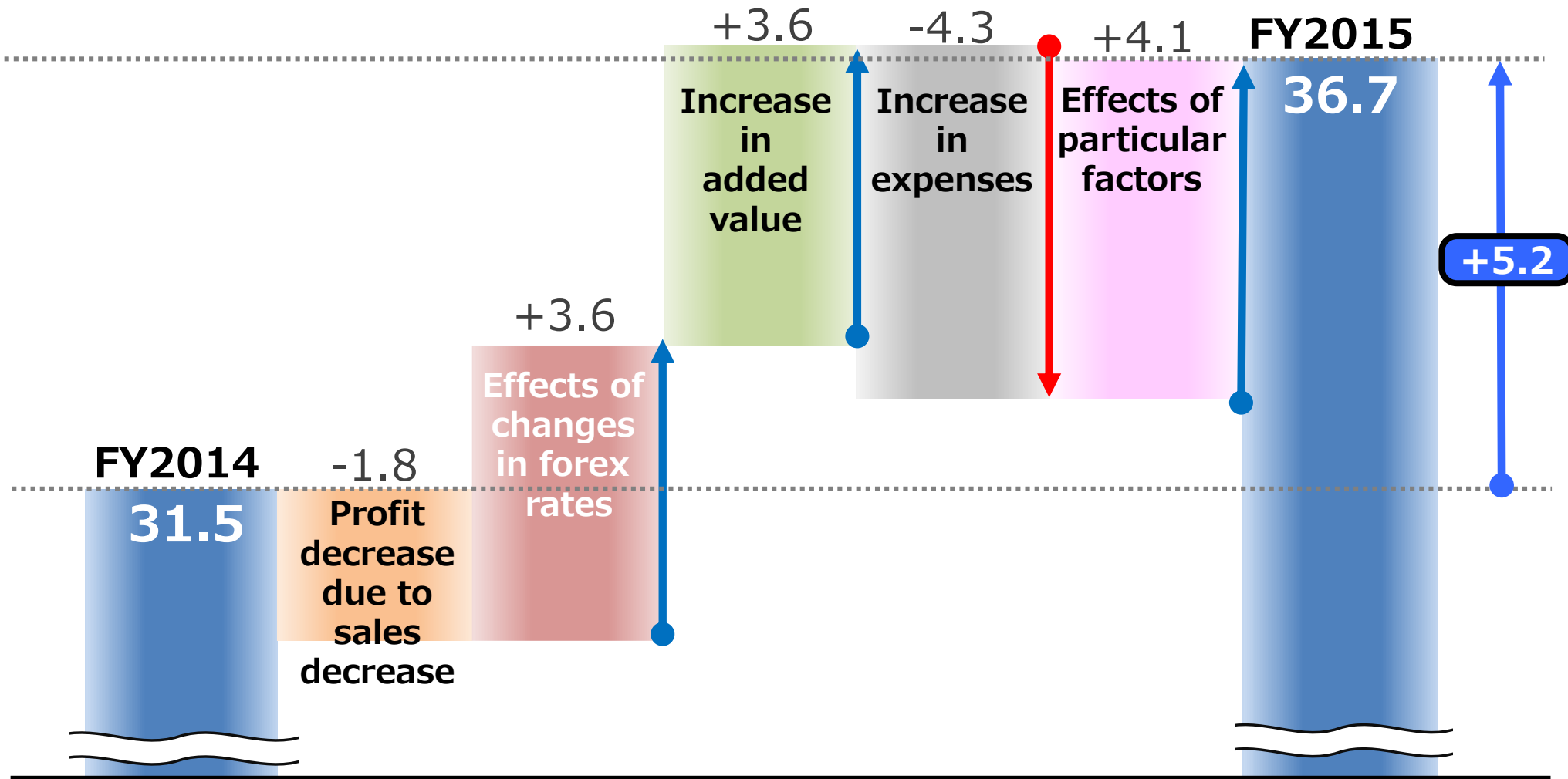


FY2015



Breakdown of Changes in Operating Income (FY14→FY15)

(Units: Billions of yen)



Measures for FY2015 (1)

➤ Expand sales and profits from existing businesses

• Introduce AC servo motor “Σ-7” series

- Enhance introduction of Σ-7 in China
 - ➔ FY15 switch rate to Σ-7 series: Approx. 40%
(In China: Approx. 75%)



Σ-7 Series

• Expand sales of Matrix converter U1000

- Achieve low harmonics, energy saving and downsizing
 - ➔ Optimized for wide usage such as date center, hospital, air conditioning, compressor



Matrix Converter
U1000

• Increase sales to the general industries by robot centers

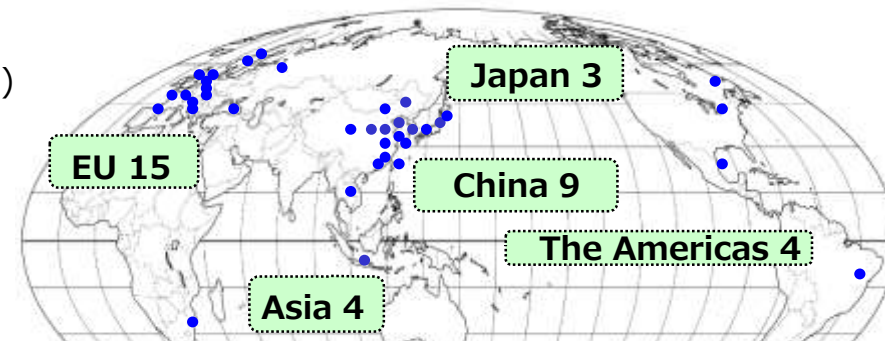
- Expand SI networks in general industries
- Established 4 Robot Centers in FY15
(Japan (Aichi), China (Foshan), (Changzhou) and Korea (Taegu))



Robot Center in Aichi



Robot Center in Tegu



31 (until FY14) + 4 (FY15) = 35 (As of March 20, 2016)

Measures for FY2015 (2)

➤ Reinforce development, production and sales capabilities

• Develop next generation products

- **New AC drive “Zero series”** (Launched in Apr. 2016)
 - ➔ Enhance market share for expanding product lineup optimized for different application by region and market
- **“2016 model” robots (MOTOMAN-GP series) and new robot controller** (It is scheduled to launch in Jun. 2016)
 - ➔ Fastest speed and slimmest shape with smallest controller in the world
- **World’s first SiC matrix converter**
 - ➔ Miniaturized and save electricity by sine wave of input and output voltage current
- **Human collaborative robot “MOTOMAN-HC10”**
 - ➔ Coexistence with humans without safety fences in accordance with International Standard
- **Servo motor with built-in amplifier utilizing GaN***
 - ➔ Downsizing (volume ratio: $\frac{1}{4}$) and higher efficiency (Electric loss reduced by 12% compared with conventional product)

*Compound of Ga (Gallium) and N (Nitrogen)



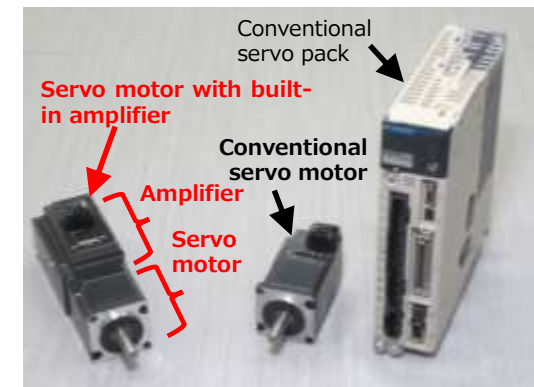
New AC drive
“Zero series”



MOTOMAN-GP8

New controller “YRC1000”

MOTOMAN-HC10



Servo motor with built-in amplifier

Measures for FY2015 (3)

➤ Reinforce development, production and sales capabilities

• Strengthen global production

- Global production capacity of 3,000 robots per month
(Japan: new factory started operation in Sep 2015 /
China: Production capacity to 600 robots per month)

• Collaborate with top home appliance manufacturer, Midea Group

- Established two joint robot venture companies in China
 - ➔ Progress robotization in home appliance production line
 - ➔ Develop the market of nursing and rehabilitation robots

• Alliance with Korean system integrator, Doolim

- Strengthen painting and sealing system



New robot factory (Japan)

➤ Expand new businesses over the world

• Expand large- scale wind turbine business with Switch

- Capture major windmill makers in the world
- Develop energy-saving system for vessels

• Expand PV inverter business

- Launched insulated-type PV inverter for residential use.
- Expand sales of the mega-solar domain in the U.S. with SOL



The Switch Engineering Oy

Measures for FY2015 (4)

➤ Fortify product development in Humatronics fields

- **Launch walking assist device “ReWalk” in Japan (May 2015)**

- Walking assist for spinal cord injury patients
- Sales promotion for hospital, institution and home

- **Rehabilitation device for lower limbs “LR²”**

- Promote sales for hospital in Japan and China
- Expand sales by joint venture company with Midea

- **Rehabilitation device of repeated therapy**

- **“Forearm pronation and supination training device” (Aug 2015)**

- Clinical research and evaluation was implemented for commercialization

- **Robot nursing care equipment**

- **“Indoor walk support device” in Dec 2015**

- Preparation for commercialization in 2H/FY16 as applied to promotion project for robot nursing care equipment by Ministry of Health, Labour and Welfare

*As a part of development and introduction promotion project for robot nursing care equipment by Ministry of Economy, Trade, and Industry Japan Agency for Medical Research and Development



Rehabilitation device for lower limbs “LR²”



ReWalk



Indoor Walk Support Device

2. FY2016 Financial Forecasts

FY2016 Financial Forecasts

- Sales and income are projected to decrease mainly due to the strong yen in FY 2016.**

	<u>FY2016 Forecast</u>	FY2015 Results	<u>Changes</u>	
			<u>Amounts</u>	<u>%</u>
Net sales	<u>¥ 400.0bn.</u>	¥ 411.3bn.	<u>-¥ 11.3bn.</u>	<u>-2.7%</u>
Operating income	<u>¥ 28.0bn.</u>	¥ 36.7bn.	<u>-¥ 8.7bn.</u>	<u>-23.8%</u>
Ordinary income	<u>¥ 28.5bn.</u>	¥ 35.8bn.	<u>-¥ 7.3bn.</u>	<u>-20.5%</u>
Net income	<u>¥ 18.0bn.</u>	¥ 22.4bn.	<u>-¥ 4.4bn.</u>	<u>-19.5%</u>

FY2016 Financial Forecasts by Business Segment

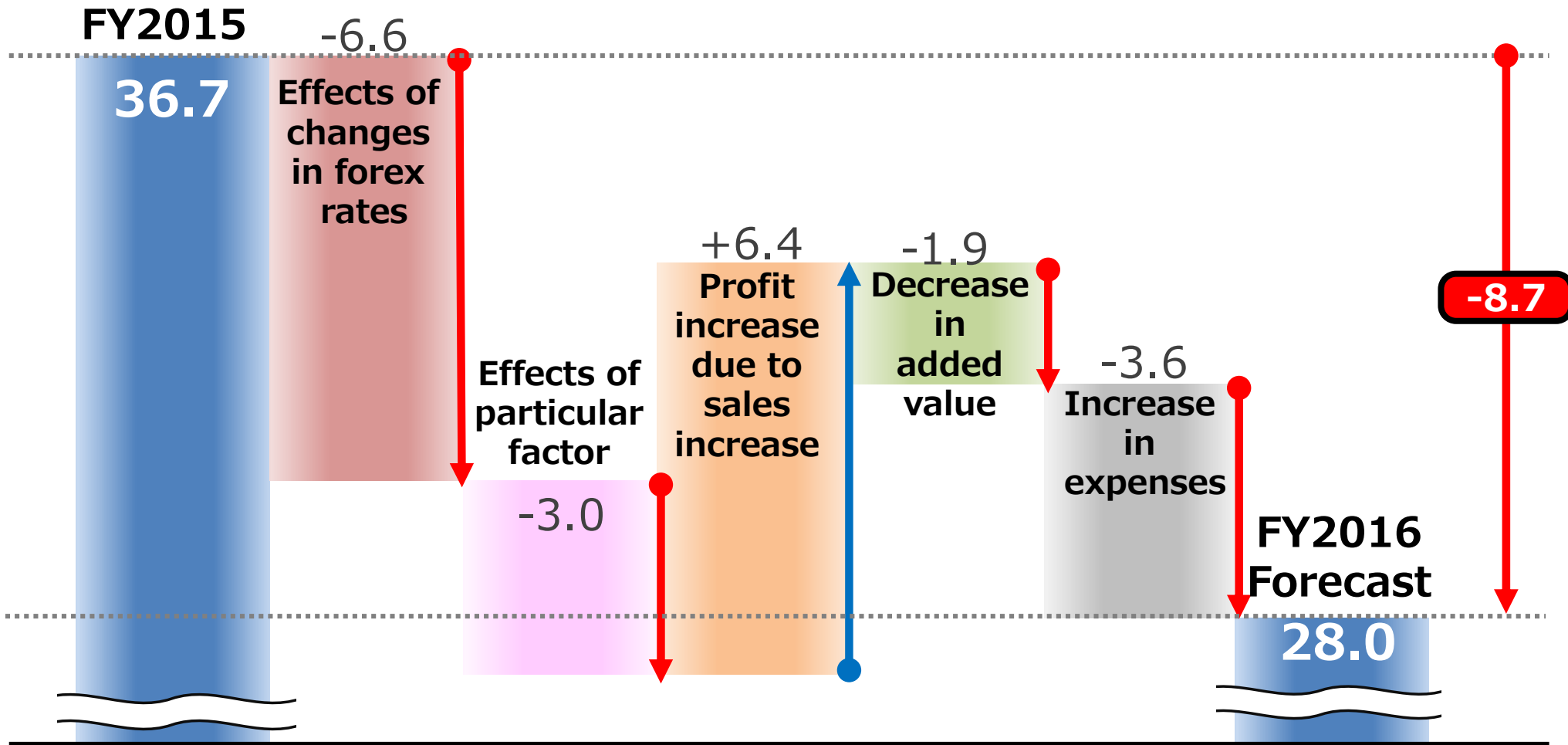
- Both sales and income of (M) and (R) decrease mainly due to the strong yen.
- (S) turns in profitable with increasing sales of The Switch.

(Unit: Billions of yen)

		FY2016		FY2015		Changes	
		Plan	Income ratio	Results	Income ratio	Amounts	%
Net sales		400.0		411.3		-11.3	-2.7%
(M)	Motion Control	180.0		187.5		-7.5	-4.0%
(R)	Robotics	150.0		154.1		-4.1	-2.6%
(S)	System Engineering	47.0		43.1		+3.9	+9.2%
	Other	23.0		26.6		-3.6	-13.5%
Operating income		28.0	7.0%	36.7	8.9%	-8.7	-23.8%
(M)	Motion Control	17.4	9.7%	22.4	12.0%	-5.0	-22.4%
(R)	Robotics	11.3	7.5%	15.3	9.9%	-4.0	-26.2%
(S)	System Engineering	0.1	0.2%	-0.8	-	+0.9	-
	Other	0.3	1.3%	0.9	3.2%	-0.6	-64.9%
	Elimination or Corporate	-1.1	-	-1.1	-	-0.0	-
Ordinary income		28.5	7.1%	35.8	8.7%	-7.3	-20.5%
Net income		18.0	4.5%	22.4	5.4%	-4.4	-19.5%

Breakdown of Changes in Operating Income (FY15→FY16 Plan)

(Billions of yen)



Measures for FY2016 (1)

➤ Expand sales of core business

- **Increase sales of new AC drive “Zero series”**
(Launched in Apr. 2016)
- **Plan to launch new industrial robots “2016 model”**
 - ➔ 8kg/12kg arc welding and handling robots
(They are scheduled to launch in in June and July, 2016)
- **Expand Σ -7 series lineups**
 - ➔ Capture targeted application market by tetrapolar development
- **Drive sales to the general industries through robot centers**
- **Maximize synergy of M&A**
 - ➔ Doolim (Korea): Fortify painting/sealing system
 - ➔ Midea Group (China) : Enhance the sales in assembly line of home appliances



New AC drive
“Zero series”



New controller
“YRC1000”



MOTOMAN-GP12



Robot Center in Aichi

Measures for FY2016 (2)

➤ Grow environmental and energy business

- **Expand PV inverter business globally**

- ➔ Expand domestic market share by new products
- ➔ Maximize synergy with Sol

- **Maximize synergy with The Switch**

- ➔ Expand large-scale wind turbine business and enter into the energy-saving business for vessels

- **Establishment of Chery Yaskawa E-Drive System Co., Ltd.**

- ➔ Expand EV motor drive system business



Enewell-SOL P2H
(9.9kW 200V
class Three-phase)



Products of The Switch
Engineering Oy

➤ Strengthen development, production and sales capabilities

- **Develop the next generation components with YASKAWA Industrie 4.0**

- **Reinforce sales capabilities** (top sales, Restructuring of marketing function)

- **Establish BTO production system**



Motoman-BMDA3

➤ Creating new business

- **Market development in biomedical field**

- ➔ Explore the market through the technology transfer venture of AIST, RBI*

*Robotic Biology Institute Inc.

3. Reference

Capital Expenditure, R&D Investment, Forex Rates

◆Capital expenditure (Consolidated)

(Unit: Billions of yen)

	FY2014	FY2015	FY2016 Plan
Capital Expenditure	36.4	16.8	19.0
Depreciation and Amortization	11.5	13.1	13.0

◆R&D investment (Consolidated)

(Unit: Billions of yen)

	FY2014	FY2015	FY2016 Plan
R&D investment	15.3	16.8	18.0

◆Forex rates (Consolidated)

(Unit: Yen)

	FY2014			FY2015			FY2016 Forecasts
	1H	2H	Full-year	1H	2H	Full-year	Full-year
U.S. dollar	102.2	114.2	108.2	121.9	119.8	120.8	110.0
Euro	139.4	139.9	139.7	134.3	131.8	133.0	125.0

Note: Average rate during the period

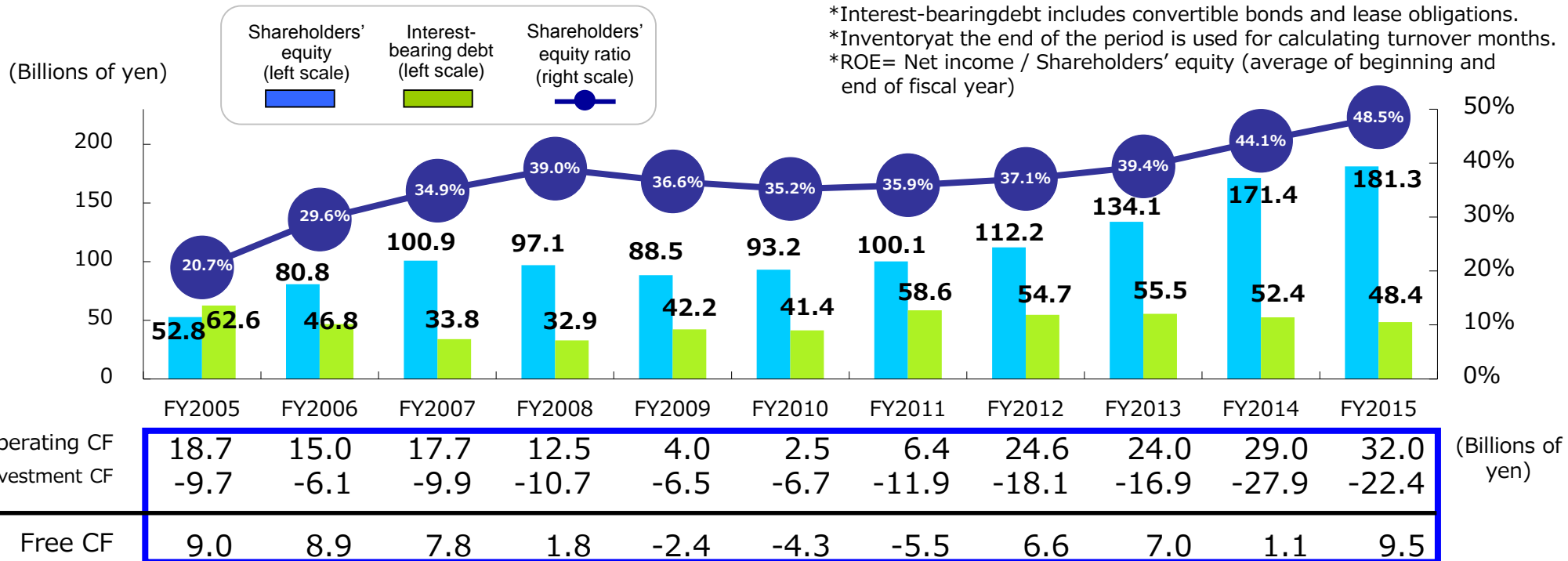
Financial Indices

As of March 20, 2015

➤ Shareholders' equity ratio	44.1%
➤ Shareholders' equity	171.4 billion yen
➤ Interest-bearing debt	52.4 billion yen
➤ D/E ratio	0.31
(Net D/E ratio)	0.16
➤ Inventory	85.5 billion yen
Turnover	2.6 months
➤ ROE	16.3%

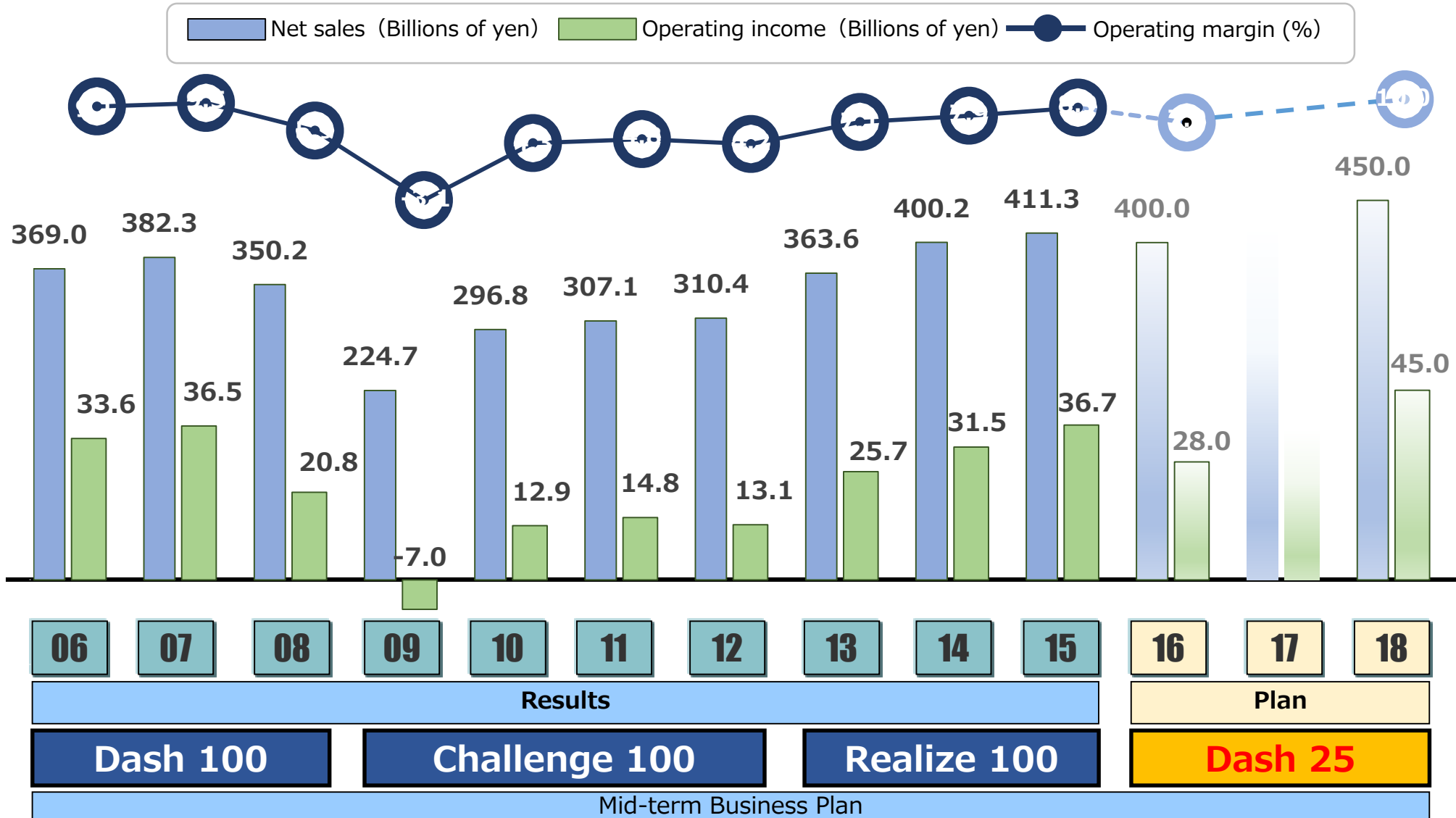
As of March 20, 2016

➤ Shareholders' equity ratio	48.5%
➤ Shareholders' equity	181.3 billion yen
➤ Interest-bearing debt	48.5 billion yen
➤ D/E ratio	0.27
(Net D/E ratio)	0.09
➤ Inventory	77.5 billion yen
Turnover	2.3 months
➤ ROE	12.8%



*Interest-bearing debt includes convertible bonds and lease obligations.
 *Inventory at the end of the period is used for calculating turnover months.
 *ROE = Net income / Shareholders' equity (average of beginning and end of fiscal year)

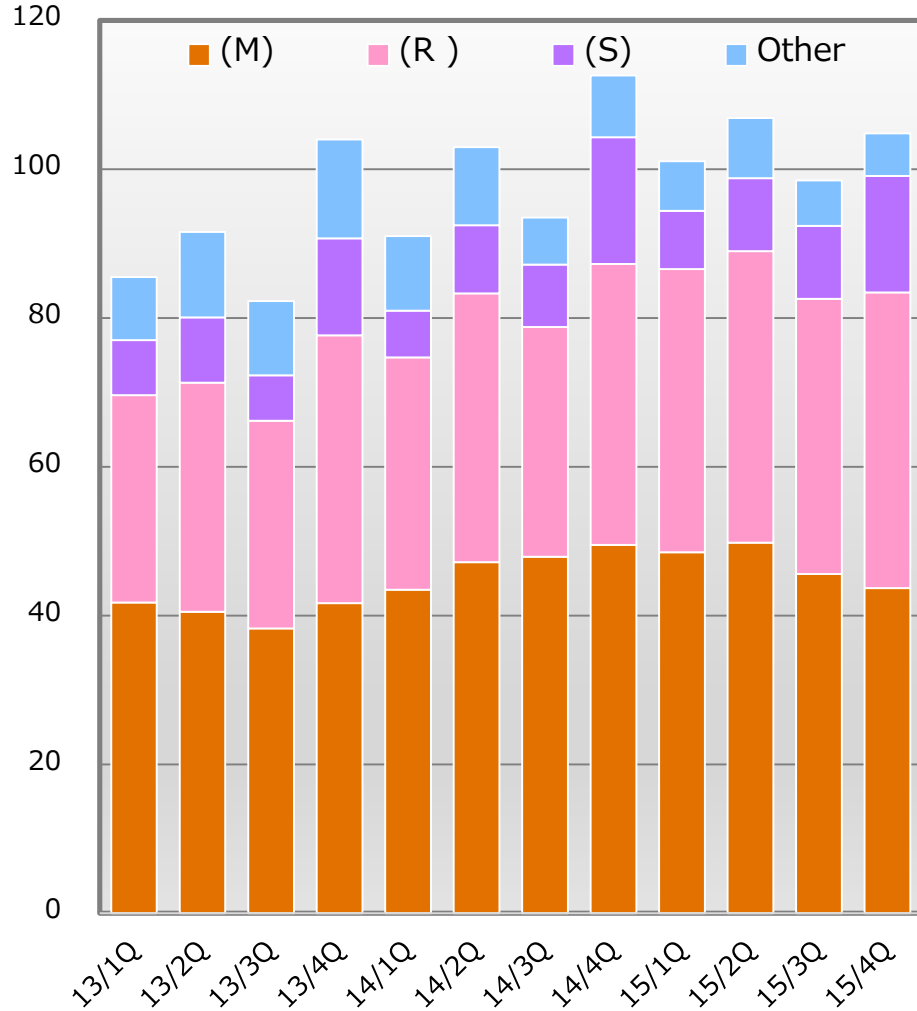
Net Sales/Operating Income (FY2006-2018 Plan)



Quarterly Sales Trends (1)

(Billions of yen)

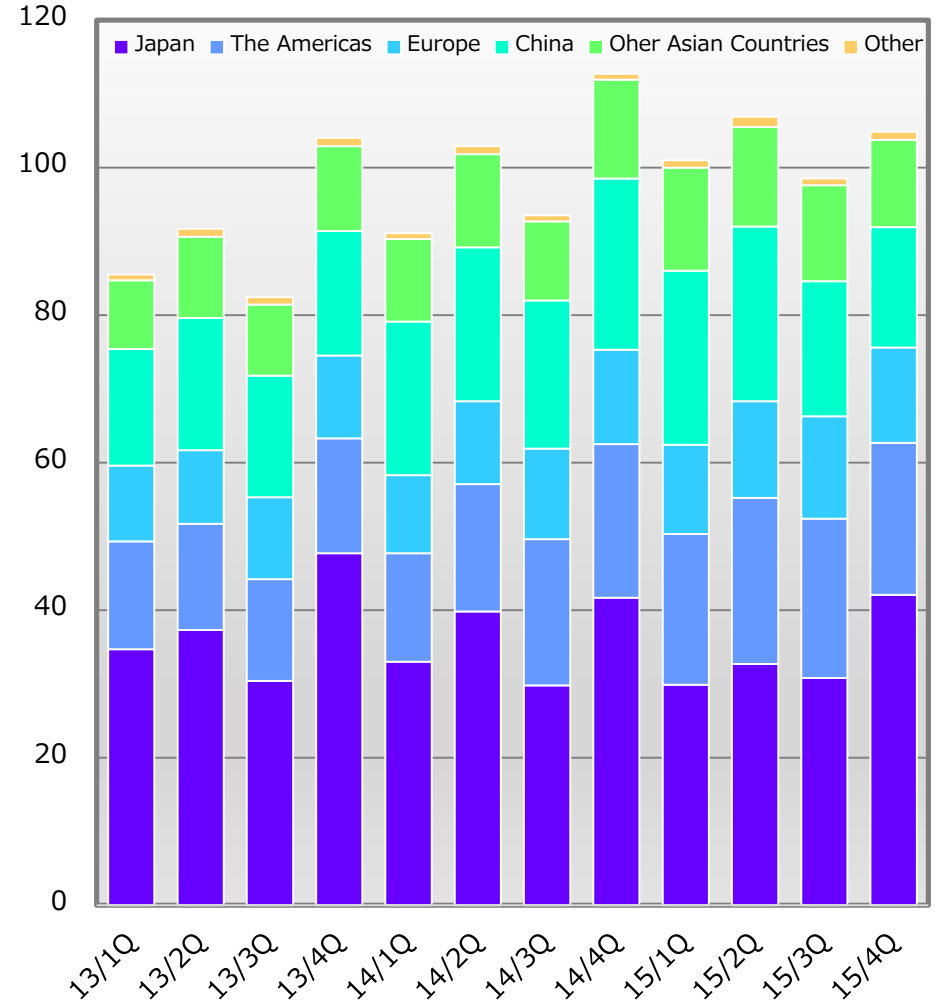
Business Segment



Notes: (M) = Motion Control (R) = Robotics (S) = System Engineering

(Billions of yen)

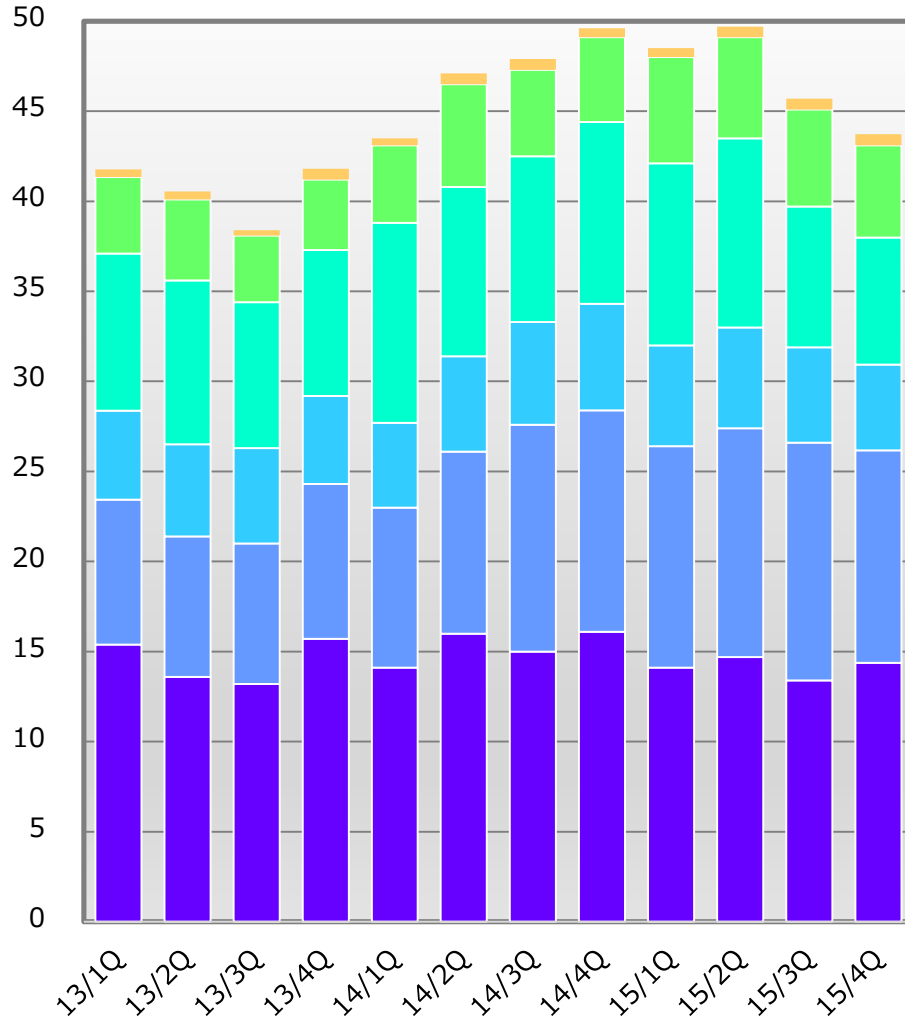
Destination



Quarterly Sales Trends (2)

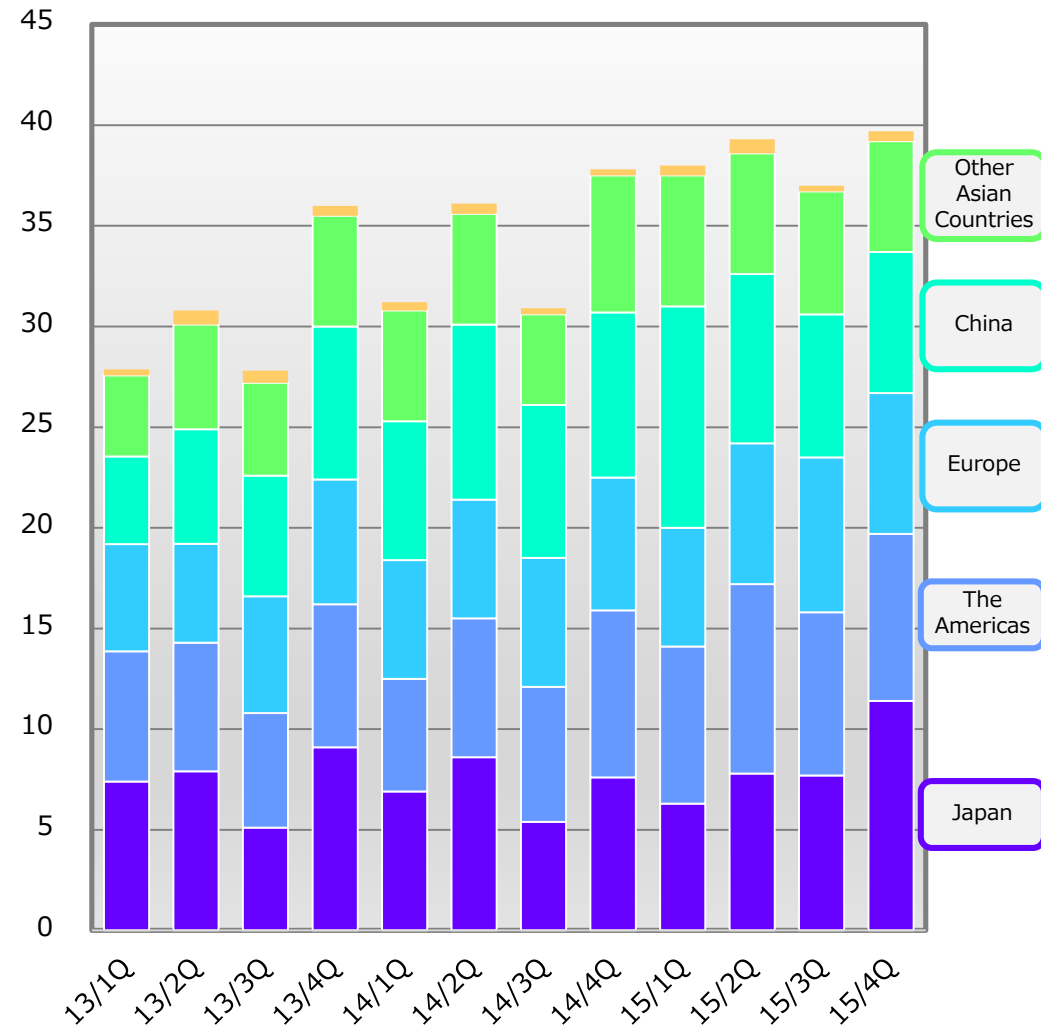
(Billions of yen)

Motion Control

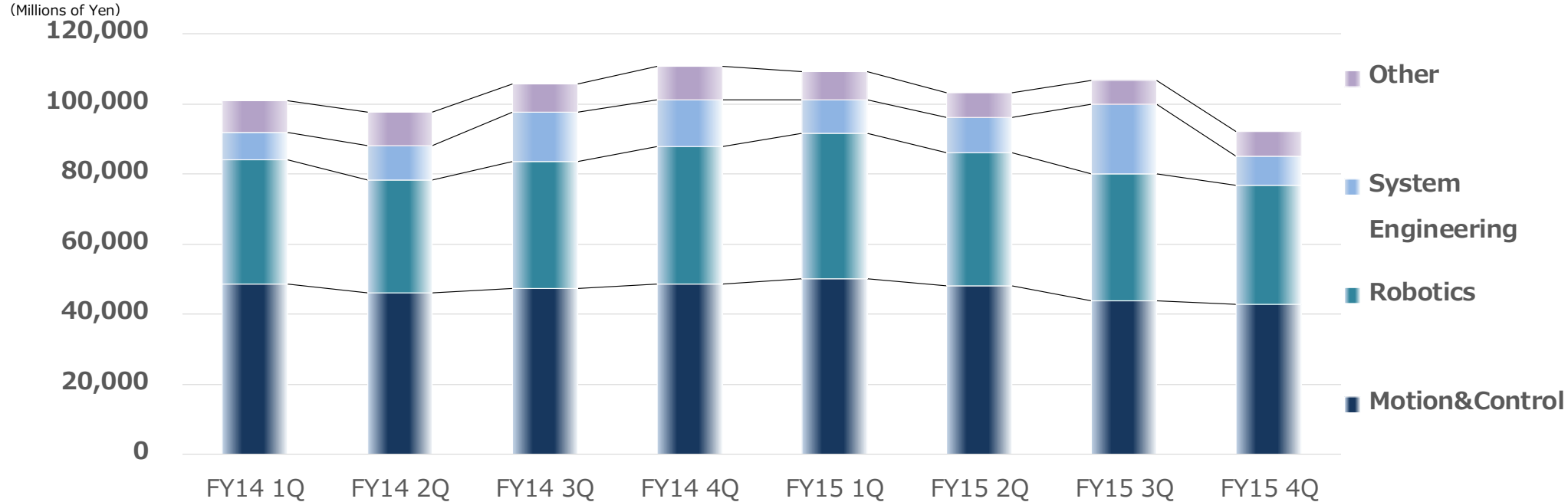


(Billions of yen)

Robotics



Quarterly Order Trends



		FY14				FY15			
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
全社	YoY	+11%	+15%	+15%	+30%	+8%	+6%	+1%	-17%
	QoQ	+18%	-3%	+8%	+5%	-1%	-6%	+3%	-14%
YoY	(M)	+11%	+23%	+20%	+22%	+3%	+5%	-8%	-12%
	(R)	+22%	+10%	-2%	+30%	+17%	+18%	+1%	-14%
	(S)	-3%	+1%	+58%	+60%	+23%	+3%	+40%	-37%
QoQ	(M)	+22%	-5%	+3%	+3%	+3%	-4%	-9%	-2%
	(R)	+18%	-9%	+12%	+9%	+6%	-8%	-4%	-7%
	(S)	-7%	+26%	+44%	-5%	-28%	+5%	+96%	-57%

Notes: (M) = Motion Control (R) = Robotics (S) = System Engineering

Major Production Bases



YASKAWA