

**Six Months ended September 30, 2016**

# **Results Briefing**



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November 8, 2016  
GS Yuasa Corporation

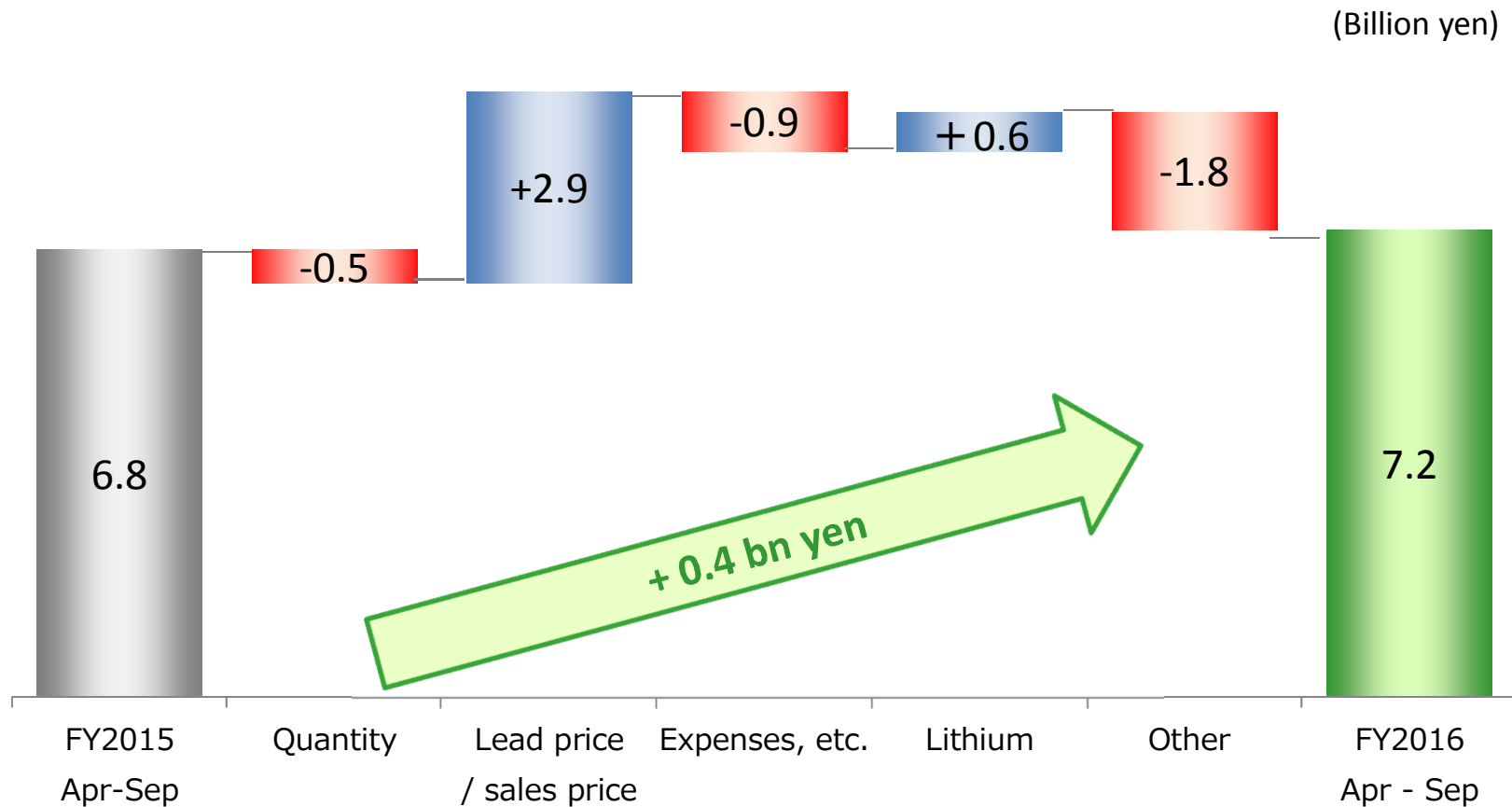
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# 1. Net Sales/Profits

	FY2015	FY2016	Change	(Billion yen)
	April - September	April - September		(YoY%)
Net sales	171.1	158.9	-12.2	(-7.2%)
Operating income	6.8	7.2	+0.4	(+5.3%)
(Operating income ratio)	4.0%	4.5%	+0.5P	
Ordinary income	7.0	6.6	-0.4	(-5.7%)
Extraordinary income	0.0	0.1	+0.1	
Extraordinary loss	0.6	0.5	-0.1	
Profit before income taxes	6.5	6.2	-0.3	
Income taxes	2.5	1.1	-1.4	
Profit attributable to non-controlling interests	0.4	1.0	+0.6	
Profit attributable to owners of the parent	3.6	4.1	+0.5	(+13.7%)
(Net profit ratio)	2.1%	2.6%	+0.5P	
Interim dividend	3 yen/share	3 yen/share	±0 yen/share	

# 1. Net Sales/Profits

## Factors for Operating Income Change



## 2. Segment Results

### Consolidated Results (April – September 2016) (Billion yen)

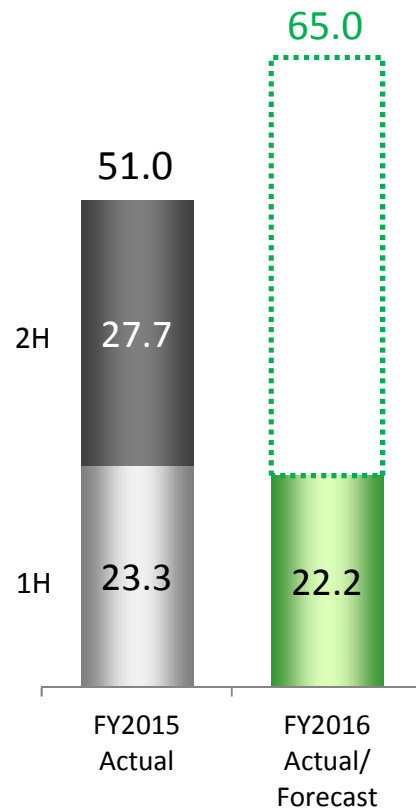
	FY2015 Apr-Sep		FY2016 Apr-Sep		Change	
	Net sales	Operating income (Op. income ratio: %)	Net sales	Operating income (Op. income ratio: %)	Net sales	Operating income (Op. income ratio: %)
Automotive battery (Japan)	23.3	0.8 (3.5)	22.2	1.1 (5.1)	-1.1	+0.3 (+1.6)
Industrial battery and power supply (Japan)	30.4	0.7 (2.1)	30.8	1.6 (5.2)	+0.4	+0.9 (+3.1)
Overseas	94.6	6.2 (6.6)	83.1	5.3 (6.4)	-11.5	-0.9 (-0.2)
Automotive lithium- ion battery	17.8	-1.2 (-6.5)	18.5	-0.5 (-2.9)	+0.7	+0.7 (+3.6)
Others	5.0	0.3 (5.5)	4.2	-0.3 (-7.5)	-0.8	-0.6 (-13.0)
<b>Total</b>	<b>171.1</b>	<b>6.8 (4.0)</b>	<b>158.9</b>	<b>7.2 (4.5)</b>	<b>-12.2</b>	<b>+0.4 (+0.5)</b>

## 2. Segment Results

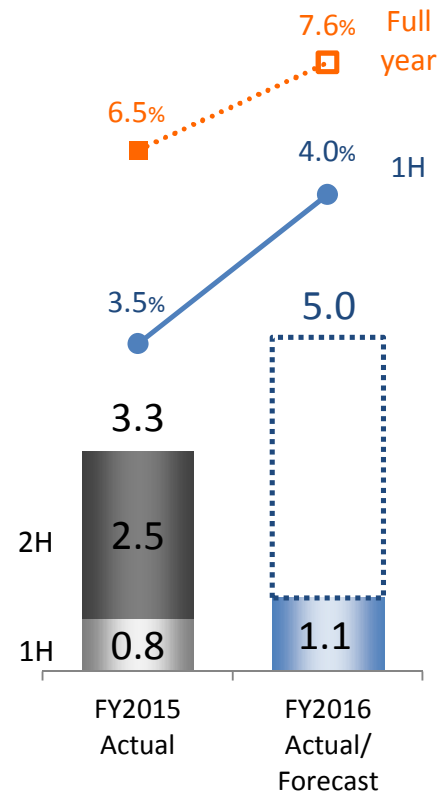
### Automotive Battery (Japan)

(Billion yen)

#### Net sales



#### Operating income/ operating income ratio



#### FY2016 1H Sales Overview

- Sales of replacement lead-acid storage batteries declined
- Demand for lead-acid batteries for start & stop vehicles (S&S) continued to expand
- Automotive component sales (car navigation systems, etc.) declined.

#### Main Profit Change Factors

Quantity	-0.7
Lead prices / sales prices	+1.2
Streamlining, etc.	-0.2

Note 1. Operating income ratio in FY2016 is ratio before goodwill amortization and operating income is income before goodwill amortization.

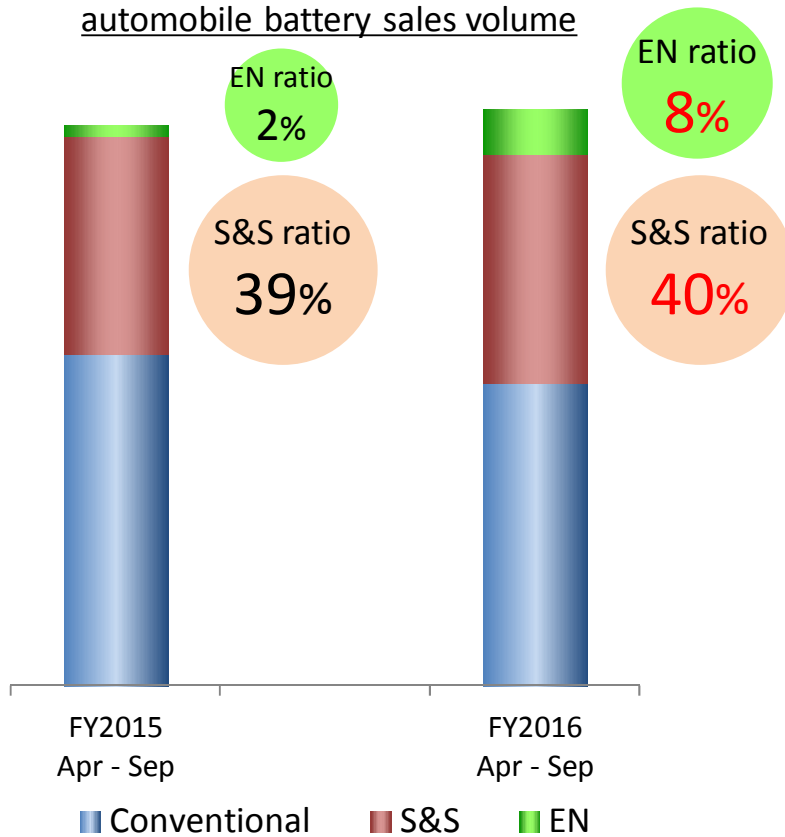
Note 2. FY2016 forecasts factor in the impact of the transfer of a Panasonic business.

## 2. Segment Results

### Automotive Battery (Japan)

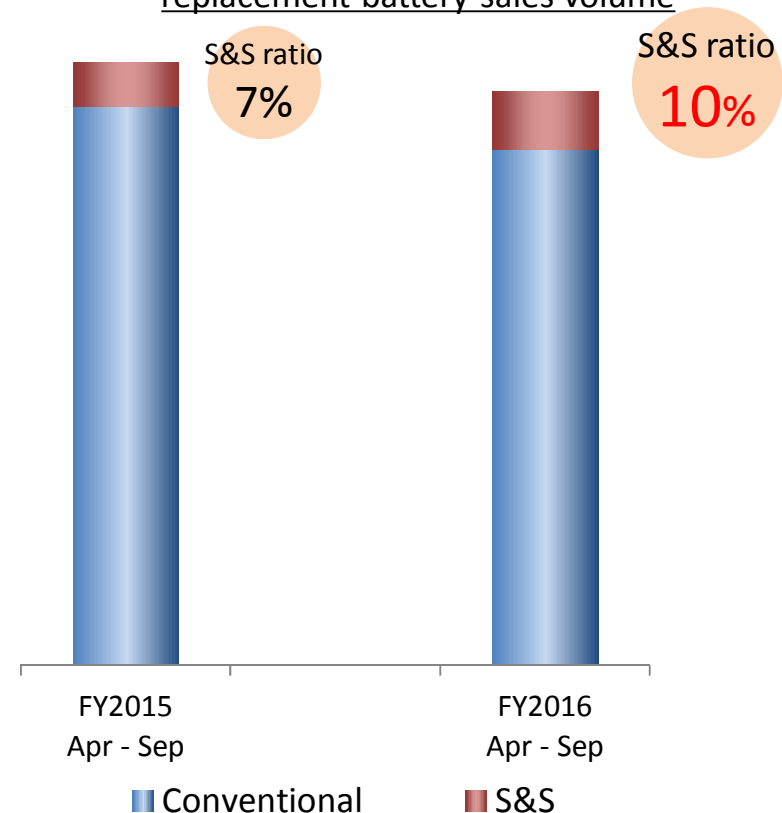
#### New automobile batteries

Breakdown of GS Yuasa's new automobile battery sales volume



#### Replacement batteries

Breakdown of GS Yuasa's replacement battery sales volume

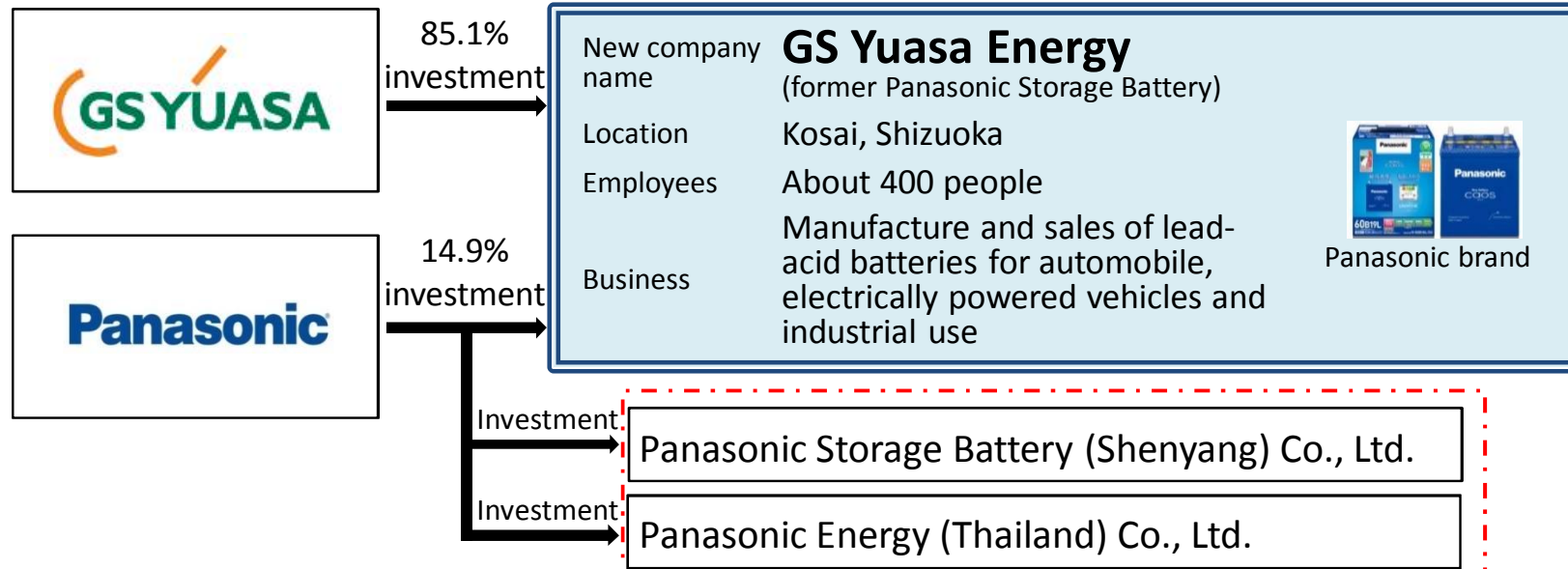


## 2. Segment Results

### Automotive Battery (Japan)

➤ Share acquisition for transfer of Panasonic’s lead-acid battery business

**Consolidated subsidiary from 3Q FY2016**



\*Once the procedure required for transfer is completed, stock acquisition and business transfer are scheduled to be carried out.

#### Synergies

- 1. Establishment of optimal production structure
- 3. Pursuit of production streamlining

- 2. Improvement of development speed
- 4. Enhancement of ability to procure materials



## 2. Segment Results

### Automotive Battery (Japan)

➤ Aim to establish optimal production structure with the 3 main bases in Japan

#### GS Yuasa

● Osadano plant, Kyoto



● Gunma plant



#### GS Yuasa Energy

(former Panasonic Storage Battery)

● Kosai, Shizuoka



Strength

Production of **Low-volume, high-mix** (large-size batteries, special-type batteries, high value added batteries)

Strength

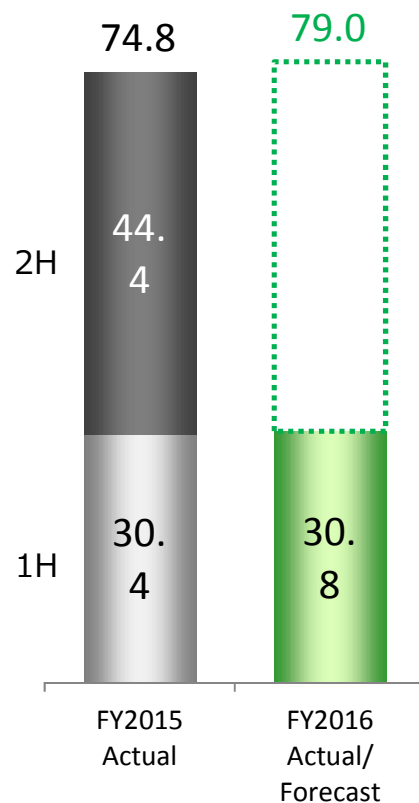
**Panasonic**  
Production of mass produced items

## 2. Segment Results

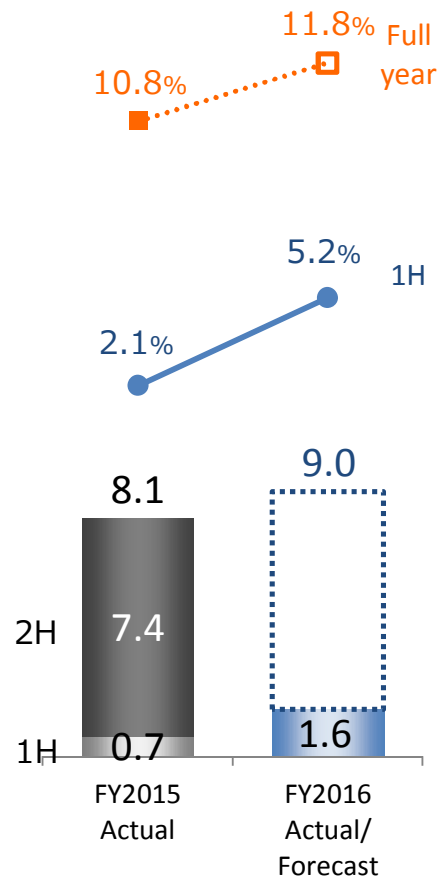
### Industrial Battery and Power Supply (Japan)

(Billion yen)

#### Net sales



#### Operating income/ operating income ratio



#### FY2016 1H Sales Overview

- Demand for compact uninterruptable power supplies expanded
- Sales of industrial use lithium-ion batteries expanded
- Sales of lead-acid batteries for battery-operated forklifts remained strong.

#### Main Profit Change Factors

Quantity	+0.5
Lead prices / sales prices	+0.3
Expenses, etc.	+0.2

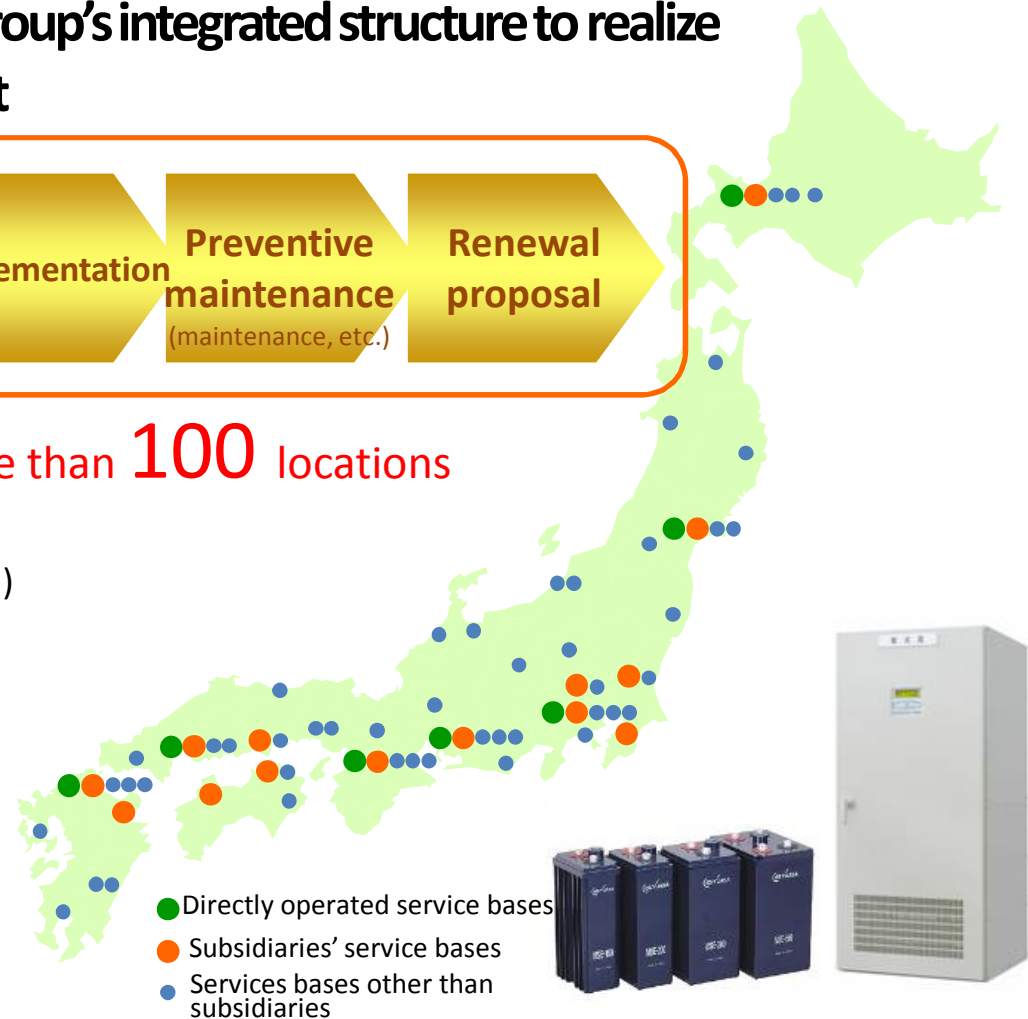
## 2. Segment Results

### Industrial Battery and Power Supply (Japan)

➤ From before to after, GS Yuasa Group's integrated structure to realize securing a stable, long-term profit



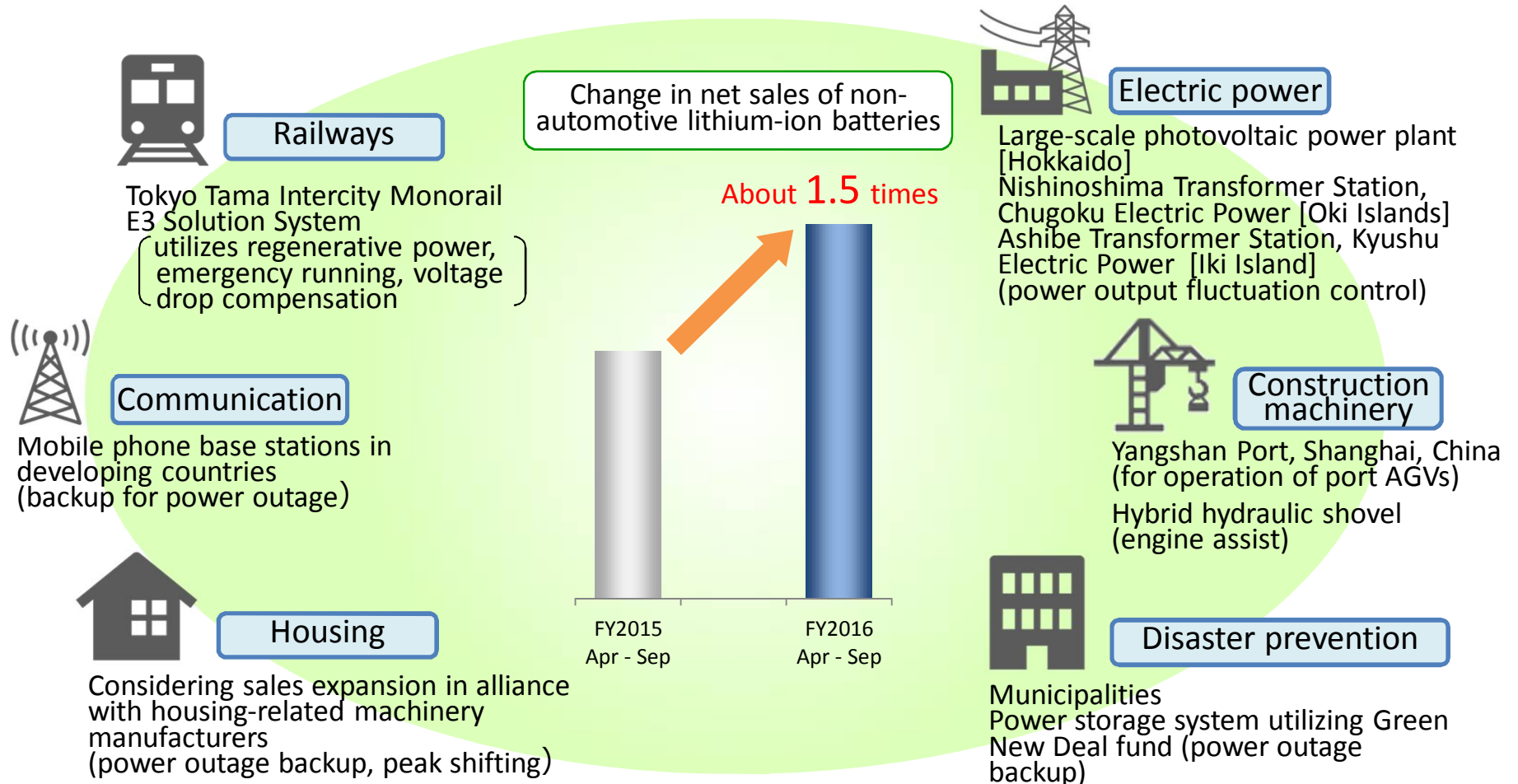
Service bases in more than **100** locations around Japan (including subsidiaries, etc.)



## 2. Segment Results

### Industrial Battery and Power Supply (Japan)

➤ Develop new markets, customers with industrial-use lithium-ion batteries

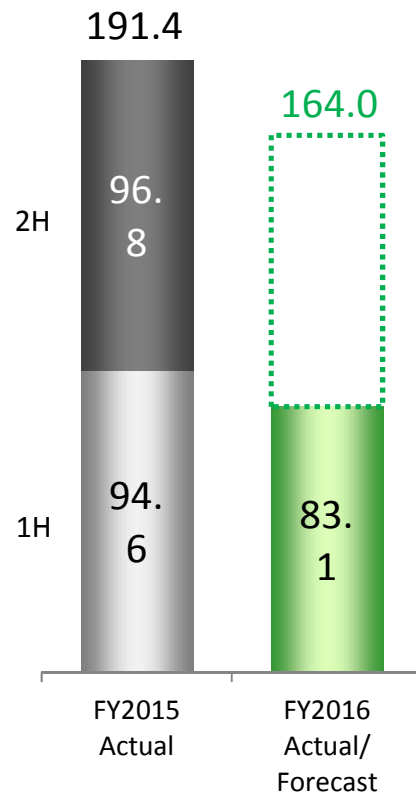


## 2. Segment Results

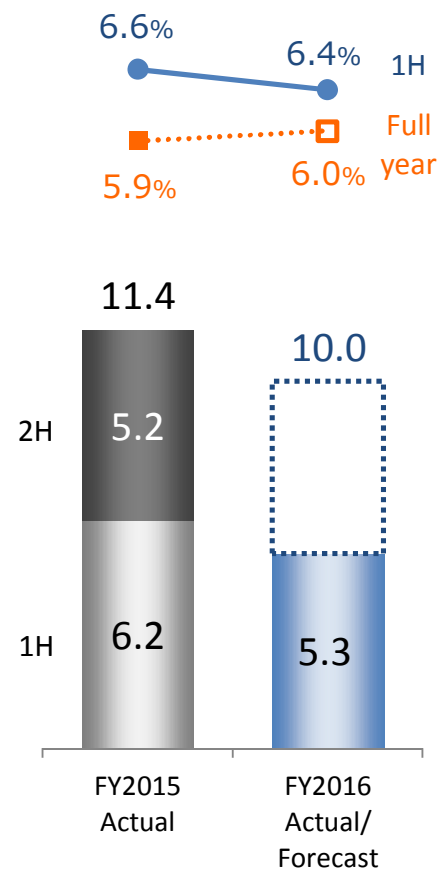
### Overseas

(Billion yen)

#### Net sales



#### Operating income/ operating income ratio



#### FY2016 1H Sales Overview

- Both net sales and operating income declined due to the impact of foreign exchange
- Sales of lead-acid batteries for industrial use and motorcycles in China declined

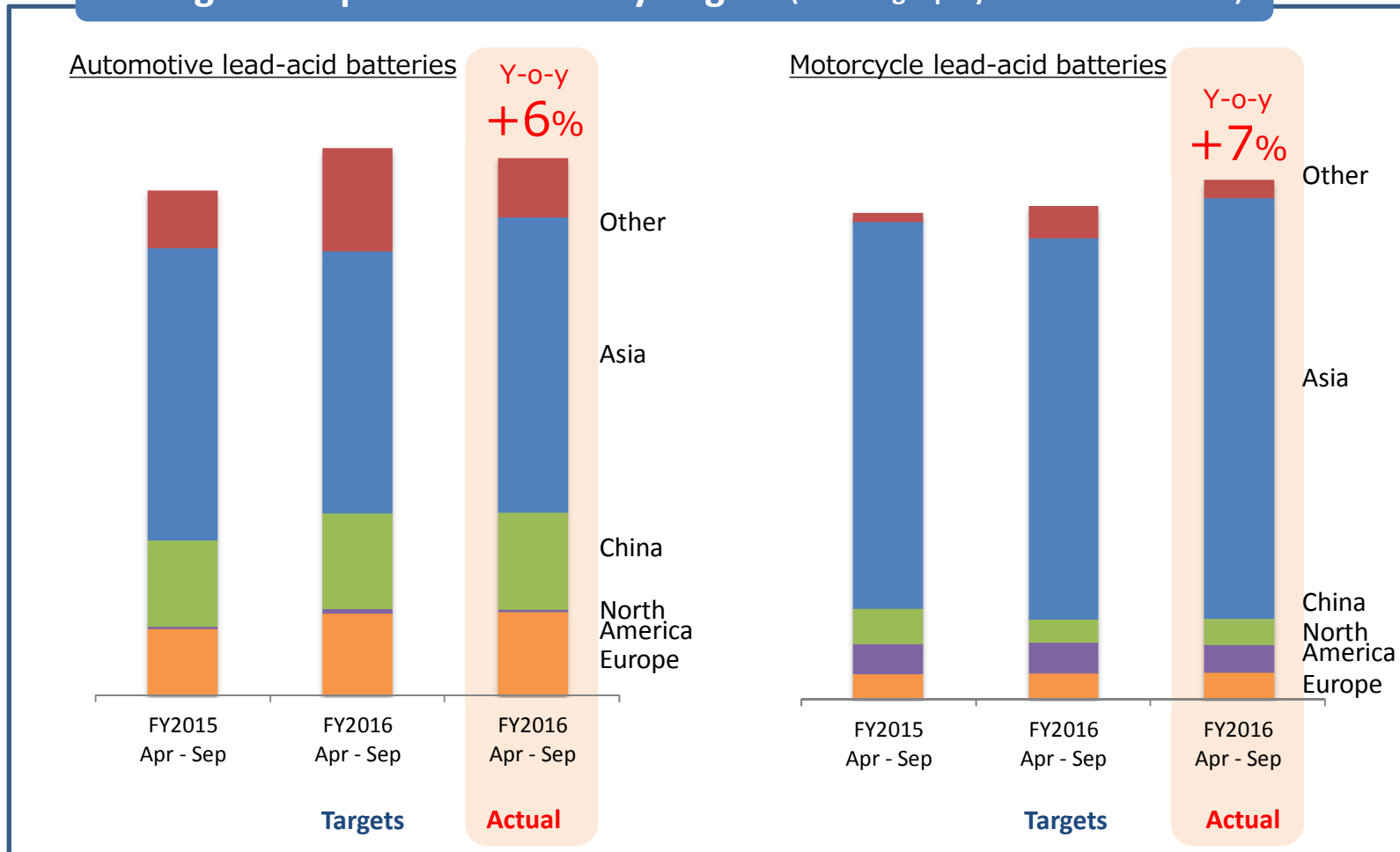
#### Main Profit Change Factors

Quantity	-0.3
Lead prices / sales prices	+1.4
Exchange rate	-1.2
Personnel costs / expenses, etc.	-0.9

## 2. Segment Results

### Overseas

**Change in Shipment Volume by Region (Including Equity Method Subsidiaries)**



## 2. Segment Results

### Overseas

#### ➤ Promoting global strategy by utilizing equity method subsidiaries

##### Turkey

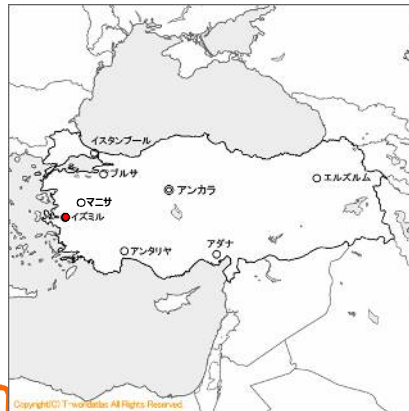
Investing management resources by positioning it as an important strategic area

Company	Inci GS Yuasa Aku Sanayi ve Ticaret Anonim Sirketi	
Location	Suburbs of Izmir	
Established	October 2015	
Investors	GS Yuasa International	50%
	Inci Holding Anonim Sirketi	50%

Added GS Yuasa brand to the product lineup

Expand sales into areas with no existing business (Middle East, North Africa, East Europe)

Export to European bases



Future

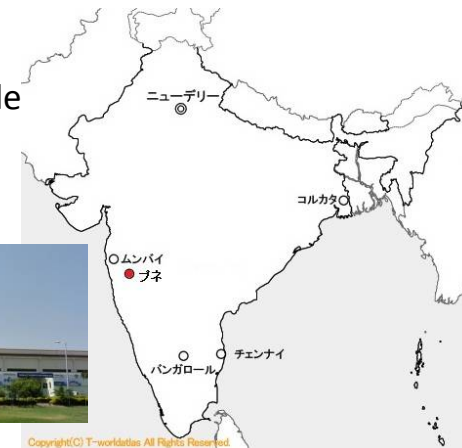
##### India

Started production and supply of motorcycle lead-acid batteries in the world's largest motorcycle market

Company	Tata AutoComp GY Batteries Private Limited.	
Location	Pune, Maharashtra	
Established	October 2005	
Investors	GS Yuasa International	50%
	Tata AutoComp Systems Ltd.	50%

Annual production capacity of motorcycle lead-acid batteries

**2.4 million units**



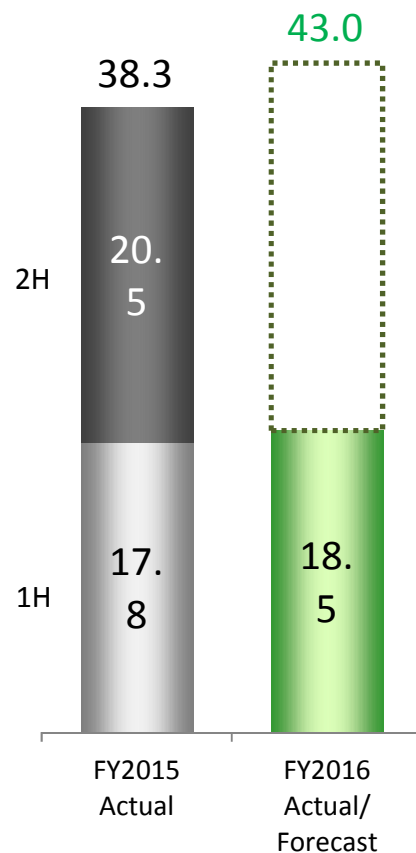
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## 2. Segment Results

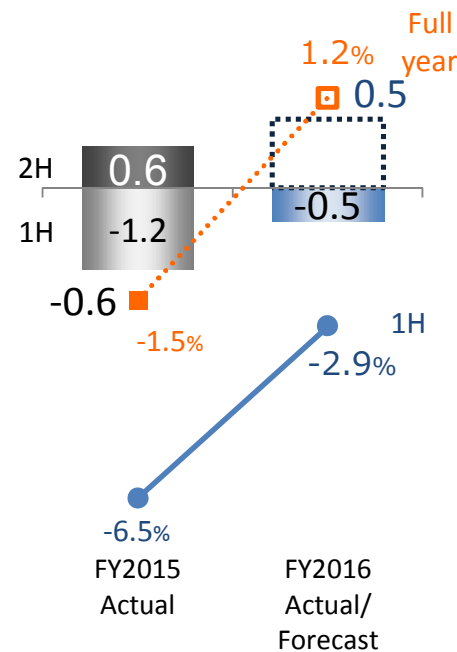
### Automotive Lithium-ion Battery

(Billion yen)

#### Net sales



#### Operating income/ operating income ratio



#### FY2016 1H Sales Overview

- Lithium Energy Japan  
Sales of lithium-ion batteries for plug-in hybrid electric vehicles in Europe increased.
- Blue Energy  
Sales of lithium-ion batteries for hybrid vehicles declined due to slumping domestic automobile sales.

#### Main Profit Change Factors

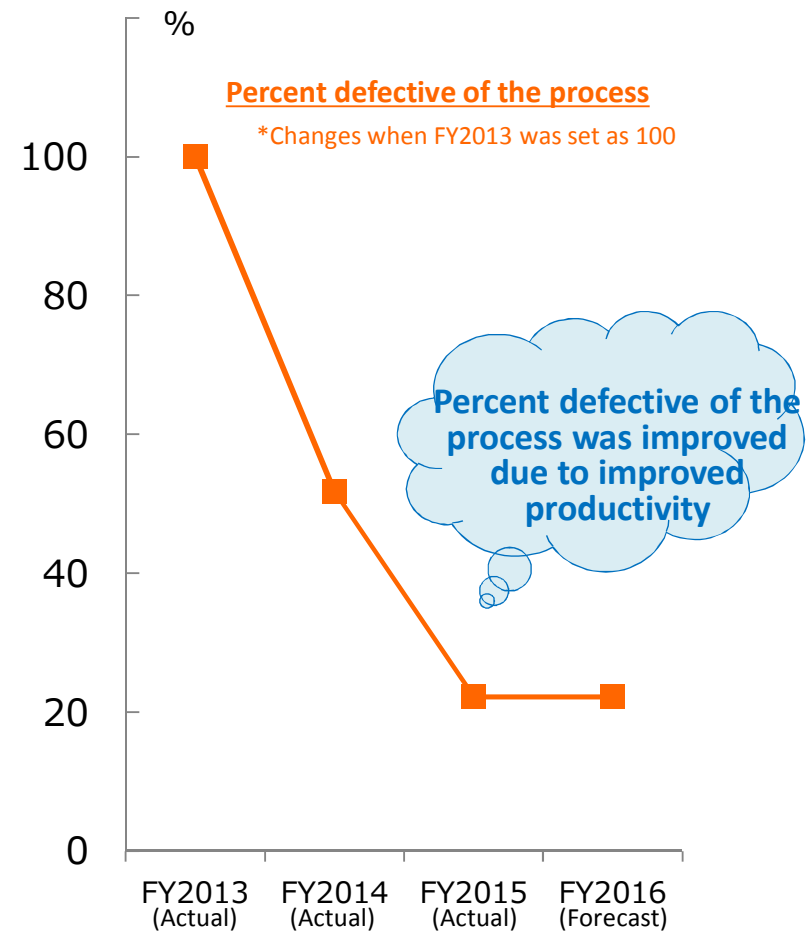
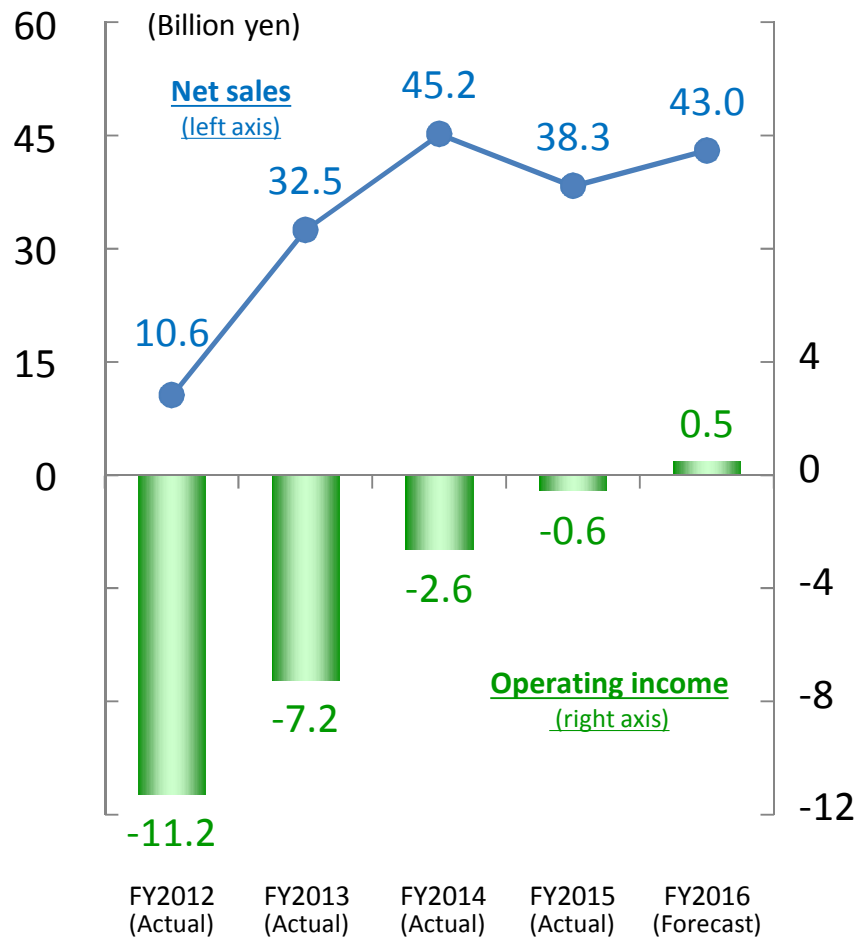
Loss narrowed as streamlining was promoted



## 2. Segment Results

### Automotive Lithium-ion Battery

➤ Segment progressing smoothly towards full-year profit



## 2. Segment Results

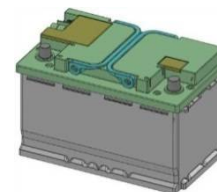
### Automotive Lithium-ion Battery

➤ Promoting development of low voltage (12V/48V) LiB with eye on future demand

Type	Gasoline-engine vehicles	S&S vehicles	Hybrid				EV Fuel cell vehicles
			Micro	Mild	Strong	Plug-in	
Fuel-efficient system						Plug-in	EV mode
						EV mode	
						Motor assist	
						Start & stop (S&S)	
						Braking energy regeneration	
Voltage		12V		48V	100V or more		
Battery	Starting	Pb	Pb	Pb	LiB	LiB	-
	Assist, S&S, regenerative, electrical	-	Pb	LiB	LiB	Ni-MH	LiB
	Electrical, system startup	Pb	Pb	Pb	Pb	Pb	Pb

Pb: lead-acid storage batteries  
 LiB: lithium-ion batteries  
 Ni-MH: nickel-metal hydride batteries

Application scope of low voltage (12V/48V) LiB



## 2. Segment Results

### Automotive Lithium-ion Battery

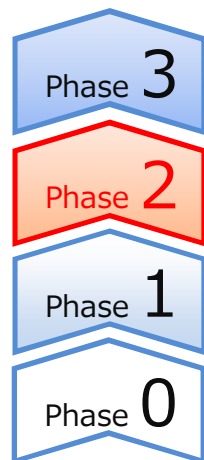
➤ **Lithium energy and power (LEAP) business is progressing according to the plan**

#### German base (LEAP)

Location	Stuttgart	
Established	Nov. 2013	
Investors	GS Yuasa	25%
	Bosch	50%
(as of Mar 2016)	Mitsubishi Corp.	25%

#### Japanese base (LEAP Japanese subsidiary)

Location	Kyoto	
Established	Feb. 2014	
Investors	LEAP	100%
(as of Mar 2016)		



Establishment of production and sales structures

- ✓ Aimed at around 2020, when spread of EV is expected to become full scale

**In process of feasibility study for production, sales**

- ✓ **Began offering proposals to automobile manufacturers**

R&D of next-generation lithium-ion batteries

- ✓ Completed confirmation product concept (for EV)

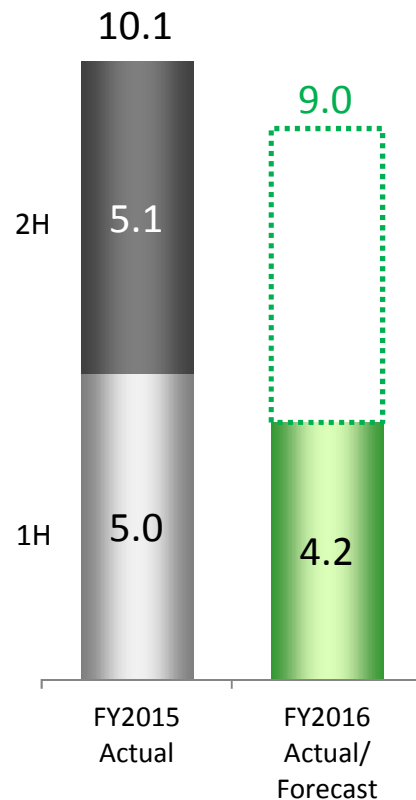
Company established (Nov 2013)

## 2. Segment Results

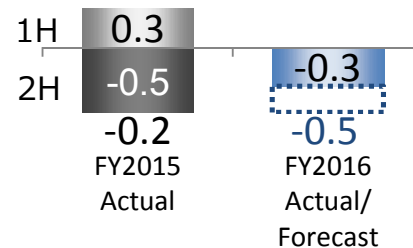
### Others

(Billion yen)

#### Net sales (Billion yen)



#### Operating income



#### Topics

- Sales of specialty batteries temporarily declined
- Constructed a plant for lithium-ion batteries for submarines and production will start in the second half

#### Main Profit Change Factors

Increase in R&D expenses in preparation for next-generation products

### 3. Revision to Consolidated Results Forecast

	FY2015 Actual	FY2016 Initial Forecast	FY2016 Revised Forecast	(Billion yen) Change (Revised - Initial)	
Net sales	365.6	410.0	360.0	-50.0	
Operating income	21.9	24.5	23.0	-1.5	
(Operating income ratio)	6.0%	6.0%	6.4%	+0.4P	
Operating income before amortization of goodwill	-	26.0	24.0	-2.0	
(operating income ratio before amortization of goodwill)	-	6.3%	6.7%	+0.4P	
Ordinary income	21.4	24.0	22.0	-2.0	
Profit attributable to owners of parent	9.0	12.0	12.0	±0	
(Net profit ratio)	2.5%	2.9%	3.3%	+0.4P	
Profit attributable to owners of parent before amortization of goodwill	-	14.0	13.5	-0.5	
(Net profit ratio before amortization of goodwill)	-	3.4%	3.8%	+0.4P	
Profit per share	¥21.88	¥29.07	¥29.07	±¥0.00	
Dividend	10 yen/share	10 yen/share	10 yen/share	±0 yen/share	
Assumptions	Domestic lead price quote	¥273,500/t	¥270,000/t	¥260,000/t	-¥10,000/t
	LME	1,786US\$/t	1,800US\$/t	1,900US\$/t	+100US\$/t
	Exchange rate	¥121.03/US\$	¥115.0/US\$	¥105.0/US\$	-¥10.0/US\$

\* The above figures take into account the impact of transfer of Panasonic's business

## 3. Revision to Consolidated Results Forecast

### Segment Results

(Billion yen)

	FY2015 Actual		FY2016 Initial Forecast		FY2016 Revised Forecast		FY2016 Apr – Sep	
	Net sales	Operating income (Op. income ratio: %)	Net sales	Operating income (Op. income ratio: %)	Net sales	Operating income (Op. income ratio: %)	Net sales	Operating income (Op. income ratio: %)
Automotive battery (Japan)	51.0	3.3 (6.5)	75.0	5.8 (7.7)	65.0	5.0 (7.7)	22.2	1.1 (5.1)
Industrial battery and power supply (Japan)	74.8	8.1 (10.8)	79.0	9.0 (11.4)	79.0	9.0 (11.4)	30.8	1.6 (5.2)
Overseas	191.4	11.4 (5.9)	204.0	11.2 (5.5)	164.0	10.0 (6.1)	83.1	5.3 (6.4)
Automotive lithium-ion battery	38.3	-0.6 (-1.5)	43.0	0.5 (1.2)	43.0	0.5 (1.2)	18.5	-0.5 (-2.9)
Others	10.1	-0.2 (-2.3)	9.0	-0.5 (-5.6)	9.0	-0.5 (-5.6)	4.2	-0.3 (-7.5)
<b>Total</b>	<b>365.6</b>	<b>21.9 (6.0)</b>	<b>410.0</b>	<b>26.0 (6.3)</b>	<b>360.0</b>	<b>24.0 (6.7)</b>	<b>158.9</b>	<b>7.2 (4.5)</b>

(\*1) Operating income ratio and operating income for FY2016 are figures before goodwill amortization.

(\*2) The above figures take into account the impact of transfer of Panasonic's business.

### 3. Revision to Consolidated Results Forecast

Segment	Change	Factors
Automotive battery (Japan)	Net sales -¥10.0 billion	<ul style="list-style-type: none"> <li>➤ The timing of consolidation of the earnings of Panasonic Storage Battery Co., Ltd. changed to 3Q from initially planned 2Q due to the delay of the transfer of Panasonic's lead-acid battery business.</li> <li>➤ The price of lead, the main raw material declined in 1H, which was reflected in the selling price of products for new vehicles.</li> </ul>
	Operating income -¥0.8 billion	<ul style="list-style-type: none"> <li>➤ Operating income is expected to fall due to decline in net sales</li> </ul>
Overseas	Net sales -¥40.0 billion	<ul style="list-style-type: none"> <li>➤ Overseas net sales after conversion to yen are expected to shrink due to the trend towards a stronger yen.</li> <li>➤ The timing of consolidation of the earnings of Panasonic Storage Battery (Shenyang) Co., Ltd. changed to 4Q from initially planned 3Q due to the delay of the transfer of Panasonic's lead-acid battery business.</li> </ul>
	Operating income -¥1.2 billion	<ul style="list-style-type: none"> <li>➤ Operating income after conversion to yen is expected to shrink due to the trend towards a stronger yen.</li> <li>➤ Operating income is expected to fall due to decline in net sales</li> </ul>

# 4. Balance Sheet

(Billion yen)

	3/31/2016	9/30/2016	Change		3/31/2016	9/30/2016	Change
<b>Current assets</b>	<b>175.8</b>	<b>160.2</b>	<b>-15.6</b>	<b>Liabilities</b>	<b>168.7</b>	<b>173.0</b>	<b>+4.3</b>
• Cash and deposits			-6.7	• Notes and accounts payable			-5.5
<div style="border: 1px solid black; padding: 2px;">Fund procurement for stock acquisition of the new consolidated subsidiary</div>				<div style="border: 1px solid black; padding: 2px;">Payment of trade accounts payable due to procurement increase at the end of the fiscal year</div>			
• Notes and accounts receivable			-7.5	• Borrowings			+10.5
<div style="border: 1px solid black; padding: 2px;">Collection of trade accounts receivable from sales increase at the end of the fiscal year progressed smoothly</div>				• Payables			-4.2
				• Notes payable-facilities			+1.1
				• Net defined benefit liability			+1.6
<b>Fixed assets</b>	<b>170.7</b>	<b>179.6</b>	<b>+8.9</b>	<b>Net assets</b>	<b>177.8</b>	<b>166.9</b>	<b>-10.9</b>
• Goodwill			+9.6	• Retained earnings			+1.2
<div style="border: 1px solid black; padding: 2px;">Goodwill on the share purchase of the newly consolidated subsidiary</div>				• Foreign currency translation adjustments			-11.7
• Investment securities			-2.4	<div style="border: 1px solid black; padding: 2px;">Impact of yen's appreciation</div>			
• Net defined benefit asset			+1.7	• Non-controlling interests			-1.1
<b>Total assets</b>	<b>346.5</b>	<b>339.9</b>	<b>-6.6</b>	<b>Total liabilities and net assets</b>	<b>346.5</b>	<b>339.9</b>	<b>-6.6</b>
		<b>3/31/2016</b>	<b>9/30/2016</b>				
Equity ratio		44.4%	42.4%				
ROE (return on equity)		5.7%	—				



## 5. Capital Expenditure, Depreciation, R&D Expenses

(Billion yen)

	FY2015 Apr – Sep	FY2016 Apr – Sep	FY2015 Full year	FY2016 Full-year (initial forecast)	FY2016 Full-year (revised forecast)
<b>Capex</b>	5.5	7.7	13.0	33.0	30.0
Automotive battery (Japan)	0.6	0.6	1.5	2.0	2.0
Industrial battery and power supply (Japan)	0.5	0.4	1.3	2.0	2.0
Overseas	1.7	1.6	2.5	10.0	7.0
Automotive lithium-ion battery	1.1	0.3	2.7	4.0	4.0
Others	1.7	4.7	4.9	15.0	15.0
<b>Depreciation</b>	7.7	7.3	15.3	17.0	16.0
Automotive lithium-ion battery	2.6	2.7	5.2	5.5	5.5
<b>R&amp;D Expenses</b>	3.6	4.4	7.0	7.0	7.0
(Ratio of R&D expenses to net sales)	2.1%	2.8%	1.9%	1.7%	1.9%

\* The above figures take into account the impact of transfer of Panasonic's business.

## 6. Cash Flow Statements

### April - September Results

(Billion yen)

<b>Operating C/F</b>		<b>8.1</b>		<b>Investing C/F</b>		<b>-21.1</b>		<b>Financing C/F</b>		<b>9.0</b>	
• Profit before income taxes	6.2	• Purchase of property, plant and equipment	-8.1	• Increase in borrowings	13.7						
• Depreciation and amortization	7.6	• Purchase of subsidiaries' shares resulting in change in scope of consolidation	-13.6	• Dividends paid	-4.2						
• Decrease in receivables	6.6										
• Increase in inventories	-3.1										
• Increase in trade accounts payable	-4.9										
• Income taxes paid, etc.	-3.3										
<b>Balance of Cash and Cash Equivalents</b>											
April 1, 2016				<b>27.8</b>		September 30, 2016				<b>21.8</b>	
<b>Free C/F *1</b>		<b>-13.0</b>									

### Highlights

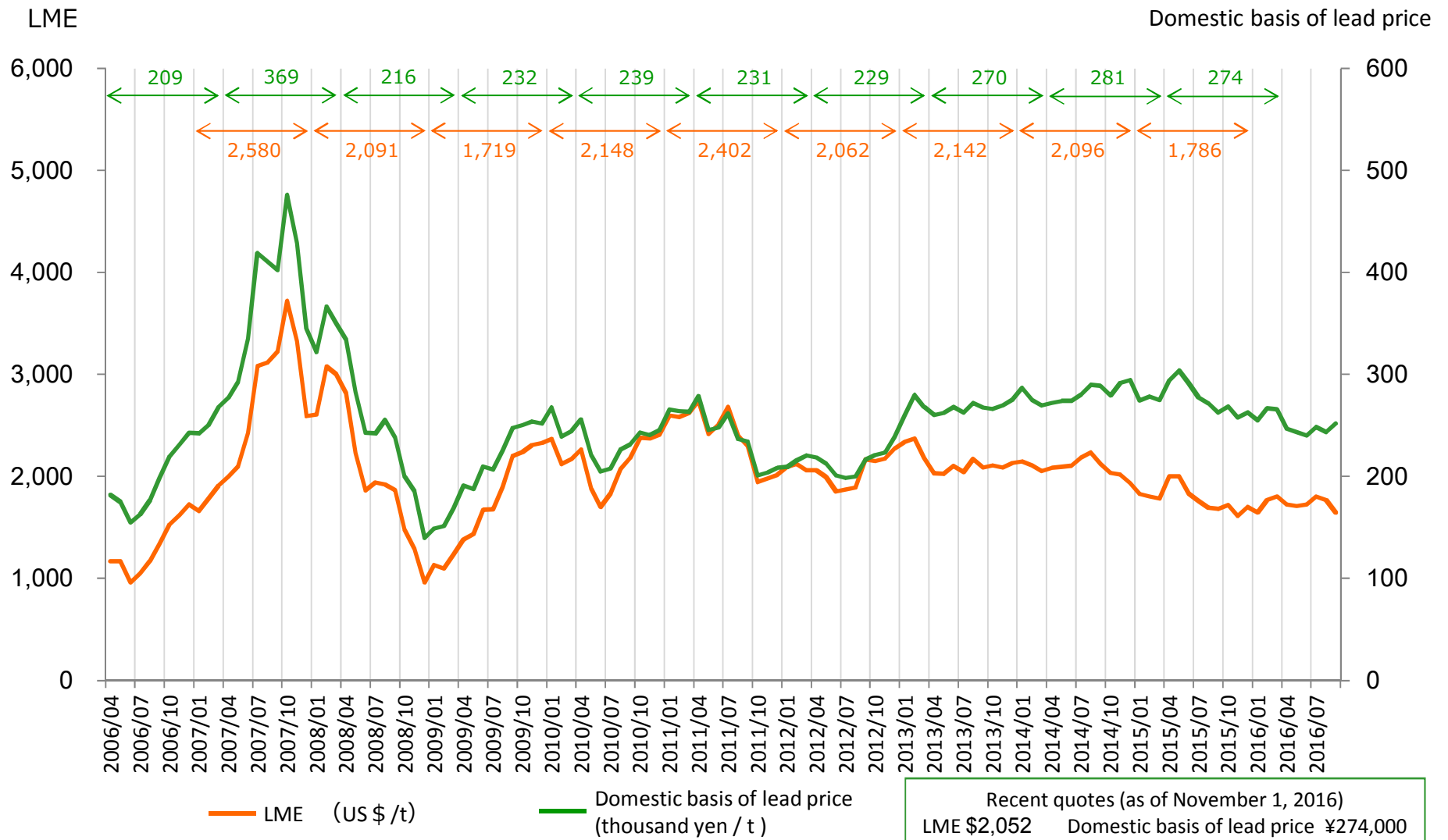
- Operating cash flow was ¥8.1 billion, higher than ¥5.4 billion a year ago.
- Free cash flow came to -¥13.0 billion reflecting capex and share purchase of the newly consolidated subsidiary.
- Balance of cash and cash equivalents came to ¥21.8 billion at the end of the first half, as we compensated with cash on hand and borrowings.

\*1: Total of cash flow from operating activities and cash flow from investing activities

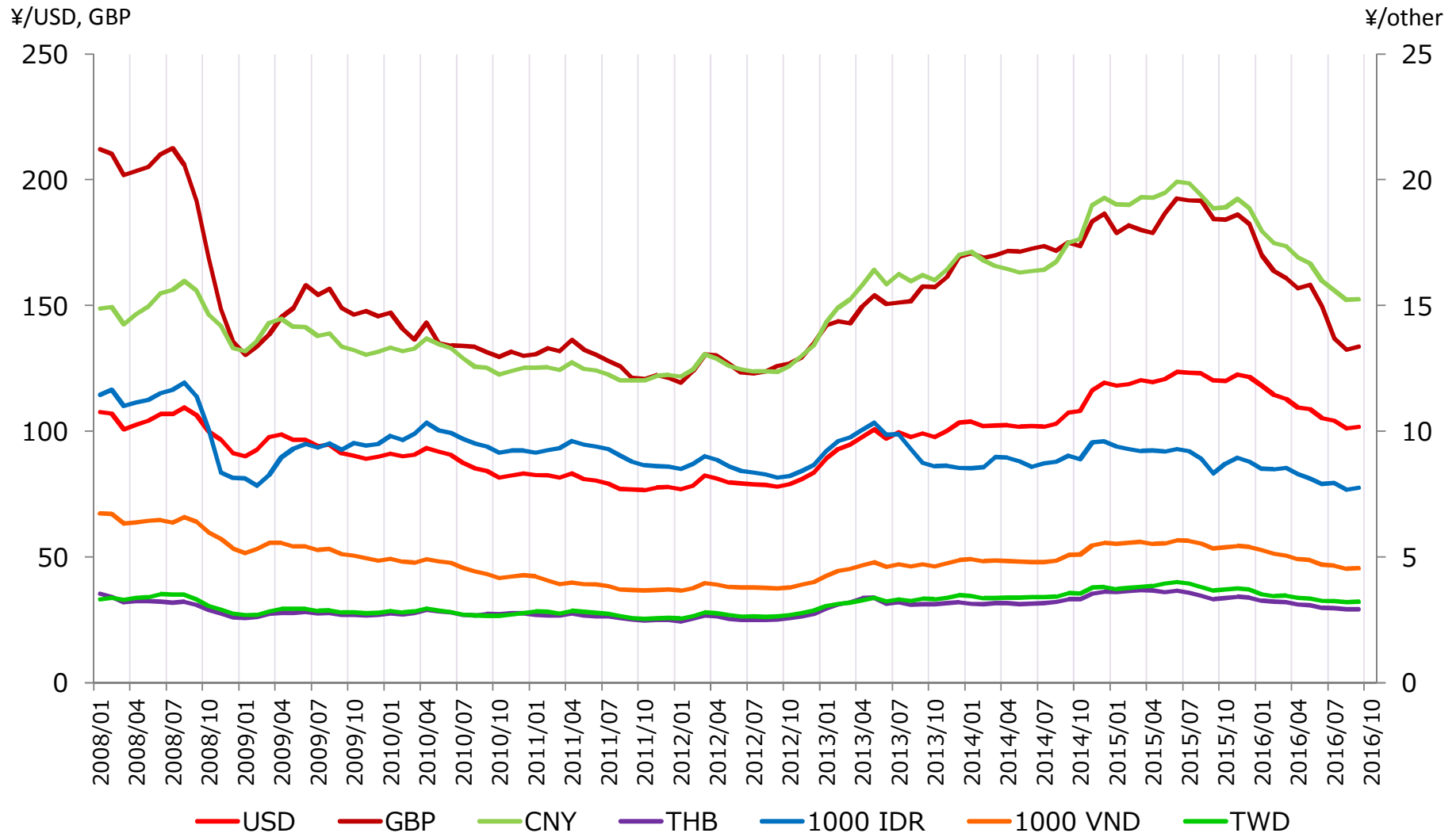
Although this document has been prepared with information believed to be correct, GS Yuasa Corporation does not guarantee the accuracy or the completeness of such information. Also, the information herein contains forward-looking statements regarding the Company's plans, outlooks, strategies and results for the future. All the forward-looking statements are based on judgments derived from information available to the Company at the time of release. Certain risks and uncertainties could cause the Company's actual results to differ materially from any projections presented herein.



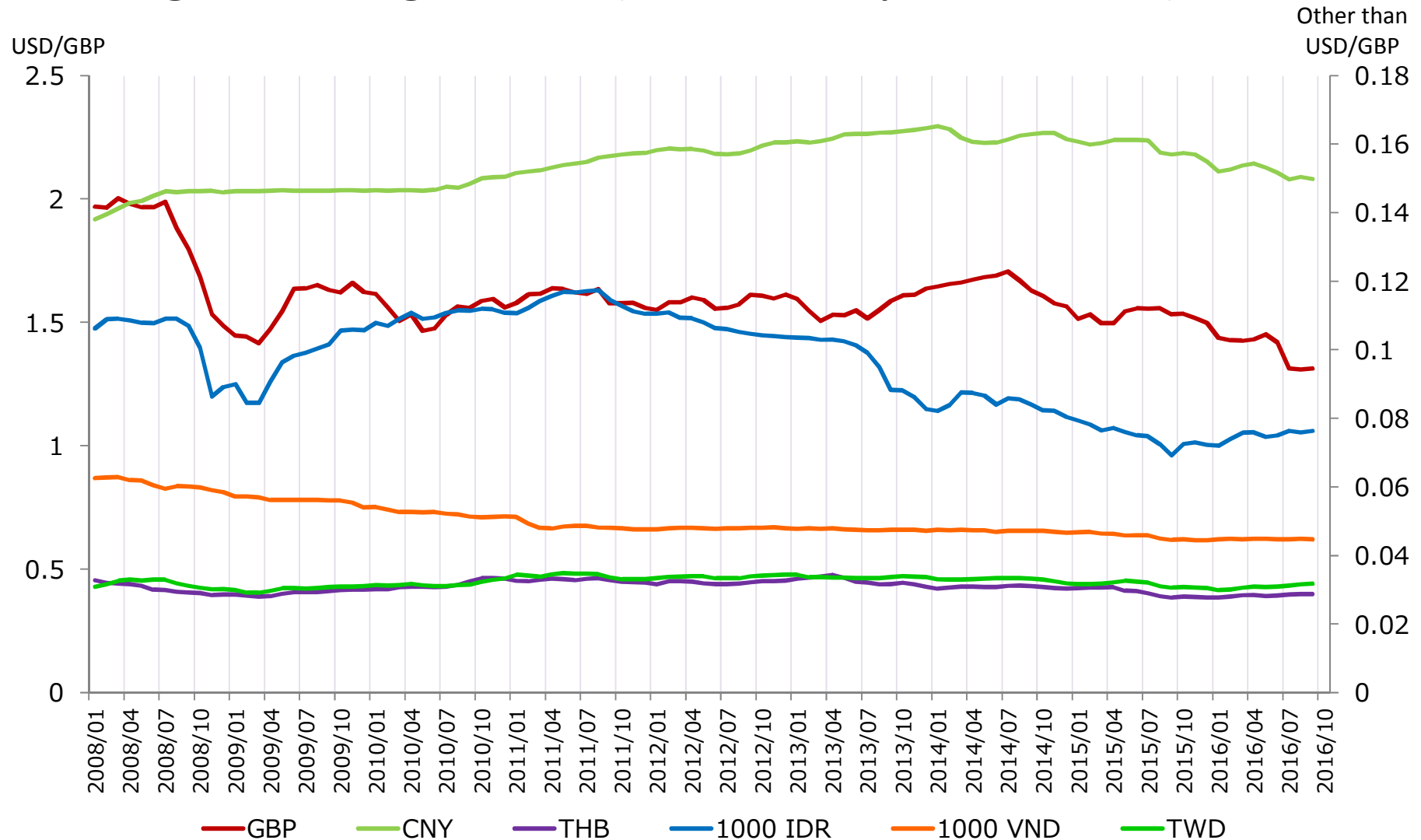
## Raw Materials Prices



## Foreign Exchange Rates (JPY vs. Key Currencies)



## Foreign Exchange Rates (USD vs. Key Currencies)



## Interest-Bearing Debt, D/E Ratio

