

# **Financial Information**

**HORIBA, Ltd.  
September, 2018**

# Contents

- **2018 First Half Results**
- **2018 Forecast**
- **Business Segments Outline**
- **Shareholder Return**
- **Other Topics**
- **Financial Data**
- **Corporate profile**

[Disclaimer]

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# Review of the First Half of 2018

<b>External Events</b>	<ul style="list-style-type: none"><li>◆ Escalating global trade tensions</li><li>◆ Decline in emerging markets currencies due to tightening by the Fed in the U.S.</li><li>◆ Temporary subdued capital spending despite robust demand for semiconductors</li><li>◆ Automotive electrification, emission regulations</li></ul>
<b>Internal Events</b>	<ul style="list-style-type: none"><li>◆ Enhanced North American bases (for Semiconductors and Scientific)</li><li>◆ Full-scale operation at the expanded Aso factory (for Semiconductors)</li><li>◆ Aggressive investment in next-generation automotive technologies</li><li>◆ Renewed record-high stock price of HORIBA; market cap exceeds ¥400bn</li></ul>

# Summary of the First Half Results of 2018

## Reached a record high in sales, profit and dividend (first half)

### P&L

- ◆ Significant increase in sales and profit in Automotive and Semiconductor segments, year-on-year
- ◆ Semiconductor was weak in 2Q compared to 1Q.

### B/S

- ◆ Total asset were ¥268.7bn, up to ¥2.8bn, due to increase in inventory.
  - ◆ Tangible assets was ¥68bn, down to ¥0.6bn due to appreciation of the yen
  - ◆ Equity ratio: 57.1%
- (Compared to the end of Dec. 2017)

### CF

- |  |   |                    |
|--|---|--------------------|
| ◆ Operating CF: Cash in ¥12.4bn due to growth in profit    | } | Free CF<br>+¥7.9bn |
| ◆ Investing CF: Cash out ¥4.4bn due to capital spending    |   |                    |
| ◆ Financial CF: Cash out ¥4.3bn due to payment of dividend |   |                    |

# 2018 First Half Results

(Billions of Yen)

	2017 1st half	2018 1st half					
	Results	Forecast Beg. of the year (as of Feb. 13)	Previous Forecast (as of May 9)	Results	vs 2017 1st half	vs Forecast Beg. of the year	vs Previous Forecast
★ : Record-high							
<b>Sales</b>	87.3	96.0	102.0	★ 99.9	+12.6	+3.9	-2.0
<b>Operating Profit</b>	9.7	11.8	14.8	★ 14.0	+4.3	+2.2	-0.7
<b>O. P. %</b>	11.1%	12.3%	14.5%	14.1%	+3.0p	+1.8p	-0.4p
<b>Ordinary Profit</b>	9.5	11.5	14.5	★ 13.7	+4.1	+2.2	-0.7
<b>Net Income attribute to Owners of Parent</b>	6.4	7.7	9.7	★ 10.5	+4.0	+2.8	+0.8
<b>USD/JPY</b>	112.34	110.00	110.00	108.67	-3.67	-1.33	-1.33
<b>EUR/JPY</b>	121.66	130.00	130.00	131.55	+9.89	+1.55	+1.55

# 2018 First Half Results by Segment

(Billions of Yen)

	Sales							Operating Profit							
	2017 1st half	2018 1st half						2017 1st half	2018 1st half						
	Results	Forecast Beg. of the year (as of Feb. 13)	Previous Forecast (as of May 09)	Results	vs 2017 1st half	vs Forecast Beg. of the year	vs Previous Forecast	Results	Forecast Beg. of the year (as of Feb. 13)	Previous Forecast (as of May 09)	Results	vs 2017 1st half	vs Forecast Beg. of the year	vs Previous Forecast	
★ : Record-high															
Auto	30.6	33.0	35.0	★ 32.7	+2.0	-0.2	-2.2	2.1	2.2	2.7	★ 2.4	+0.3	+0.2	-0.2	
P&E	8.0	8.0	8.0	★ 9.2	+1.1	+1.2	+1.2	0.3	0.3	0.3	0.8	+0.5	+0.5	+0.5	
Medical	12.3	13.0	13.0	13.1	+0.7	+0.1	+0.1	0.8	0.8	0.8	1.0	+0.1	+0.2	+0.2	
Semi	24.7	29.0	33.0	★ 32.3	+7.5	+3.3	-0.6	6.7	8.5	11.0	★ 10.2	+3.4	+1.7	-0.7	
Scientific	11.5	13.0	13.0	12.5	+1.0	-0.4	-0.4	-0.4	-	-	-0.5	-0.1	-0.5	-0.5	
Total	87.3	96.0	102.0	★ 99.9	+12.6	+3.9	-2.0	9.7	11.8	14.8	★ 14.0	+4.3	+2.2	-0.7	

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# Market Overview for the Full Year 2018

Auto		Strong appetite for investment in the global automotive sector due to tighter emission regulations in Japan & Asia and innovation for electrification & autonomous driving
P&E		Increase in demand due to tighter environmental regulations in emerging countries Recovery in investment in the oil industry due to higher oil prices
Medical		Japan: Favorable sales to doctors in private practice Overseas: Increase in demand for blood testing equipment in emerging countries
Semi		Anticipate a pick-up in investment in the second half, due to solid demand of semiconductor devices from a mid- to long-term perspective
Scientific		Robust corporate R&D expenditures Accelerating research on new materials for secondary batteries

# Exchange rate

(Yen)

	2017 Actual		2018					
	1sf half	Full year	Previous Forecast (as of May 9)	Results			Forecast 2nd half	Forecast (as of Aug. 3)
				1Q	2Q	1st half		
USD	112.34	112.16	110	108.22	109.12	108.67	111	110
EUR	121.66	126.70	130	133.14	129.96	131.55	128	130

**1 yen O.P. sensitivity for 2018 Forecast (Yen appreciation/Full year)**

**USD ¥200 million**

**EUR ¥20 million**

# 2018 Forecast

(Billions yen)

	2017	2018					
	Results	Forecast Beg. of the year (as of Feb. 13)	Previous Forecast (as of May 9)	Results	vs 2017 1st half	vs Forecast Beg. of the year	vs Previous Forecast
★ : Record-high							
<b>Sales</b>	<b>195.3</b>	<b>210.0</b>	<b>218.0</b>	★ <b>212.0</b>	+16.6	+2.0	-6.0
<b>Operating Profit</b>	<b>26.8</b>	<b>29.0</b>	<b>34.0</b>	★ <b>31.0</b>	+4.1	+2.0	-3.0
<b>O. P. %</b>	<b>13.7%</b>	<b>13.8%</b>	<b>15.6%</b>	<b>14.6%</b>	+0.9p	+0.8p	-1.0p
<b>Ordinary Profit</b>	<b>26.6</b>	<b>28.4</b>	<b>33.4</b>	★ <b>30.4</b>	+3.7	+2.0	-3.0
<b>Net Income attribute to Owners of Parent</b>	<b>16.2</b>	<b>19.0</b>	<b>22.5</b>	★ <b>21.5</b>	+5.2	+2.5	-1.0
<b>Net profit per share (Yen)</b>	<b>386</b>	<b>450</b>	<b>533</b>	<b>509</b>	+123	+59	-24
<b>ROE</b>	<b>11.5%</b>	<b>12.1%</b>	<b>14.3%</b>	<b>13.8%</b>	+2.3p	+1.7p	-0.5p

# 2018 Forecast by Segment

(Billions of Yen)

	Sales							O.P.						
	2017	2018			2018			2017	2018			2018		
★ : Record-high	Results	Forecast Beg. of the year (as of Feb. 13)	Previous Forecast (as of May 9)	Results	vs 2017 1st half	vs Forecast Beg. of the year	vs Previous Forecast	Results	Forecast Beg. of the year (as of Feb. 13)	Previous Forecast (as of May 9)	Results	vs 2017 1st half	vs Forecast Beg. of the year	vs Previous Forecast
Auto	73.3	79.0	79.0	★ 79.0	+5.6	-	-	7.6	8.0	8.0	★ 8.0	+0.3	-	-
P&E	17.4	19.0	19.0	★ 19.0	+1.5	-	-	1.0	1.4	1.4	1.4	+0.3	-	-
Medical	25.1	26.0	26.0	26.0	+0.8	-	-	1.9	2.0	2.0	2.0	+0.0	-	-
Semi	53.3	58.0	66.0	★ 60.0	+6.6	+2.0	-6.0	15.6	17.0	22.0	★ 19.0	+3.3	+2.0	-3.0
Scientific	26.1	28.0	28.0	★ 28.0	+1.8	-	-	0.4	0.6	0.6	0.6	+0.1	-	-
Total	195.3	210.0	218.0	★ 212.0	+16.6	+2.0	-6.0	26.8	29.0	34.0	★ 31.0	+4.1	+2.0	-3.0

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# First Half Results and 2018 Forecast

(Billions of yen)

## 2018 First Half Results

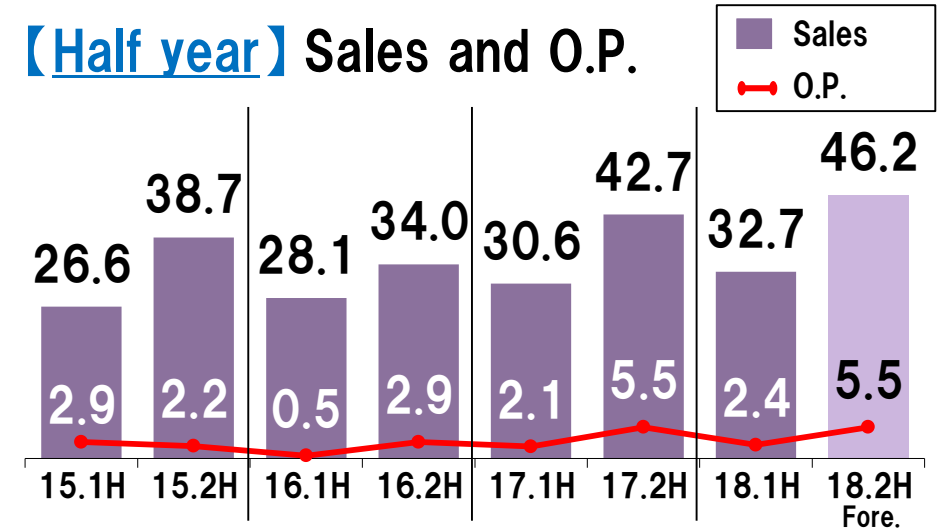
- + EMS**<sup>※1</sup> Europe – Solid demand after new regulations  
China, India – Demand increase for compliance with new regulations
- + MCT**<sup>※2</sup> Lower profitability due to higher sales ratio to Asia
- + ECT**<sup>※3</sup> Expanded business in next-gen. automotive technology

※1: Emission Measurement Systems ※2: Mechatronics ※3: Engineering Consultancy & Testing

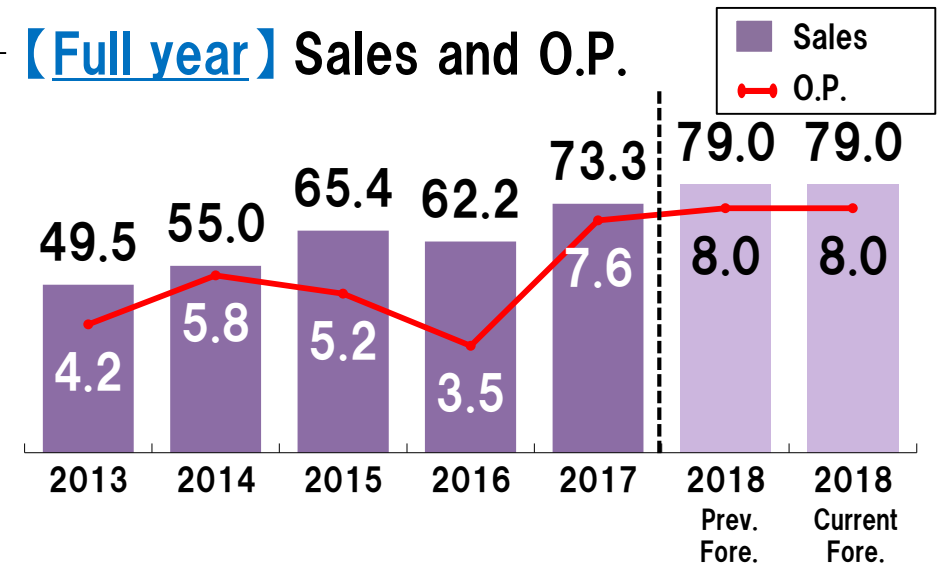
## 2018 Full Year Forecast

- + EMS** Demand growth in China and India
- + MCT** Steady delivery of orders received for Europe, Asia
- + ECT** Aggressive investment to accelerate growth

【Half year】 Sales and O.P.



【Full year】 Sales and O.P.

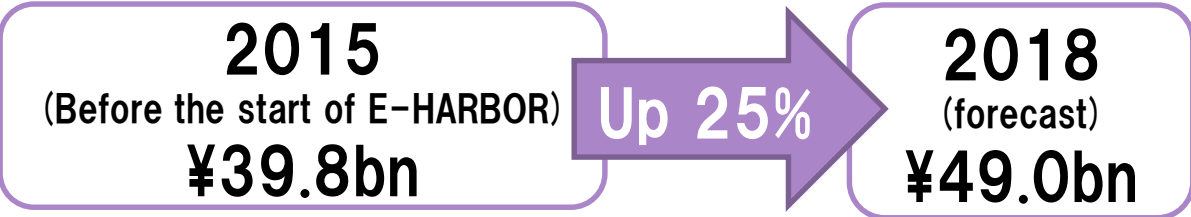


# Effect of enhanced emission regulations

Status of the next-gen. emission regulations  
 HORIBA BIWAKO E-HARBOR achieved record-high output



➤ Sales of EMS business



➤ Emission regulations

Regulation	EU	Japan
WLTP <sup>1</sup>	Sep. 2017	Oct. 2018
RDE <sup>2</sup>		2022 (plan)

China and India: Adoption of new regulations in 2020 (plan)  
 (Same level as Euro6)

- 1: Worldwide harmonized Light vehicles Test Procedure
- 2: Real Driving Emissions

Production at HORIBA BIWAKO E-HARBOR





# Enhanced engineering capability

## Increase in solution provision for the automotive development process

- **Vehicle testing system (Subaru Corp.)**
  - Provide the powertrain testing system that reproduces climate change and other conditions of real driving.
  - Tie up with HORIBA's labs in Japan and the U.S. and curtail the customer's development processes.
  
- **Joint dev't of EV technologies (Keihin Corp.)**
  - HORIBA MIRA provides the battery management system to assist the EV system development.



Vehicle testing system



Battery management system

## HORIBA MIRA in the U.K. opened MIRA Technology Institute

- Jointly invested with the LLEP\* in the U.K.
  - Aimed at fostering personnel in the next-gen. automotive industry
- Education facility in a 24,500m<sup>2</sup> site
- Managed by local universities (inviting professors)



\*LLEP: Leicester & Leicestershire Enterprise Partnership

Quoted from <https://www.miratechnologypark.com/>



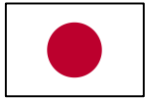
(To open in Sep. 2018)

Rendering of MIRA Technology Institute



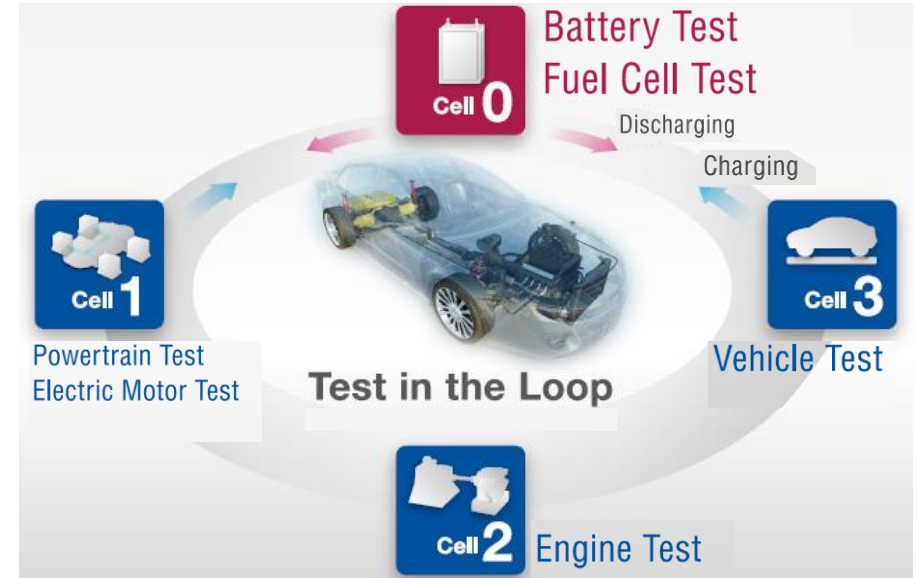
# Auto Investment plan for a battery evaluation testing facility

Introducing an advanced evaluation concept to connect the real and the virtual **ESG ESG**



## Battery evaluation testing facility for electric vehicles (HORIBA BIWAKO E-HARBOR)

- Assessment of the combination of a battery, powertrain, and a vehicle
- Testing a wide range of temperature environment  
→ To be used in evaluating xEV and fuel batteries
- Operation to start in July 2019 (plan)
- Investment amount: about ¥1.3bn



## Advanced Battery Development Suite (ABDS) (HORIBA MIRA)



HORIBA MIRA's engineering capability to be deployed globally



# First Half Results and 2018 Forecast

(Billions of yen)

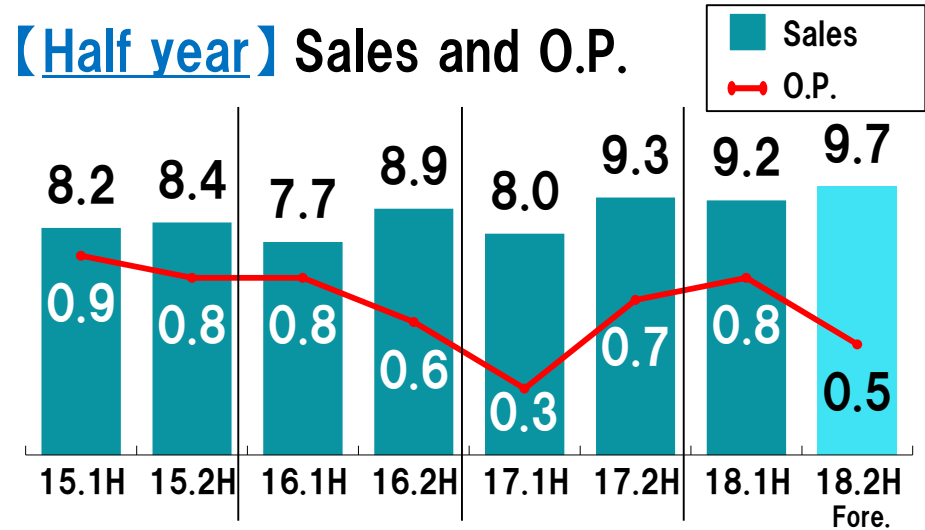
## 2018 First Half Results

- + - Stack gas analyzers: Sales increase in North America due to enforced marketing; flattish demand in Japan
- + Air quality monitoring: Demand growth in Europe and emerging countries due to enhanced regulations
- + Water quality: Sales increase due to business expansion in Japan and emerging countries

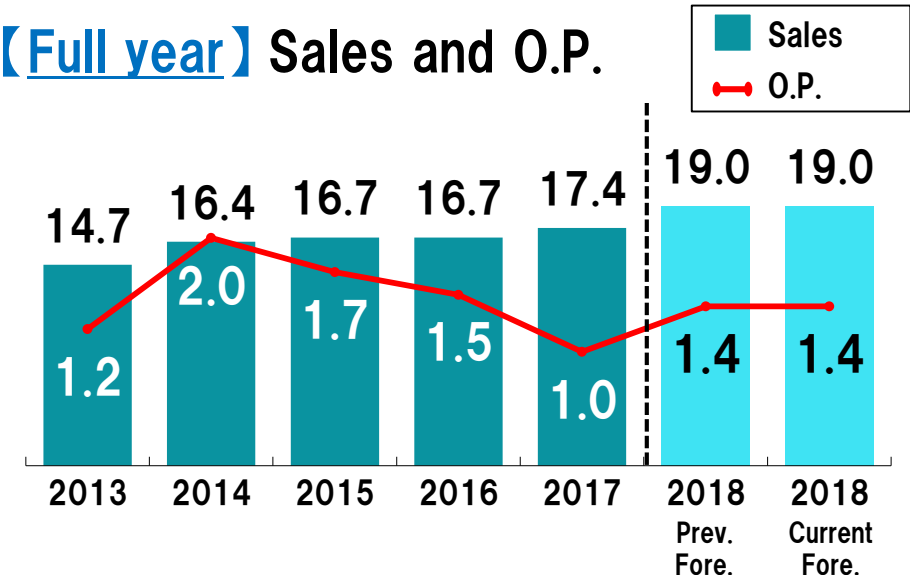
## 2018 Full Year Forecast

- + - Stack gas analyzers: Anticipate progress in VOC regulations in China
- + Process measurement equipment: Anticipate a recovery in investment due to higher oil prices
- + Water quality monitoring: Capture replacement demand in Japan and expand business in emerging countries

【Half year】 Sales and O.P.



【Full year】 Sales and O.P.



# Initiatives for expansion into new markets

## Business growth in Asia



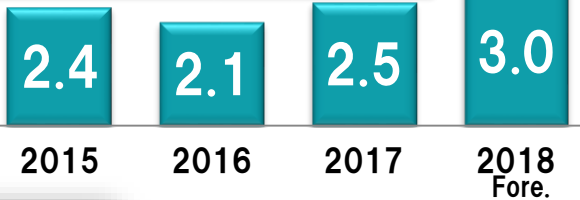
Expand the environmental regulation and monitoring business

➤ Delivery to and continued orders received from Ho Chi Minh and 5 other cities/provinces in Vietnam

- Air Quality Monitoring Station (AQMS)
- Water Quality Monitoring Station (WQMS)

Main operation by HORIBA, Vietnam

Air pollution monitoring equipment business: Consolidated sales (¥bn)



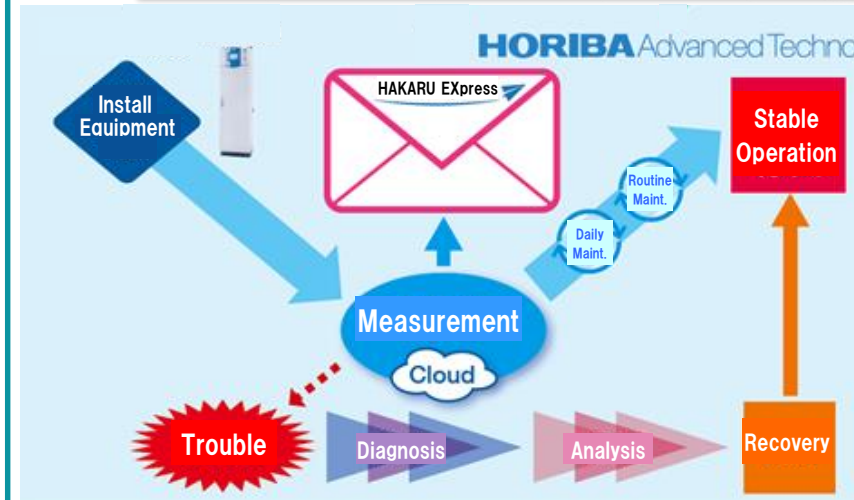
## Launch of “HAKARU\* EXpress”



From a hardware sales business to a data sales business using cloud computing

- Installation of automatic total nitrogen, total phosphorous measurement equipment
  1. Provide the water quality measurement report
  2. Use cloud and monitor the status of equipment

Main operation by HORIBA Advanced Techno



Dan Horiba  
President of HORIBA  
Advanced Techno  
Co., Ltd.

“HAKARU EXpress” service ※: HAKARU = Measuring in Japanese

# First Half Results and 2018 Forecast

(Billions of yen)

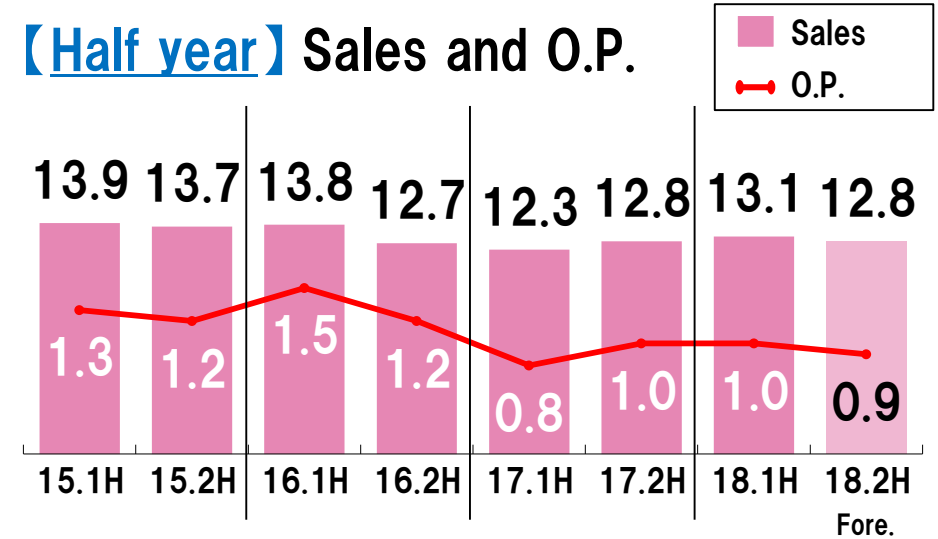
## 2018 First Half Results

- + Strong sales of new products in Japan
- + Sales increase in Europe in yen terms due to the weaker yen
- + Business expansion in emerging countries (China, India)

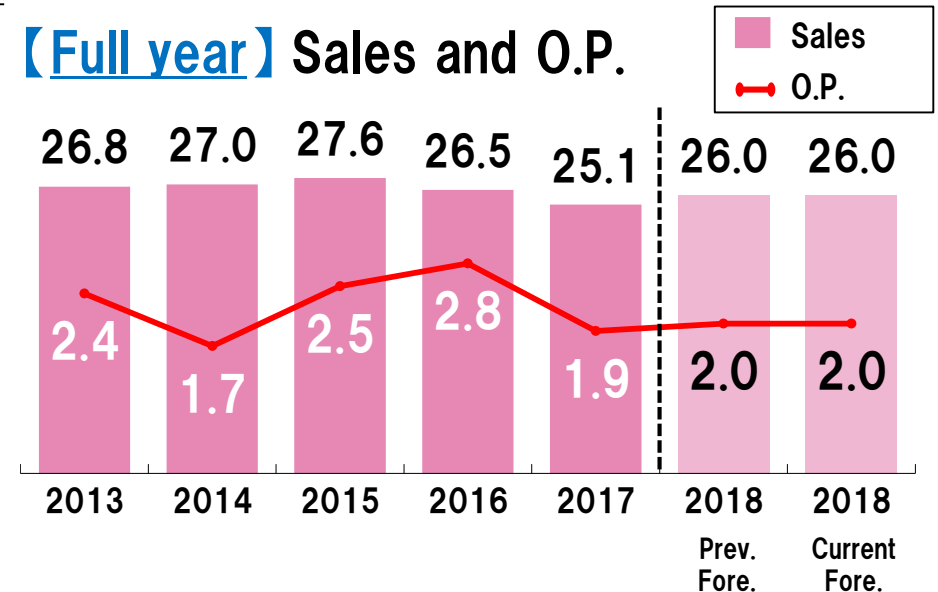
## 2018 Full Year Forecast

- + - Intensified competition in hematology and CRP analyzers in Japan
- + Further business expansion in emerging countries with high demand
- + - Higher sales promotion expenses due to new product launch

【Half year】 Sales and O.P.



【Full year】 Sales and O.P.





# Medical Initiatives for business expansion

## New products to be launched globally



### Mid and large-sized new product

### “HELO Solution”



Completed installation in France, Brazil, Thailand and the U.K.



Installation case in Brazil

### 5 diff. white cell diagnosis + CRP

### “Yumizen H630”

Favorable sales to doctors in private practice in Japan



### Business alliance with Siemens Healthcare Diagnostics

In the process of arranging products for obtaining accreditation

## Opened the application center (biochemical) to accelerate the U.S. business



- To start full operation in August 2018 (plan) in Irvine, California
- For application development in the biochemical field
- Biochemical business consolidated sales: ¥4.1bn (2017)



Biochemical analytical equipment to be launched in the U.S. (OEM supply from JEOL Ltd.)

# First Half Results and 2018 Forecast

(Billions of yen)

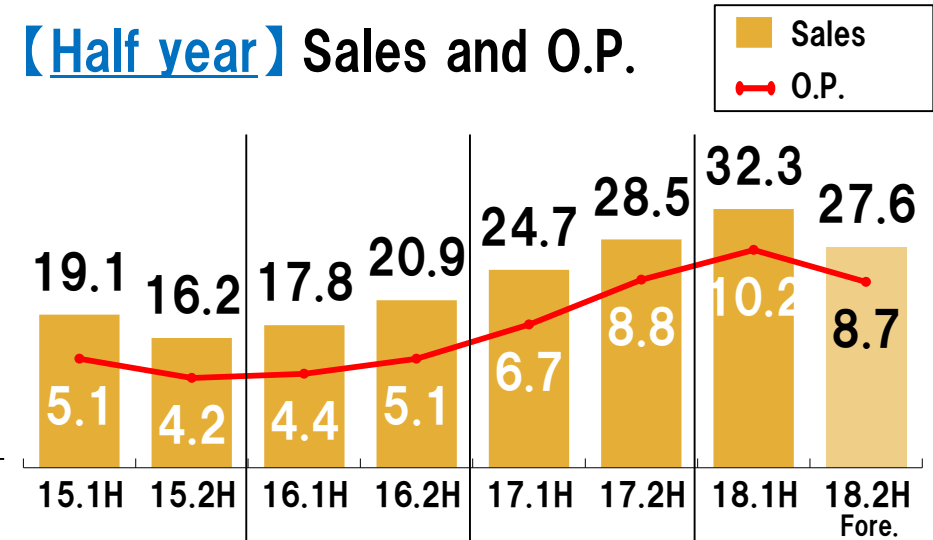
## 2018 First Half Results

- + Record-high sales and O.P.
- + Record-high production volume in Mass Flow Controllers (MFC)
- + The Aso factory expansion boosted supply capacity.

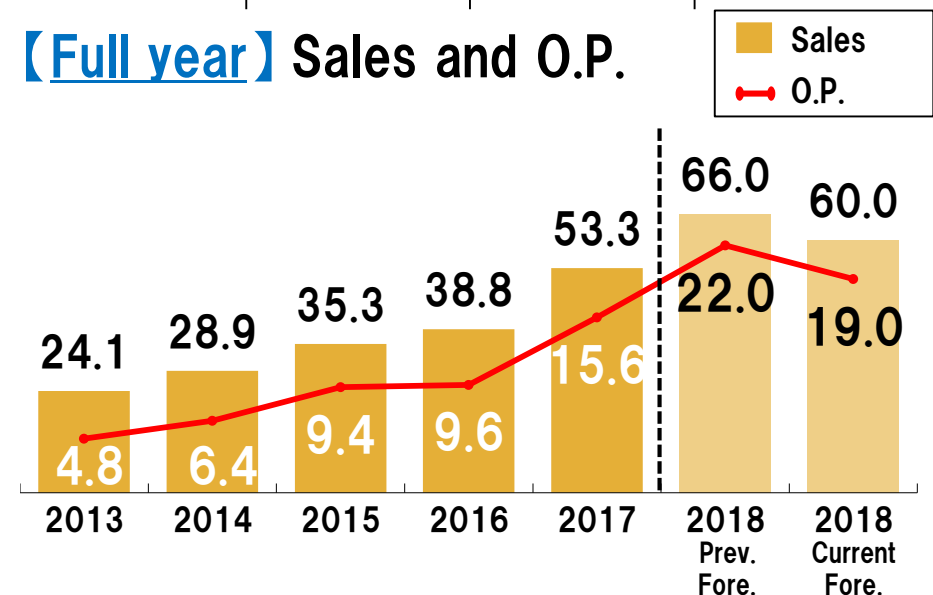
## 2018 Full Year Forecast

- + - Anticipate a pick-up in investment in the second half due to solid demand from a mid- to long-term perspective, despite the current time-out in capital spending demand by semicon makers
- + Japan : The Aso factory's full-fledged operation has stabilized the supply system.
- + Overseas : Opening of a new development base in the U.S. to enhance a global R&D capacity

【Half year】 Sales and O.P.



【Full year】 Sales and O.P.



# Strengthen supply capacity and global R&D

## Full-fledged production after the Aso expansion

Combined output at Aso and Kyoto  
350,000 MFCs per year

Production status: Record-high output (March 2018)  
 Aso Factory: Mass production of MFCs  
 Kyoto Factory: Development and production of advanced MFCs



HORIBA STEC Aso Factory



Construction completion ceremony (May 2018)

## Opening of HORIBA Reno Technology Center

Enhance a N. America development base in the focus area



Establish a global R&D capability



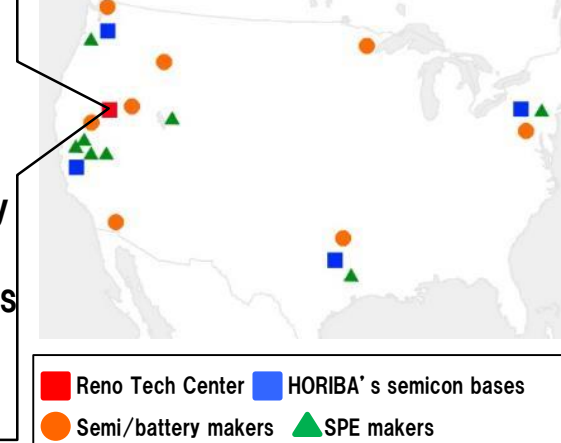
Start: Aug. 2018 Investment: App. ¥1.2bn  
 Place: Reno, Nevada, the U.S.  
 Activity: Development in fluid measurement and control technologies



Relocate into the semiconductor industry cluster region

1. Deepen relationship with customers
2. Promptly capture needs
3. Incorporate into products

Reno Technology Center's surroundings



**HORIBA's global MFC market share: About 60%** (HORIBA's estimate; as of 2018)

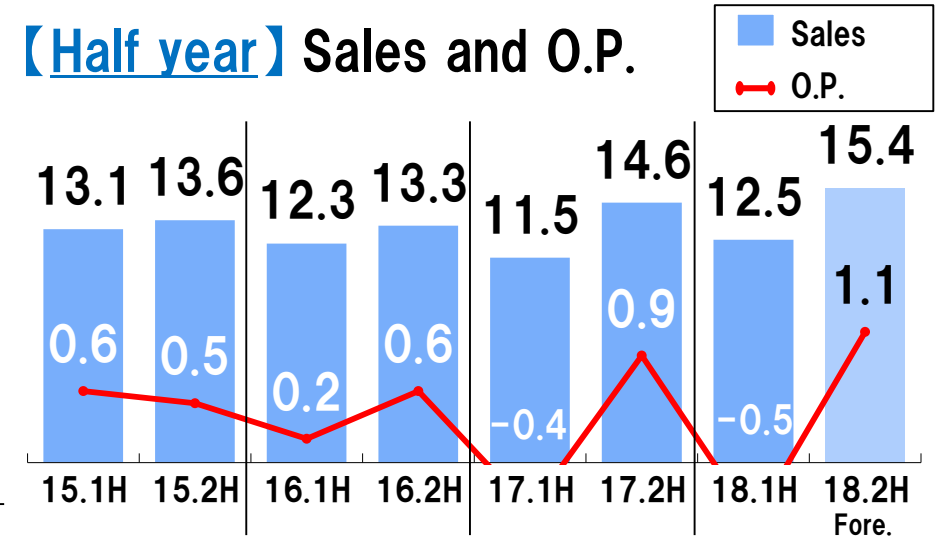
# First Half Results and 2018 Forecast

(Billions of yen)

## 2018 First Half Results

- + Sales increase in Japan and Europe on the back of robust corporate R&D spending
- + Americas' sales up for semicon makers' spectrosopes
- Expense incurred to strengthen bases in Americas

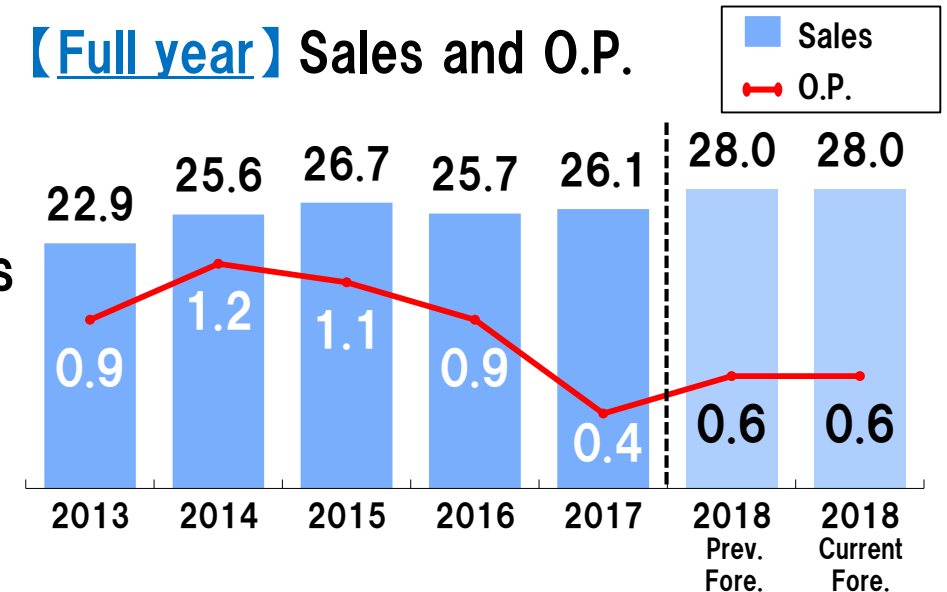
【Half year】 Sales and O.P.



## 2018 Full Year Forecast

- + Solid sales in Japan to continue
- + Enhance actions for business expansion in secondary batteries
- Risk in temporary slowdown in sales of spectrosopes for semicon makers in Americas

【Full year】 Sales and O.P.





# Strengthen global bases and expand core business

## Opening of HORIBA New Jersey Optical Spectroscopy Center



**Start:** Aug. 2018 **Investment:** App. ¥2.1bn  
**Place:** Piscataway, New Jersey, the U.S.  
**Activity:** Development and production of fluorescence analyzers and spectrometers

Expand into the life science field



Fluorescence analyzer  
DUETTA



Spectrometer

Expand demand for semiconductors



HORIBA New Jersey Optical Spectroscopy Center

## Hosting of the RamanFest 2018 International Symposium on Raman technologies



- Held on June 25 and 26, 2018
- Attended by about 100 advanced technology researchers and developers
- HORIBA initiated this project, held the first one in 2013 and the first in Japan in 2018.
- 16 academic/corporate speakers and poster session  
 → Connecting academia and industries

**Aim at further business expansion as a leading company with a 50-year history in Raman Spectroscopy**



RamanFest 2018

**Raman Spectroscopy global share 30%\***



\* HORIBA's estimate (as of 2018)

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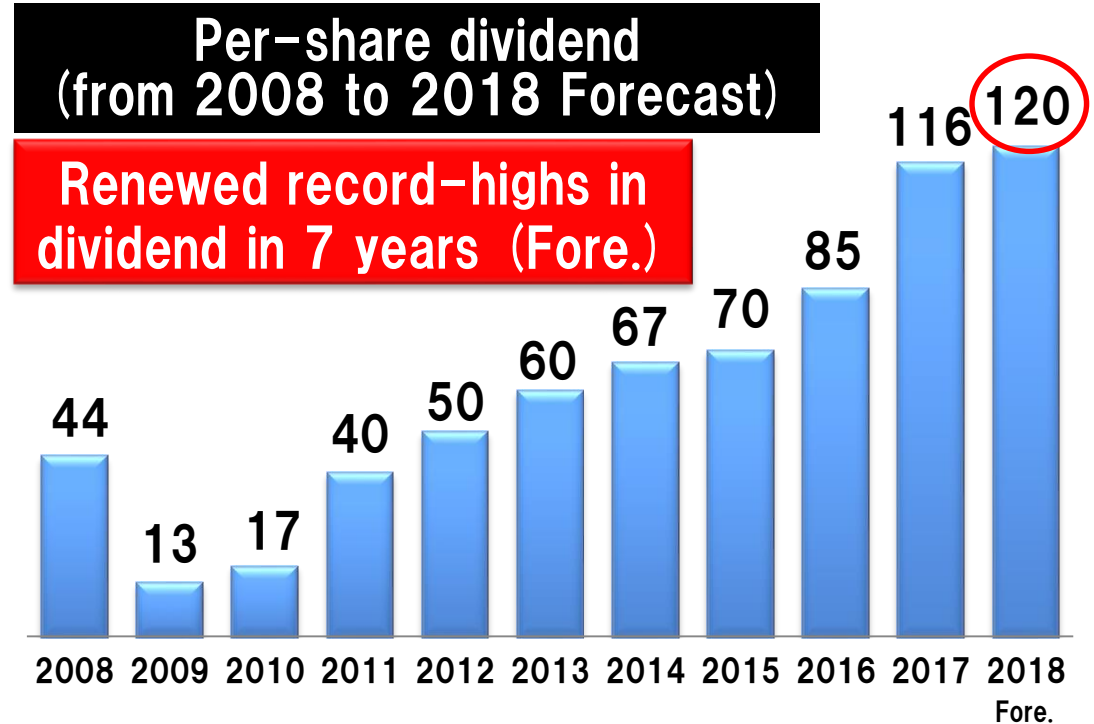
# Shareholder Return

## Basic policy

- Dividend payment + Share buyback = 30% of Consolidated net profit to be targeted
- Remaining earnings are retained internally for strategic investment (i.e. facilities, M&A)

## Dividends per share and Share buyback

	Interim	Year-end
2016 Results	85 yen [30 yen, 55 yen]	
2017 Results	116 yen [40 yen, 76 yen]	
<b>2018 Forecast</b>	<b>120 yen [50 yen, 70 yen]</b>	



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# HORIBA's perspectives on ESG investment

## Contribution to the environment and society via its business: Building of an open & fair governance structure

【Examples】

**ESG ENVIRONMENT**



Portable emission measurement system OBS-ONE

Emission gas measurement system  
Contribute to emission regulations, realizing healthy society, preventing climate change



Industrial water quality analyzer H-1 Series

Environment-related products  
Contribute to environmental preservation and improvement by identifying causes of pollutions via analysis of air pollutants and industrial waste

**ESG SOCIAL**



Innovation for electrification & autonomous driving  
Help realize safe, pleasant society



MIRA Technology Institute  
Contribute to industries' development by developing next-gen. talents



Aso factory's expansion  
Contribute to local communities and continuous job creation

**ESG GOVERNANCE**

Outside Directors with diverse experiences and skills

Raise the quality of strategies by making decisions upon active discussions at the Board of Directors and corporate value



**Sawako Takeuchi**  
Academic background as a holder of a doctor's degree in engineering and international experience



**Masahiro Sugita**  
Deep insight and knowledge on finance and economy, and accumulated experience as a director and auditor of other companies



**Jiko Higashifushimi**  
Insight as Head Priest of the Shorenin Religious Corporation and work experience at a financial institution



# HORIBA Premium Value to improve asset efficiency

## Case of an improved asset efficiency in the MCT business

- ◆ Improvement at Olomouc Factory (Czech) with a focus on production of standard Chassis dynamometers
- ✓ Full review of production processes and supply chain and adoption of the Kanban pull system

➔ **25% cut in production lead-time**



Olomouc Factory (left) and its production area (right)

## Workshops on adoption of a new benchmark

- ◆ Action plan for those responsible in global finance
- ◆ Workshops for managers
- Action plan (examples)
  - Promoting the benchmark to all group employees
  - Optimization of group inventory by sharing inventory information
  - Building of a sales company-factory cooperative structure for collection of receivables

HORIBA Premium Value

A new management benchmark  
with awareness on WACC

=

O.P.

-

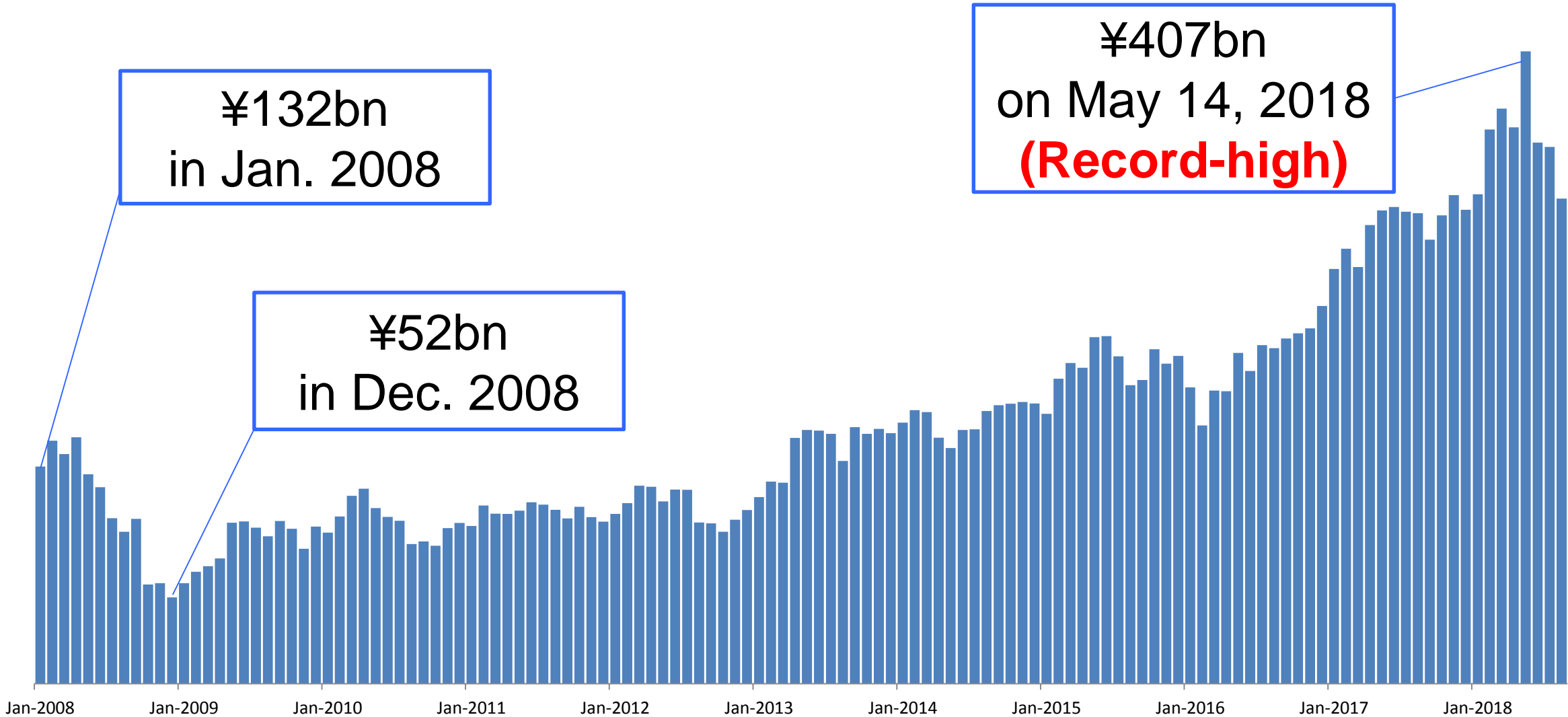
Cost of capital

{
(Invested capital X In-house rate of cost of capital)
}

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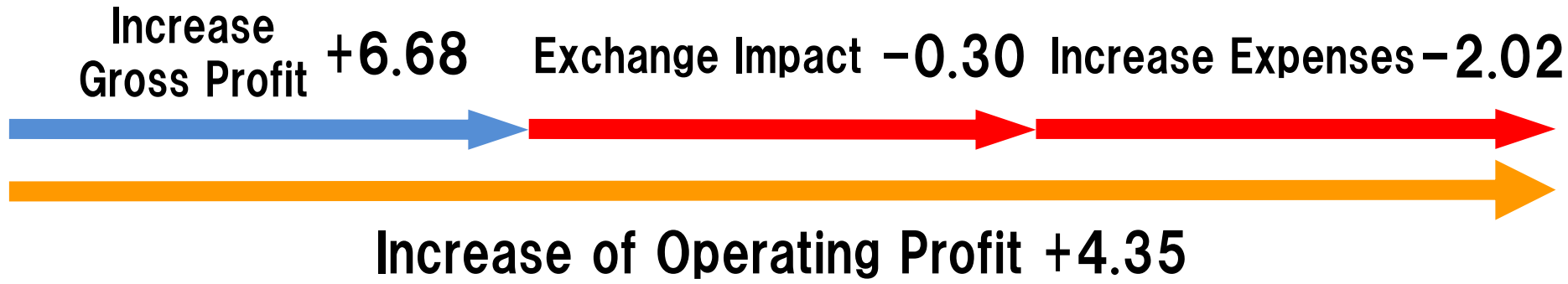
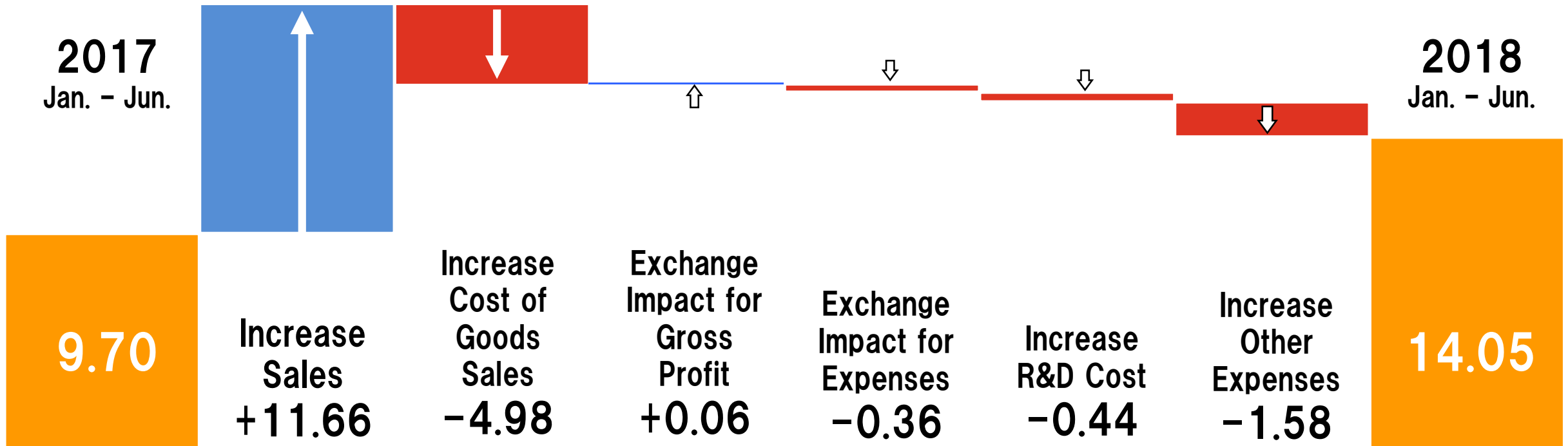
# Trend of Market capitalization





# Operating Profit Analysis (vs 2017)

(Billions of yen)



# Impact of Fluctuation in Foreign exchange

(Billions of Yen)

## Exchange rate impact (2018 First-Half Results)

**Sales +¥0.97bn O.P. -¥0.30bn**

	Sales			Operating profit		
	Total	USD	EUR	Total	USD	EUR
Auto	+0.67	-0.13	+0.48	-0.02	-0.04	+0.03
P&E	+0.05	-0.06	+0.07	+0.08	+0.00	+0.04
Medical	+0.34	-0.06	+0.39	-0.11	+0.00	-0.10
Semi	-0.25	-0.46	+0.03	-0.24	-0.39	+0.02
Scientific	+0.14	-0.15	+0.27	-0.00	+0.00	-0.00
<b>Total</b>	<b>+0.97</b>	<b>-0.88</b>	<b>+1.26</b>	<b>-0.30</b>	<b>-0.42</b>	<b>-0.00</b>

## Exchange rate impact for 2018 Forecast 1 yen impact of Sales and O.P. (Yen appreciation)

**Sales**  
**USD -¥0.47bn**  
**EUR -¥0.33bn**

**Operating profit**  
**USD -¥0.20bn**  
**EUR -¥0.02bn**

2016 Jan. - Dec.	USD : 108.78 yen, EUR : 120.26 yen
2017 Jan. - Dec.	USD : 112.16 yen, EUR : 126.70 yen
2018 Jan. - Dec. (Fore.)	USD : 110.00 yen, EUR : 130.00 yen

# Capital Investment, Depreciation, R&D

(Billions of Yen)

	2017	2018				2017	2018
	Results	Forecast (as of May 9)	Forecast (as of Aug. 3)	vs 2017	vs Previous Forecast	First-Half Results	First-Half Results
Capital Investment	11.6	16.0	16.0	+0.4	-	5.5	5.7
Depreciation	7.5	7.5	7.5	-0.0	-	3.6	3.5
R&D	13.9	15.5	15.5	+0.1	-	6.6	7.2
(To net sales)	7.1%	7.1%	7.3%			7.6%	7.2%

<b>2018 Topics</b>	<b>-PP&amp;E</b>	Enhancement of North American bases, Investment to MIRA, Battery evaluation testing facility (HORIBA BIWAKO E-HARBOR), Enhancement of global bases
	<b>-Depreciation</b>	Decrease Goodwill of MIRA* (¥0.4bn/year) + Increase by new investment
	<b>-R&amp;D</b>	Increase in Auto Business

\*Good will of MIRA e.g...Amortization included

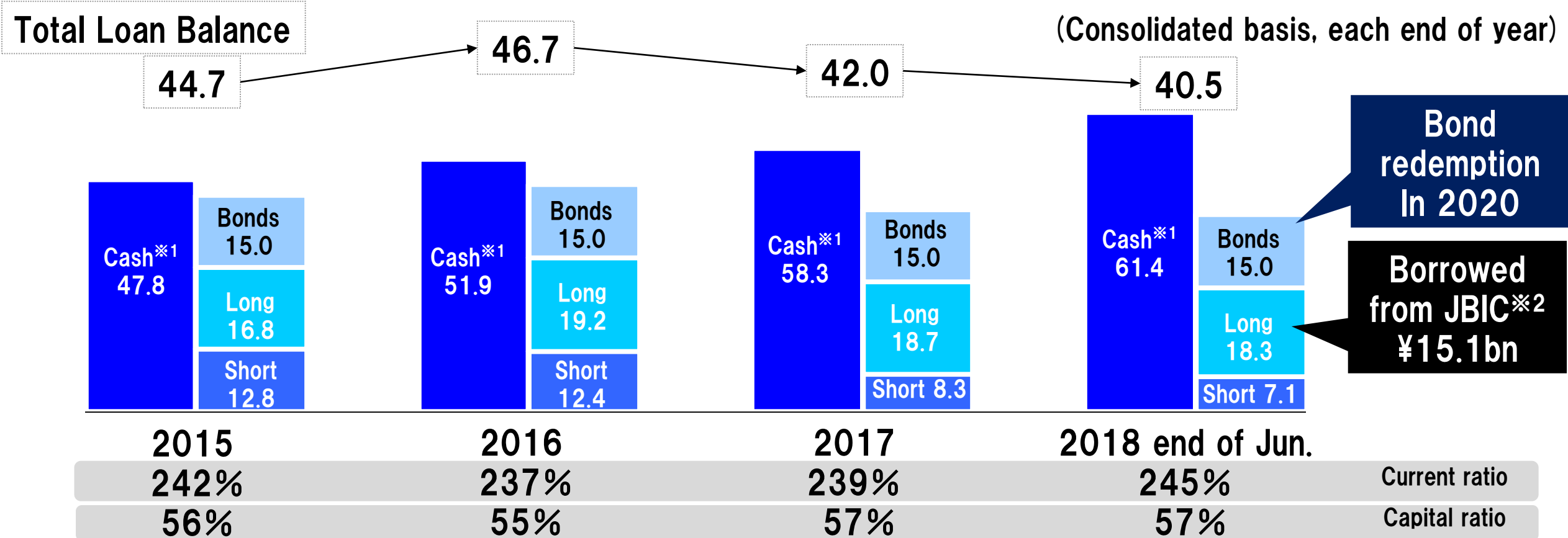
# Consolidated Cash Flows

(Billions of Yen)

	2018 First Half	2017 First Half	Variation
Cash flows from operating activities	+12.40	+16.27	-3.86
Cash flows from investing activities	-4.43	-6.80	+2.37
Cash flows from financing activities	-4.31	-7.10	+2.79
Cash and cash equivalents at end of year	61.47	54.17	+7.29
Free cash flows	+7.97	+9.47	-1.49

# Cash Balance

(Billions of Yen)



- Loan repayment due to group financing
- Recent issuer rating : R&I “A-” (July 2017), JCR “A” (August 2017)

\*1 Cash\*...Cash and Cash Equivalents at End of Period. \*2 JBIC: Japan Bank for International Cooperation

# Contents

- 2018 First Half Results
- 2018 Forecast
- Business Segments Outline
- Shareholder Return
- Other Topics
- Financial Data
- **Corporate profile**

# Corporate Profile

Head Office

Kyoto, Japan

Foundation

1945

Incorporation

1953

Fiscal Year End

December 31

Atsushi Horiba  
Chairman & Group CEO



– Corporate motto –

Omoshiro-okashiku  
Joy and Fun



To have interest and pride  
in our work to enjoy our lives

# Business Segments

## Automotive Test Systems



- Emission Measurement Systems
- Test Automation Systems
- Intelligent Transport Systems
- Engineering Consultancy & Testing (HORIBA MIRA, Ltd)

## Process & Environmental



- Environmental & Process Systems
- Environmental Radiation Monitor
- Environmental Regulation & Process Business

## Medical



- In-Vitro Diagnostic (IVD) Systems
- Integration of HORIBA ABX' s  
Technology & Marketing Know-how

## Semiconductor



- Mass Flow Controller
- In-situ Analysis
- Synergy among HORIBA HQ, HORIBA STEC, HORIBA Advanced Techno  
and HORIBA Jobin Yvon' s Technologies

## Scientific



- Raman, Grating, and Fluorescence
- Synergy of HORIBA and HORIBA Jobin Yvon' s Technologies



# Business Segments

- Automotive Test Systems

- Process & Environmental

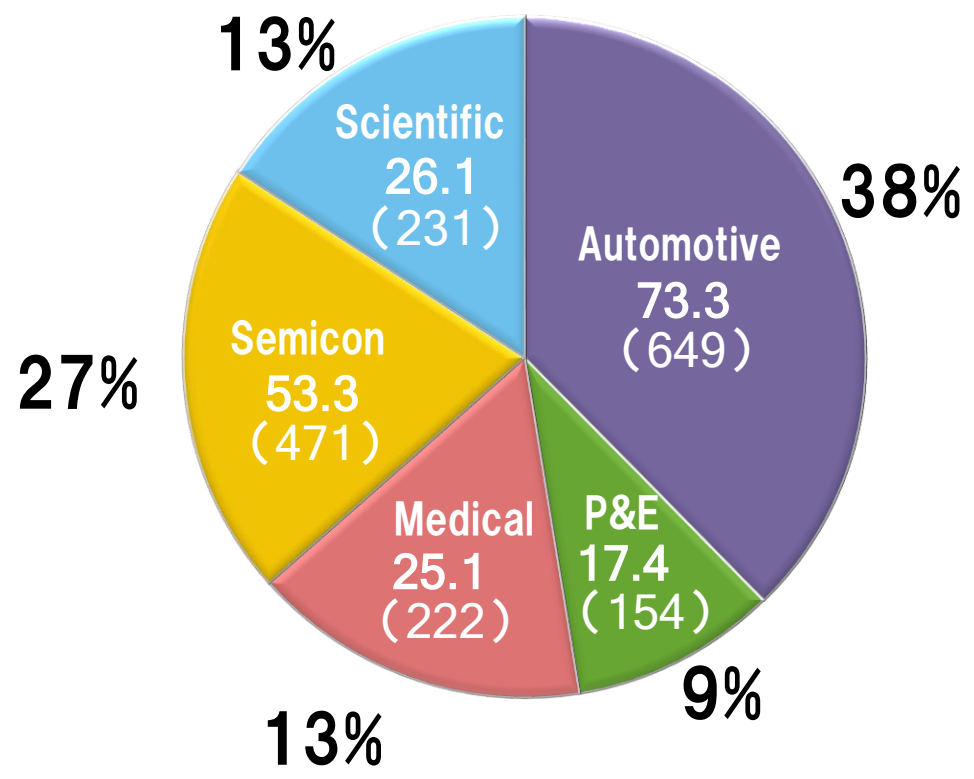
- Medical

- Semiconductor

- Scientific


Sales Breakdown by Segment

**Sales: ¥195.3bn**



( ) = Segment Sales in MUSD

% = Segment Sales Ratio

(Sales of FY2017)

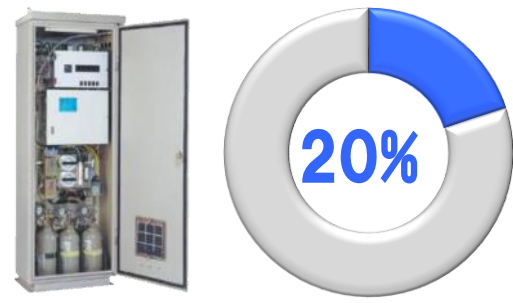
# Market Share

## Global

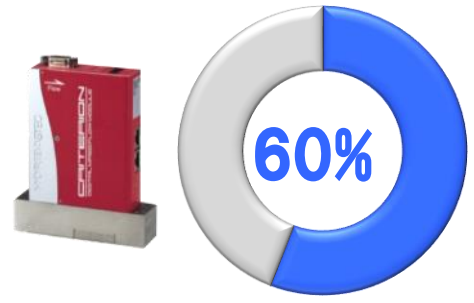
### Emission Measurement Systems



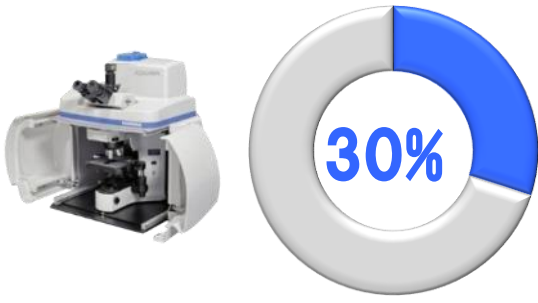
### Stack Gas Analyzers



### Mass Flow Controllers



### Raman Spectrophotometers



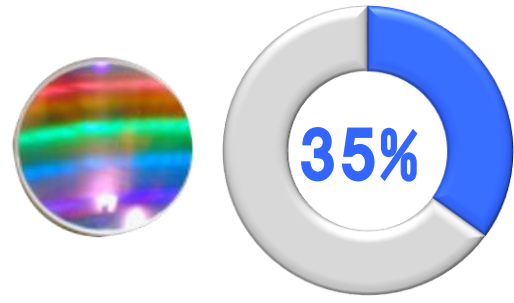
## Domestic

### Automatic Blood Cell Counter plus CRP



(As of December 31, 2015)

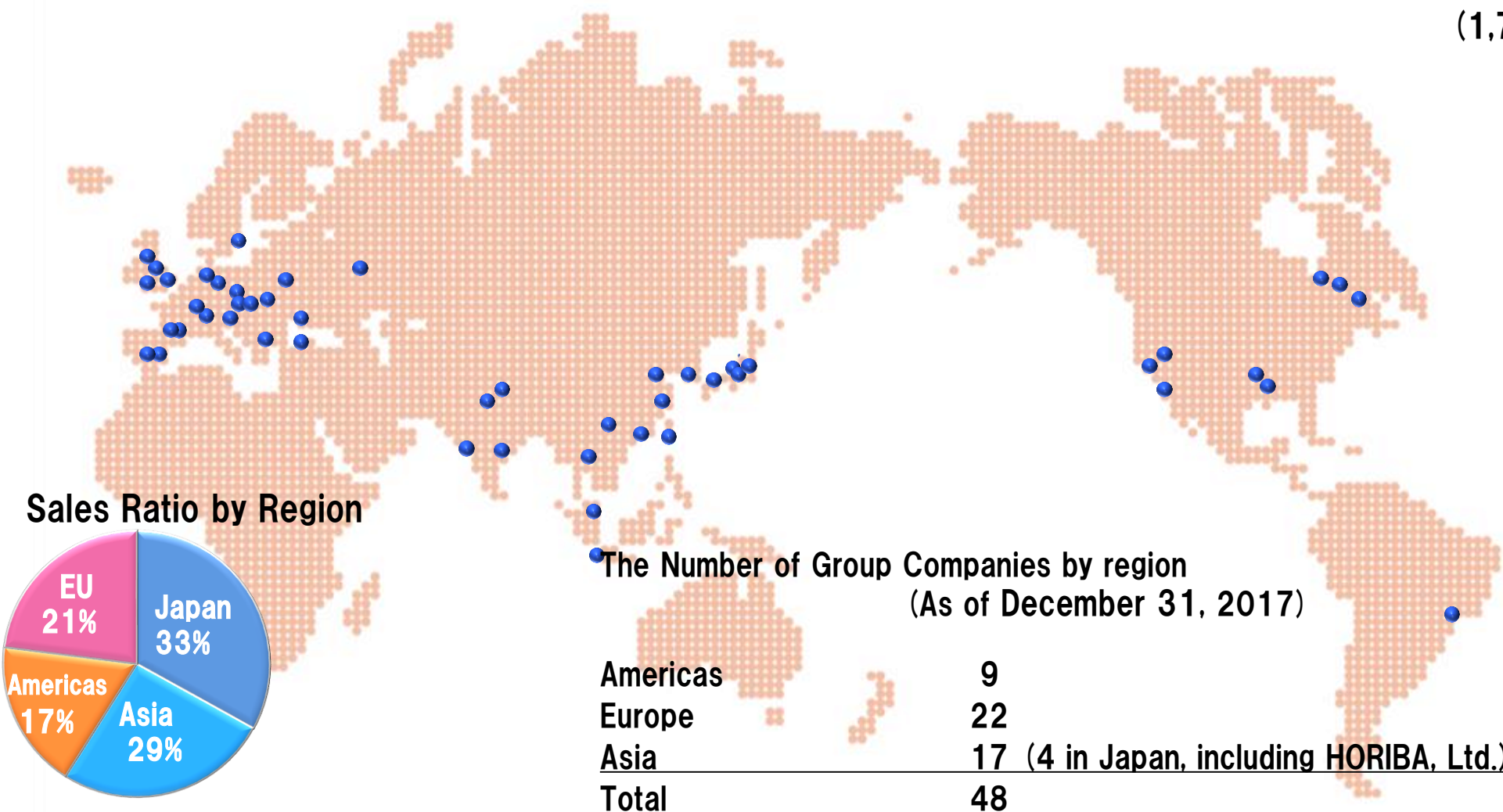
### Gratings



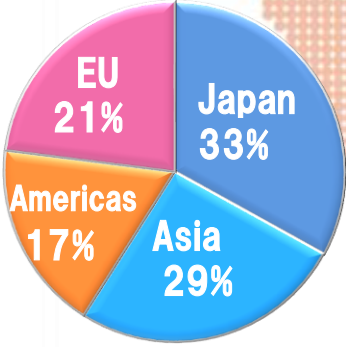
※Market shares quoted are estimates by HORIBA.

# HORIBA Worldwide

Sales of FY2017 : ¥195.3bn  
(1,729 MUSD)



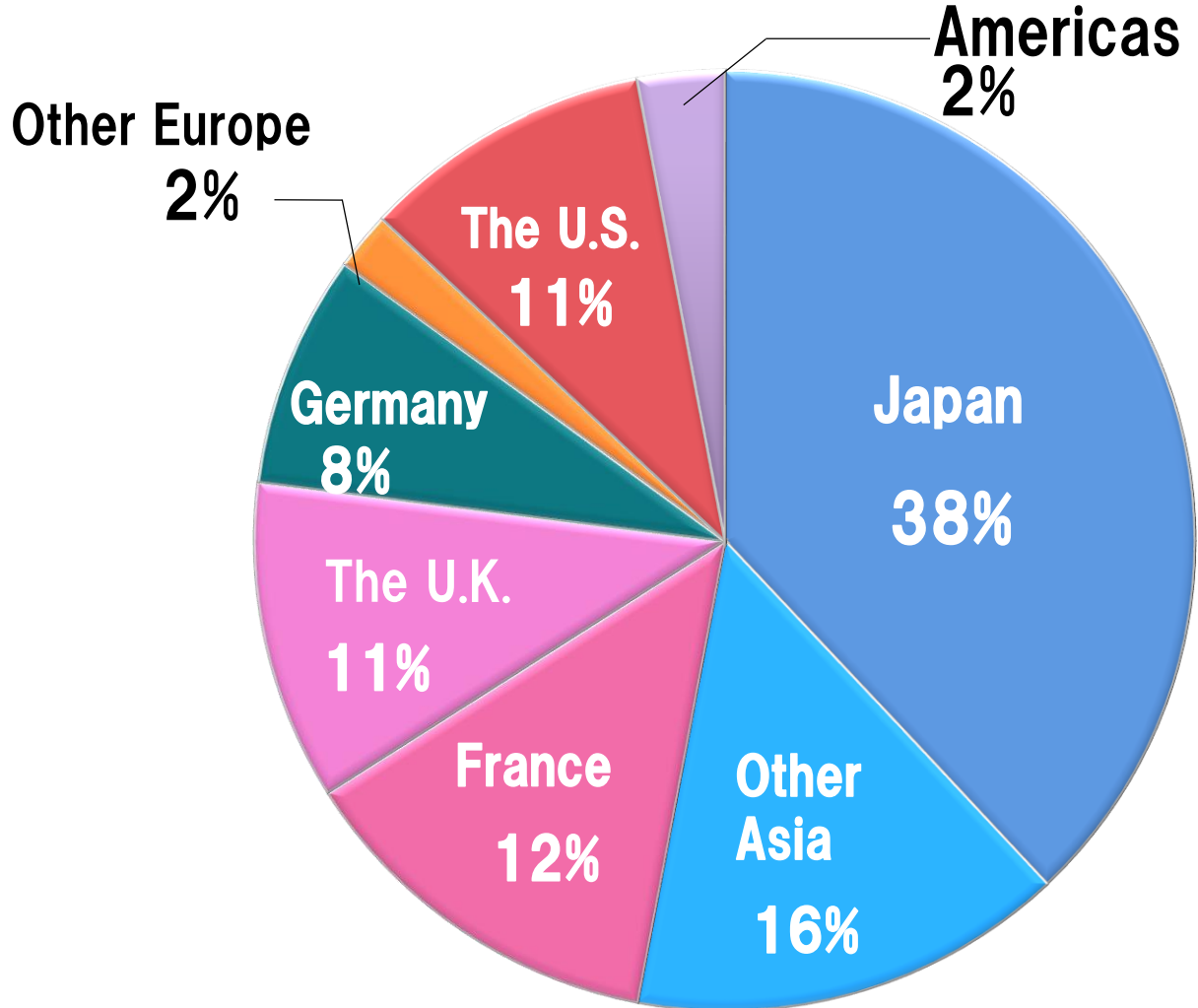
Sales Ratio by Region



The Number of Group Companies by region  
(As of December 31, 2017)

Americas	9
Europe	22
Asia	17 (4 in Japan, including HORIBA, Ltd.)
<b>Total</b>	<b>48</b>

# Employees by Region



**Total Number of Employees**

**7,399**

**Total Asia : 4,041**

**54%**

**Total Europe : 2,414**

**33%**

**Total Americas : 944**

**13%**

(As of December 31, 2017)

Thank you