

## **FY2016 1st Half Financial Results (Ended September 20, 2016)**

## **FY2016 2nd Half and Full-year Forecasts (Ending March 20, 2017)**

**YASKAWA ELECTRIC CORPORATION (TSE6506)**

## 1. FY2016 1H Financial Results

- FY2016 1H Financial Results  
(Highlights, By Business Segment)
- Sales Breakdown by Business Segment  
(FY2015 1H → FY2016 1H)
- Sales Breakdown by Destination  
(FY2015 1H → FY2016 1H)
- Breakdown of Changes in Operating Income  
(FY2015 1H → FY2016 1H)
- Measures for FY2016 2Q

## 2. FY2016 2H Financial Forecasts

- FY2016 Full-year Financial Forecasts  
(Highlights, By Business Segment)
- Breakdown of Changes in Operating Income  
(FY2015 → FY2016)
- Measures for FY2016 2H

## 3. Reference

- Capital Expenditure,  
R&D Investment, Forex Rates
- Financial Indices
- Net Sales/Operating Income
- Quarterly Sales Trends
- Quarterly Order Trends
- Major Production Bases

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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 motor  
"Z-7" series



General purpose  
AC drive  
"Zero series"



PV inverter 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
- Cooperative robots etc.



New miniature robot  
MOTOMAN-GP8

Person cooperative  
robot MOTOMAN-HC10



Robot system for  
preprocessing operations

## 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.

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# **1. FY2016 1H Financial Results**

## **(Ended September 20, 2016)**

# FY2016 1H Financial Results Highlights

- **Income exceeded 1H plan.**
- **Sales and income declined year on year, because of the strong yen.**

	<b><u>FY2016 1H</u></b>	FY2016 1H forecasts	Changes from the forecasts	FY2015 1H	<b><u>Changes</u></b>	
					<b><u>Amounts</u></b>	<b><u>%</u></b>
<b>Net sales</b>	<b><u>¥ 187.6bn.</u></b>	¥ 192.5bn.	-¥ 4.9bn.	¥ 207.9bn.	<b><u>-¥ 20.3bn.</u></b>	<b><u>-9.8%</u></b>
<b>Operating income</b>	<b><u>¥ 13.8bn.</u></b>	¥ 11.0bn.	+¥ 2.8bn.	¥ 19.0bn.	<b><u>-¥ 5.2bn.</u></b>	<b><u>-27.2%</u></b>
<b>Ordinary income</b>	<b><u>¥ 13.8bn.</u></b>	¥ 11.0bn.	+¥ 2.8bn.	¥ 19.0bn.	<b><u>-¥ 5.2bn.</u></b>	<b><u>-27.6%</u></b>
<b>Profit attributable to owners of parent</b>	<b><u>¥ 8.6bn.</u></b>	¥ 7.0bn.	+¥ 1.6bn.	¥ 12.0bn.	<b><u>-¥ 3.4bn.</u></b>	<b><u>-28.4%</u></b>

## FY2016 1H Financial Results by Business Segment (1)

- Sales and profits in (M) and (R) decreased due to the strong yen.

Sales and profits in (S) increased with the steady growth in both existing and new businesses.

(Billions of yen)

	FY2016 1H		FY2016 1H		Change from Forecasts	FY2015 1H		Changes	
	Results	Income ratio	Forecasts	Income ratio		Results	Income ratio	Amounts	%
Net sales	187.6		192.5		-4.9	207.9		-20.3	-9.8%
(M) Motion Control	88.7		89.5		-0.8	98.2		-9.5	-9.7%
(R) Robotics	68.4		70.5		-2.1	77.4		-9.0	-11.6%
(S) System Engineering	19.3		20.0		-0.7	17.6		+1.6	+9.4%
Other	11.3		12.5		-1.2	14.8		-3.4	-23.3%
Operating income	13.8	7.4%	11.0	5.7%	+2.8	19.0	9.1%	-5.2	-27.2%
(M) Motion Control	9.6	10.9%	8.4	9.3%	+1.3	12.3	12.5%	-2.7	-21.6%
(R) Robotics	5.6	8.2%	4.7	6.6%	+0.9	8.9	11.5%	-3.3	-36.9%
(S) System Engineering	-0.7	-3.5%	-1.1	▲5.5%	+0.4	-2.1	-11.9%	+1.4	-
Other	-0.2	-1.6%	-0.2	▲1.8%	+0.0	0.5	3.6%	-0.7	-
Elimination or Corporate	-0.6	-	-0.7	-	+0.1	-0.6	-	+0.0	-
Ordinary income	13.8	7.3%	11.0	5.7%	+2.8	19.0	9.1%	-5.2	-27.6%
Profit attributable to owners of parent	8.6	4.6%	7.0	3.6%	+1.6	12.0	5.8%	-3.4	-28.4%

## FY2016 1H Financial Results by Business Segment (2)

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### Motion Control

- **In AC servo business, sales were solid especially because of robust demand from the smart phone- and automotive-related industries in China. Profitability improved as sales increased and switch to the core product progressed although the strong yen had a negative impact.**
- **The demand of AC drives was sluggish in the U.S. oil-related industry, and the sales of PV inverter business in Japan was also weak.**

### Robotics

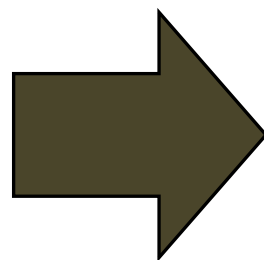
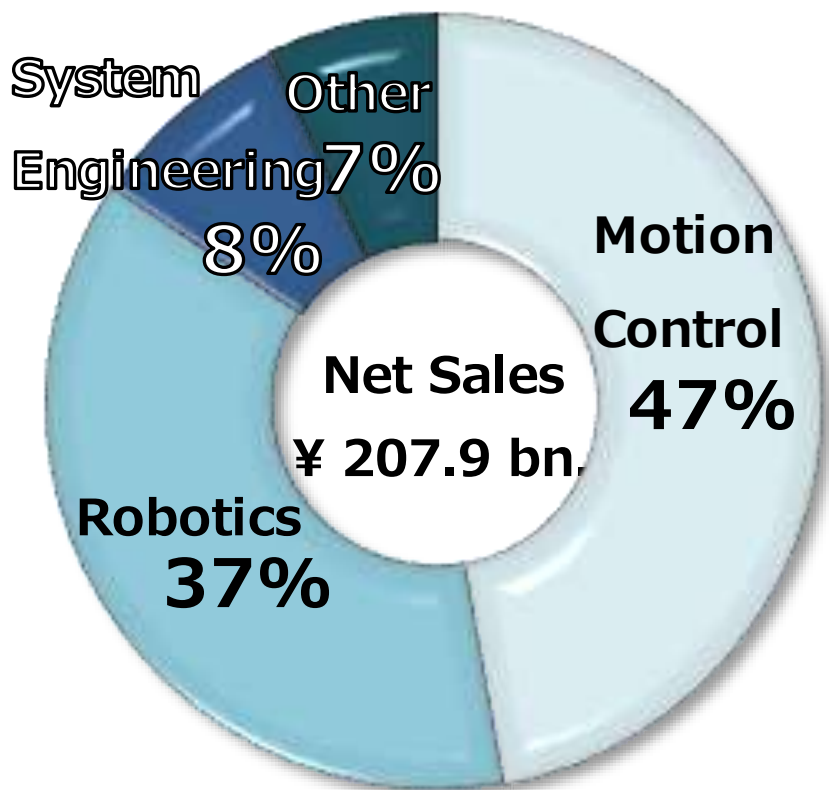
- **Sales and income year on year decreased because of impact of the strong yen and weak order trend in the first quarter in China. However, sales in Japan and Europe were solid.**

### System Engineering

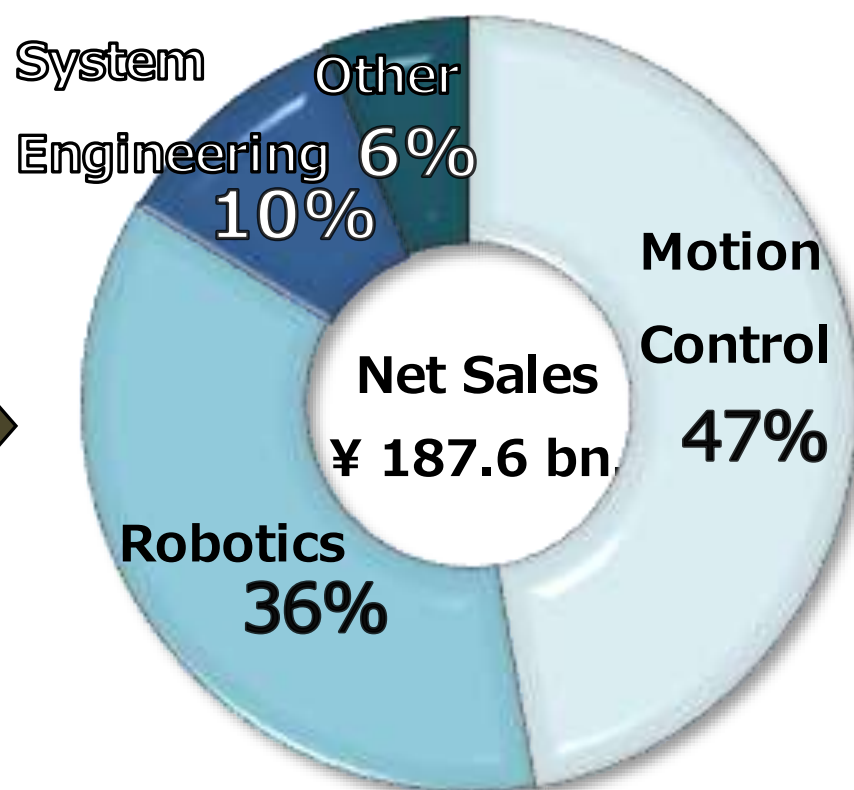
- **Profitability improved because the large-scale wind turbine businesses increased and we captured the needs for renovation of steel plants and social systems.**

# Sales Breakdown by Business Segment

## FY15/1H



## FY16/1H





## Sales Breakdown by Destination (1)

- **Overseas sales declined because of the strong yen.**

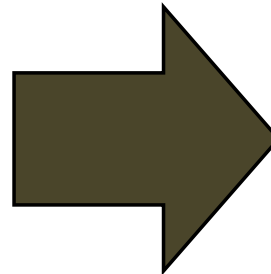
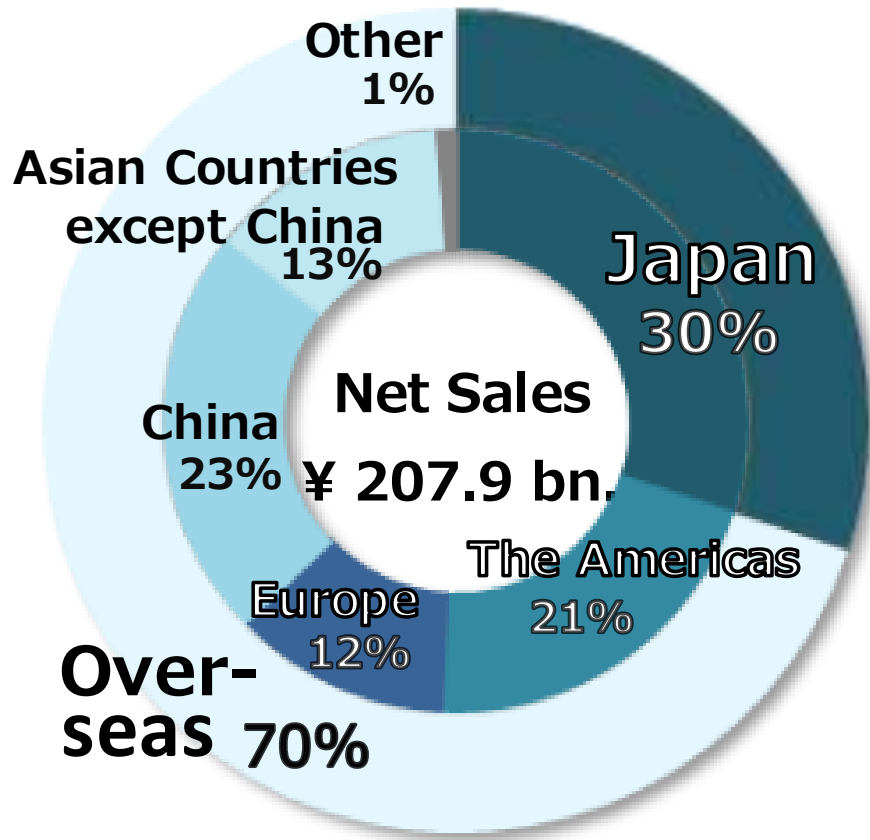
(Billions of yen)

	FY16/1H	FY15/1H	Changes	
			Amounts	%
<b>Net sales</b>	<b>187.6</b>	<b>207.9</b>	<b>-20.3</b>	<b>-9.8%</b>
<b>Japan</b>	<b>62.5</b>	<b>62.6</b>	<b>-0.2</b>	<b>-0.3%</b>
<b>Overseas</b>	<b>125.2</b>	<b>145.3</b>	<b>-20.1</b>	<b>-13.9%</b>
<b>The Americas</b>	<b>35.4</b>	<b>42.9</b>	<b>-7.5</b>	<b>-17.4%</b>
<b>Europe</b>	<b>23.6</b>	<b>25.2</b>	<b>-1.5</b>	<b>-6.1%</b>
<b>China</b>	<b>41.5</b>	<b>47.3</b>	<b>-5.9</b>	<b>-12.4%</b>
<b>Asian Countries except China</b>	<b>22.6</b>	<b>27.5</b>	<b>-4.9</b>	<b>-17.8%</b>
<b>Other</b>	<b>2.0</b>	<b>2.4</b>	<b>-0.4</b>	<b>-15.6%</b>

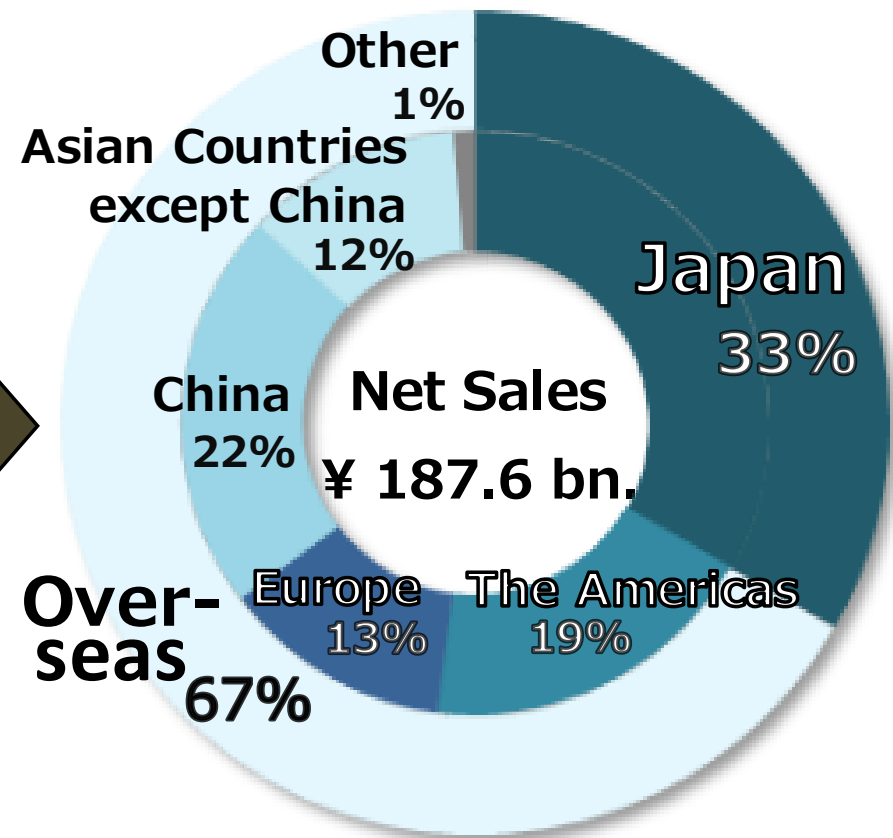
Note: "Other" category includes Australia and South Africa, etc.

# Sales Breakdown by Destination (2)

## FY15/1H

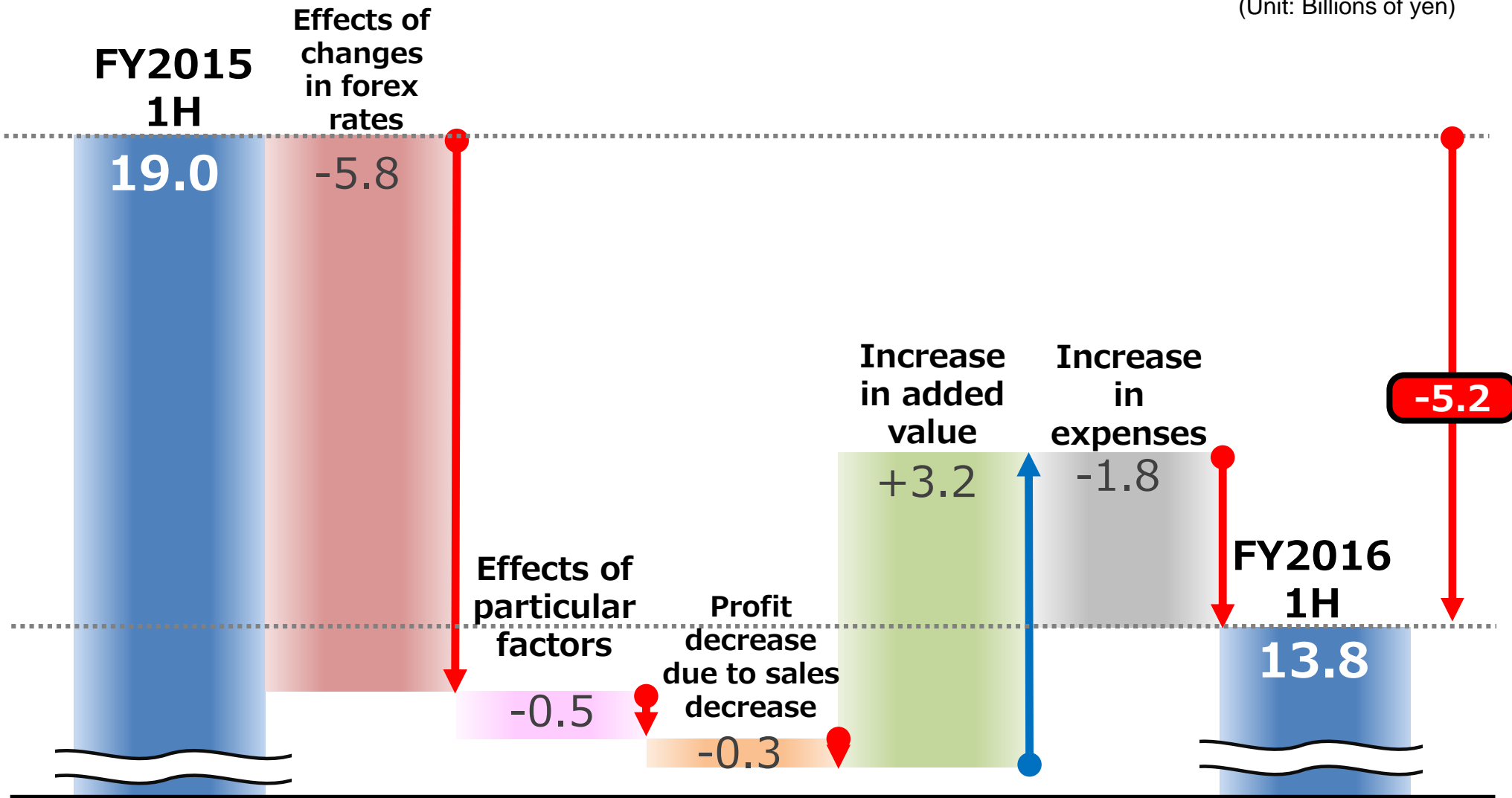


## FY16/1H



# Breakdown of Changes in Operating Income (FY2015/1H → FY2016/1H)

(Unit: Billions of yen)



# Measures for FY2016 2Q

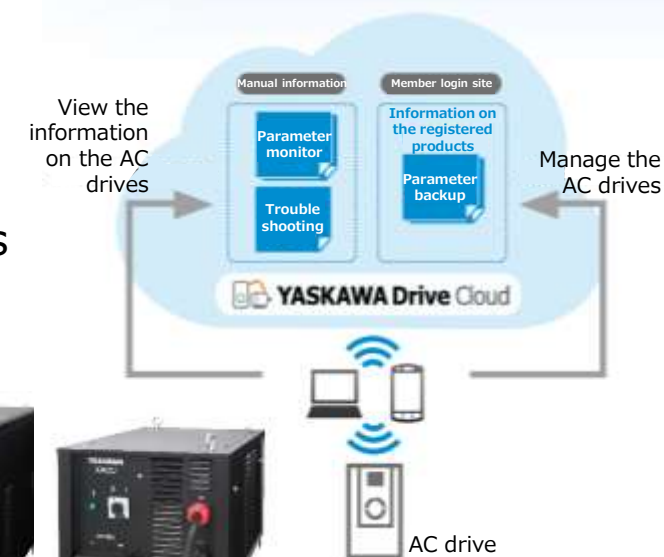
## ➤ Expand sales from core businesses

- **Expansion of AC servo “Σ-7” series lineup**
  - ➔ FY16 1H switch rate : 53% (In China: 86%)
- **Launched cloud service for new AC drive series**
  - ➔ Deploy cloud service compliant with IoT for all core products (“MechatroCloud” for AC servo motor, “MOTOMAN-Cloud” for robots)
- **Launched the world’s first welding power source and AC unit with AI function**
  - ➔ Enable sheet welding to meet the needs of weight saving of automobiles

## ➤ Create new businesses

- **Acquired marine drive sector of Wärtsilä (Norway)**
  - ➔ Reinforce the development of marine drive products and expand sales
- **Capital tie-up with GLM Co., Ltd., an EV venture company**
  - ➔ Provide our unique technology “QMET Drive”
- **Took part in the project of “Sagami robot industrial zone” in Kanagawa prefecture to commercialize life support robots**
  - ➔ Introduced welfare equipment such as “ReWalk” to Renaissance “Genki Gym” Shonan-Fukasawa shop

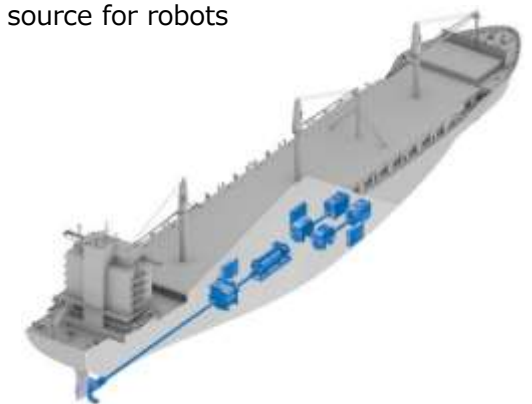
Overview of YASKAWA Drive Cloud



MOTOWELD-X350  
Arc-welding power source for robots



AC unit(XACU)



Drive products for marine applications  
(Image of shaft generator, etc.)

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## **2. FY2016/2H and Full-year Financial Forecasts (Ending March 20, 2017)**

## FY2016 Full-year Financial Forecasts (Highlights)

- **Due to the strong yen, sales forecast is revised down, while income forecast remains unchanged**

	<b><u>FY2016 Forecasts</u></b>	FY2016 Previous forecast	<b>Change from previous forecast</b>	FY2015 Results	<b><u>Changes</u></b>	
					<b><u>Amounts</u></b>	<b><u>%</u></b>
<b>Net sales</b>	<b><u>¥ 390.0bn.</u></b>	¥ 400.0bn.	-¥ 10.0bn.	¥ 411.3bn.	<u>-¥ 21.3bn.</u>	<u>-5.2%</u>
<b>Operating income</b>	<b><u>¥ 28.0bn.</u></b>	¥ 28.0bn.	-	¥ 36.7bn.	<u>-¥ 8.7bn.</u>	<u>-23.8%</u>
<b>Ordinary income</b>	<b><u>¥ 28.5bn.</u></b>	¥ 28.5bn.	-	¥ 35.8bn.	<u>-¥ 7.3bn.</u>	<u>-20.5%</u>
<b>Profit attributable to owners of parent</b>	<b><u>¥ 18.0bn.</u></b>	¥ 18.0bn.	-	¥ 22.4bn.	<u>-¥ 4.4bn.</u>	<u>-19.5%</u>

# FY2016 Full-year Financial Forecasts (by Business Segment)

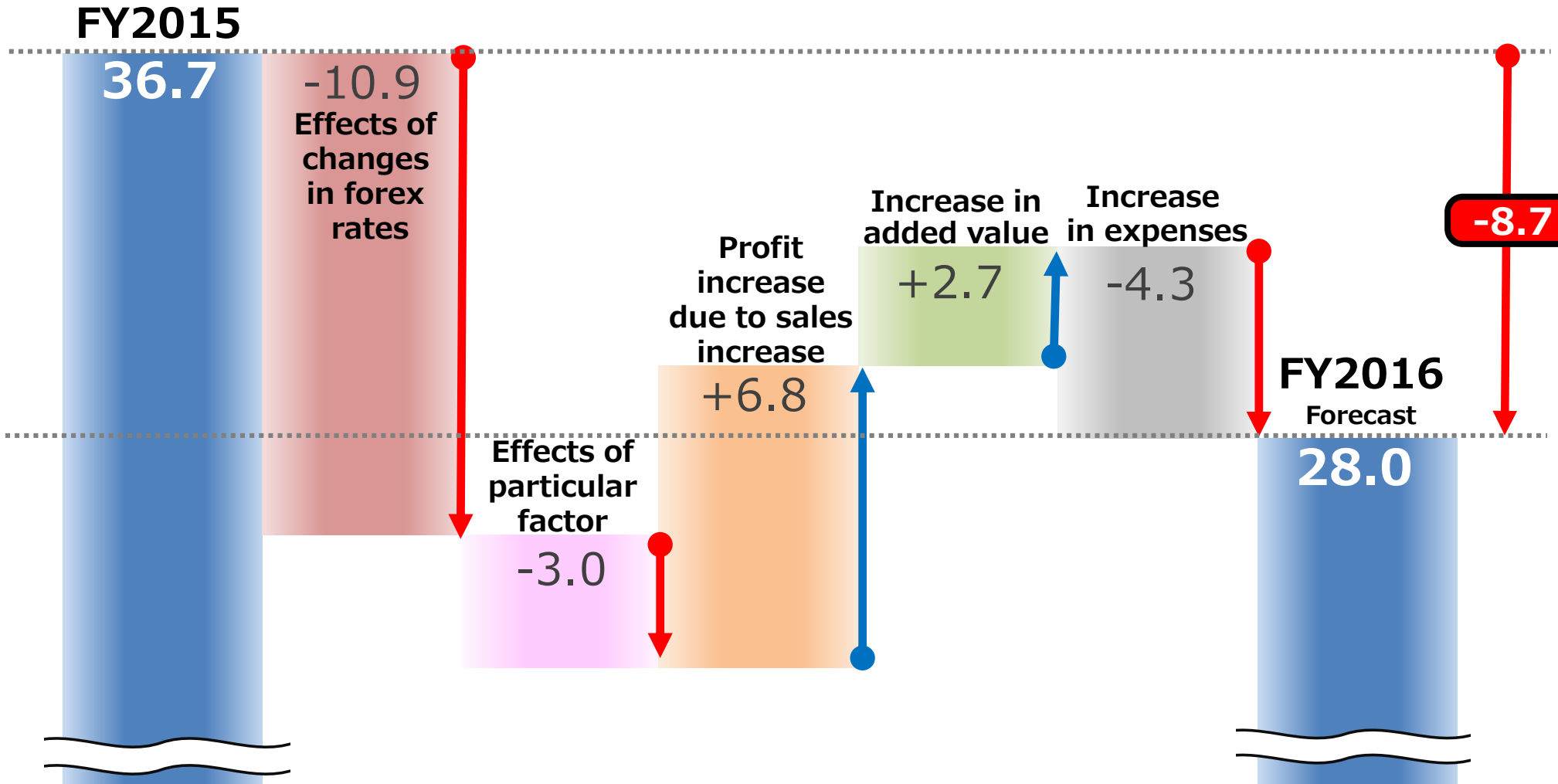
- Due to the strong yen, sales forecast is revised down mainly in (R).
- Income forecasts remain unchanged for the improvement in (M) and (S).

(Billions of yen)

	FY2016		FY2016		Change from previous forecast	FY2015		Changes	
	Forecasts	Income ratio	Previous forecast	Income ratio		Results	Income ratio	Amounts	%
<b>Net sales</b>	<b>390.0</b>		<b>400.0</b>		<b>-10.0</b>	<b>411.3</b>		<b>-21.3</b>	<b>-5.2%</b>
(M) Motion Control	178.0		180.0		-2.0	187.5		-9.5	-5.1%
(R) Robotics	139.5		150.0		-10.5	154.1		-14.6	-9.5%
(S) System Engineering	50.0		47.0		+3.0	43.1		+6.9	+16.1%
Other	22.5		23.0		-0.5	26.6		-4.1	-15.4%
<b>Operating income</b>	<b>28.0</b>	<b>7.2%</b>	<b>28.0</b>	<b>7.0%</b>	<b>-</b>	<b>36.7</b>	<b>8.9%</b>	<b>-8.7</b>	<b>-23.8%</b>
(M) Motion Control	17.9	10.1%	17.4	9.7%	+0.5	22.4	12.0%	-4.5	-19.9%
(R) Robotics	11.0	7.8%	11.3	7.5%	-0.3	15.3	9.9%	-4.4	-28.5%
(S) System Engineering	0.6	1.2%	0.1	0.2%	+0.5	-0.8	-1.8%	+1.4	-
Other	-0.3	-1.4%	0.3	1.3%	-0.6	0.9	3.2%	-1.2	-
Elimination or Corporate	-1.2	-	-1.1	-	-0.1	-1.1	-	-0.1	-
<b>Ordinary income</b>	<b>28.5</b>	<b>7.3%</b>	<b>28.5</b>	<b>7.1%</b>	<b>-</b>	<b>35.8</b>	<b>8.7%</b>	<b>-7.3</b>	<b>-20.5%</b>
<b>Profit attributable to owners of parent</b>	<b>18.0</b>	<b>4.6%</b>	<b>18.0</b>	<b>4.5%</b>	<b>-</b>	<b>22.4</b>	<b>5.4%</b>	<b>-4.4</b>	<b>-19.5%</b>

# Breakdown of Changes in Operating Income (FY2015 → FY2016 Forecast)

(Billions of yen)





## Measures for FY2016 2H

- **Expand sales from core businesses**
  - **Accelerate the switch to AC servo “Σ-7” series**
    - FY16 2H switch rate plan: 60% (In China: 90%)
  - **Expand sales through Doolim Robotics in Korea**
  - **Develop and launch new robot products**
    - Launch new types of handling robots and cooperative robots
  - **Promote robotics solution business**
- **Promote clean power business into a core business**
  - **Promotion of large-scale wind turbine business into a core business through synergy with The Switch Engineering Oy**
  - **Expand marine drive business by acquisition of Wärtsilä**
  - **Turn EV business into a core business**
    - Expand sales through establishment of Chery Yaskawa E-drive System Co., Ltd.
- **Reinforce development, production and sales capabilities**
  - **Strengthen development of AI technology especially for robots**
  - **Establish a robot production base in Europe(Slovenia)**
    - (start of production scheduled in September 2018)
  - **Enhance business promotion in food-related industries**



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# 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	1H Actual	2H	Full-year
U.S. dollar	102.2	114.2	108.2	121.9	119.8	120.8	107.1	105.0	106.1
Euro	139.4	139.9	139.7	134.3	131.8	133.0	120.0	115.0	117.5

Note: Average rate during the period

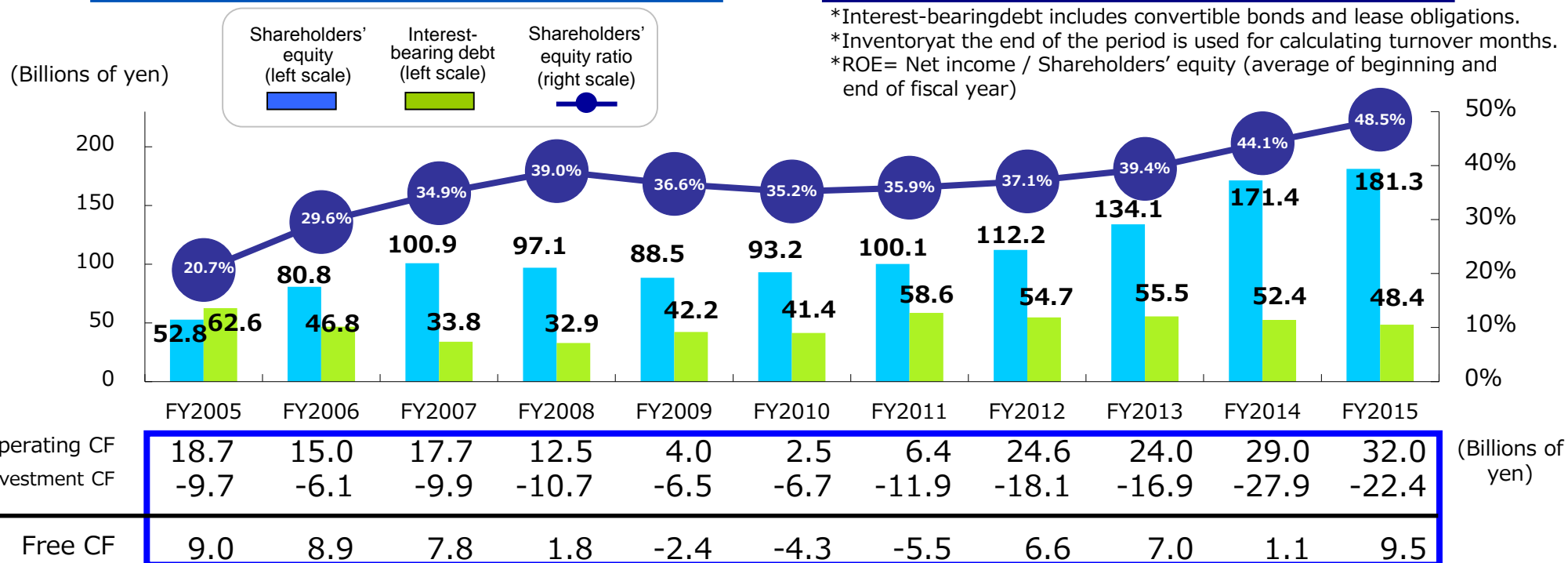
# Financial Indices

## 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%

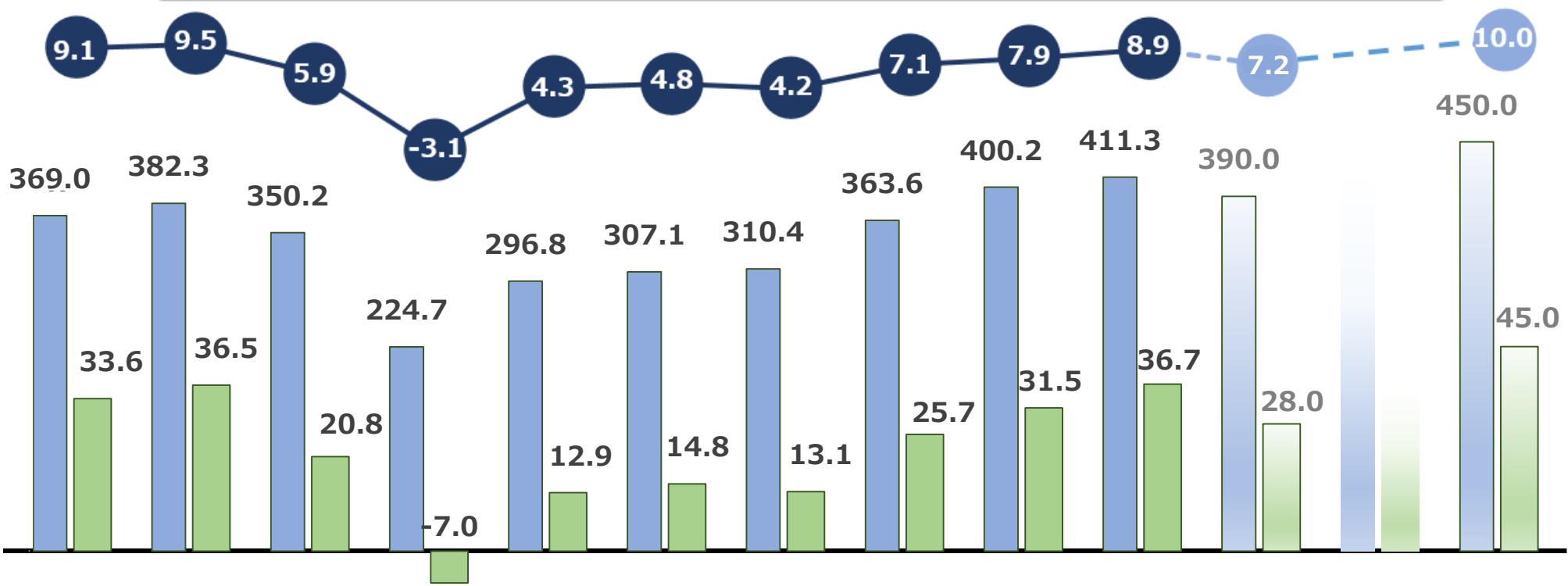
## As of September 20, 2016

➤ Shareholders' equity ratio	49.0%
➤ Shareholders' equity	178.9 billion yen
➤ Interest-bearing debt	42.3 billion yen
➤ D/E ratio	0.24
(Net D/E ratio)	0.04
➤ Inventory	76.8 billion yen
Turnover	2.4 months



# Net Sales/Operating Income (FY2006-2018 Plan)

■ Net sales (Billions of yen) 
 ■ Operating income (Billions of yen) 
 ● Operating margin (%)

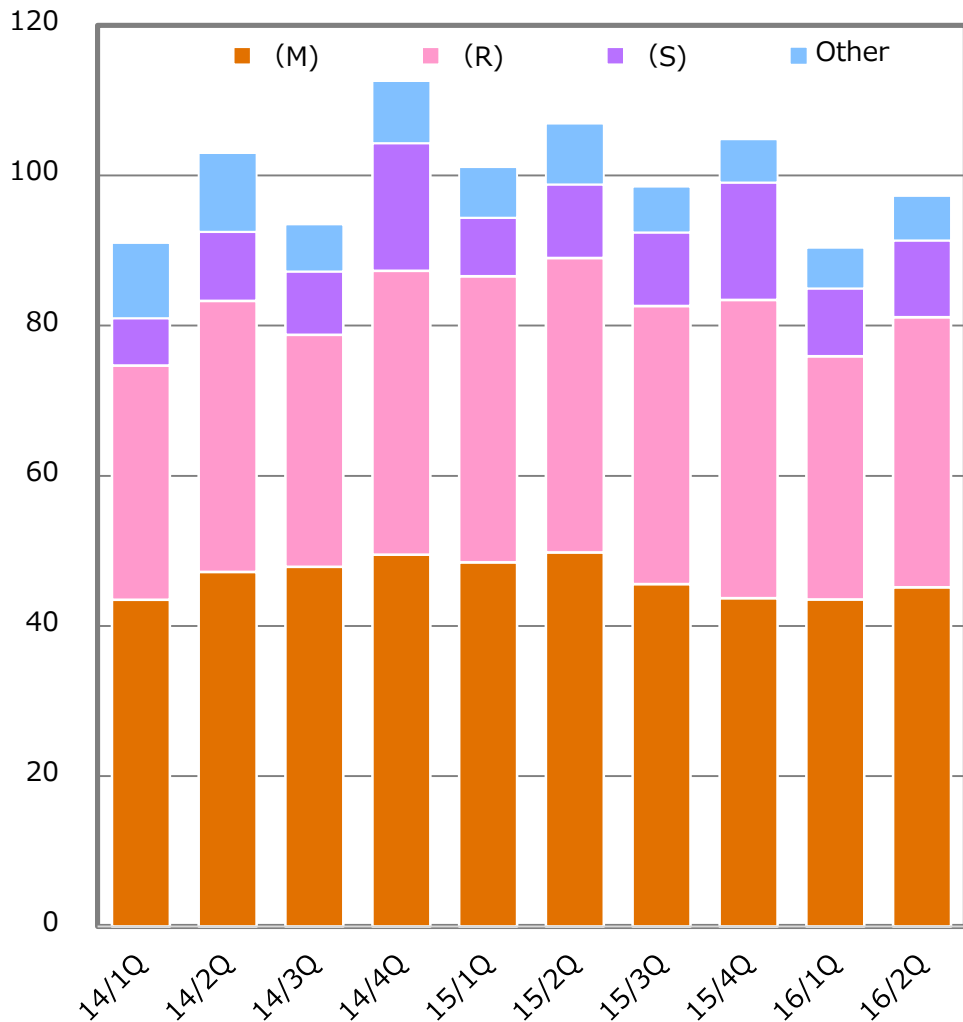


06	07	08	09	10	11	12	13	14	15	16	17	18
Results										Plan		
Dash 100			Challenge 100				Realize 100			Dash 25		
Mid-term Business Plan												

# Quarterly Sales Trends (1)

(Billions of yen)

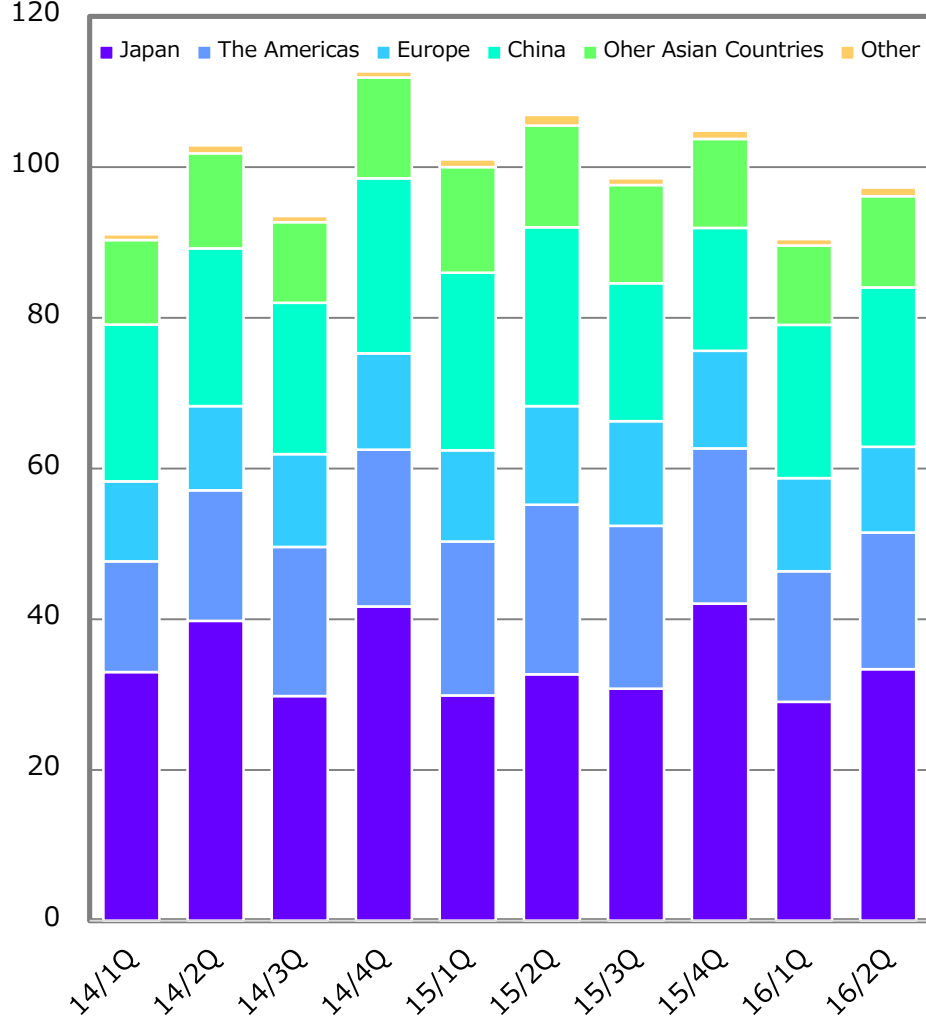
## Business Segment



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

(Billions of yen)

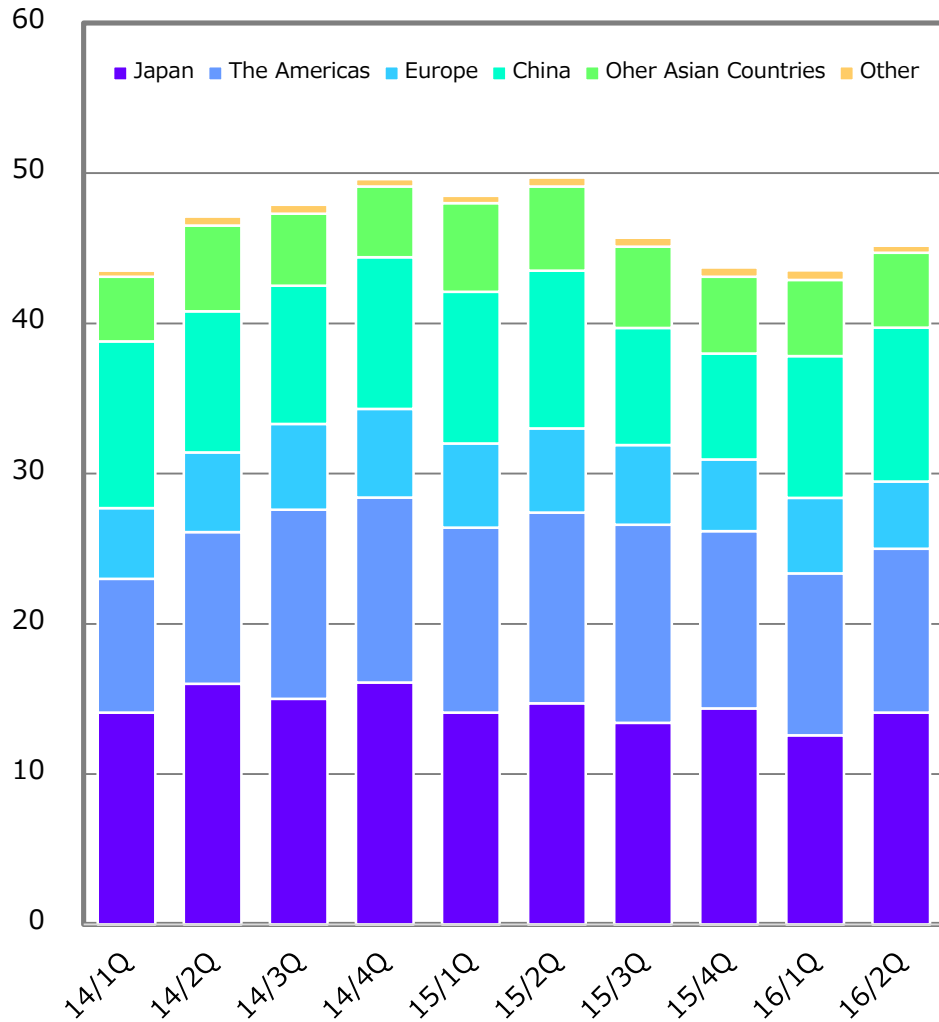
## Destination



# Quarterly Sales Trends (2)

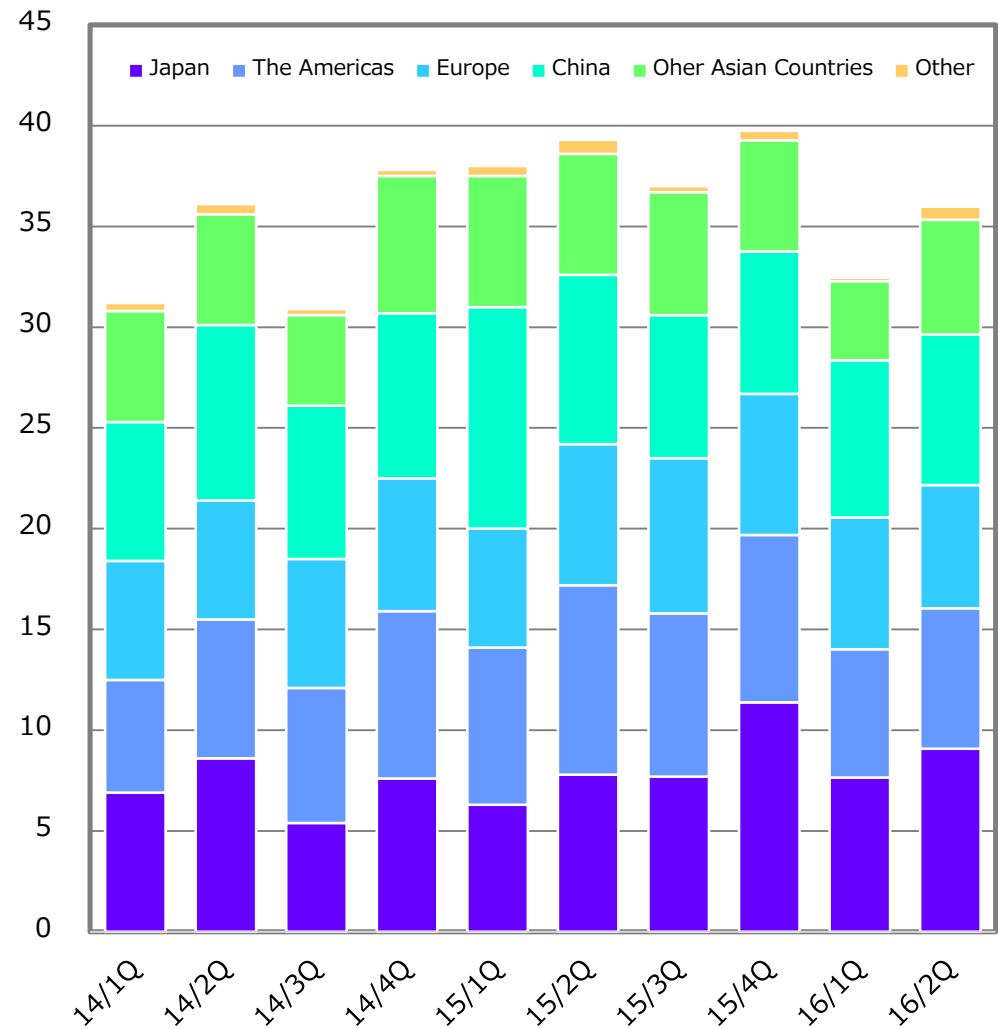
(Billions of yen)

## Motion Control

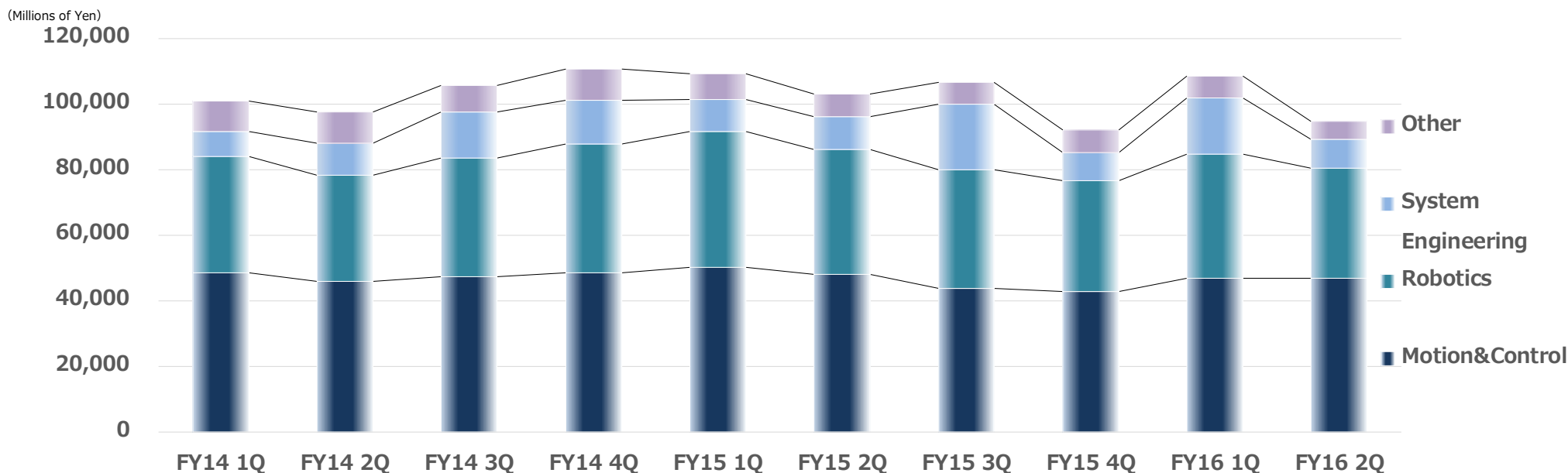


(Billions of yen)

## Robotics



# Quarterly Order Trends



		FY14				FY15				FY16	
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q
全社	YoY	+11%	+15%	+15%	+30%	+8%	+6%	+1%	-17%	-1%	-8%
	QoQ	+18%	-3%	+8%	+5%	-1%	-6%	+3%	-14%	+18%	-13%
YoY	(M)	+11%	+23%	+20%	+22%	+3%	+5%	-8%	-12%	-7%	-3%
	(R)	+22%	+10%	-2%	+30%	+17%	+18%	+1%	-14%	-9%	-11%
	(S)	-3%	+1%	+58%	+60%	+23%	+3%	+40%	-37%	+78%	-13%
QoQ	(M)	+22%	-5%	+3%	+3%	+3%	-4%	-9%	-2%	+9%	-0%
	(R)	+18%	-9%	+12%	+9%	+6%	-8%	-4%	-7%	+12%	-11%
	(S)	-7%	+26%	+44%	-5%	-28%	+5%	+96%	-57%	+103%	-48%
Forex rates	U.S. dollar	102.2	102.3	110.0	118.4	120.2	123.5	121.0	118.5	110.8	103.5
	Euro	141.0	137.9	139.8	140.0	131.2	137.4	133.9	129.7	124.5	115.6

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



# Major Production Bases



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# YASKAWA