

# Financial Information

HORIBA, Ltd.

March, 2019

# HORIBA, Ltd. 65<sup>th</sup> Anniversary of Foundation

## Global growth through M&A

In 1996, ABX S.A. was acquired in France  
(now HORIBA ABX SAS)



In 2005, MCT (Mechatronics) Business of  
Carl Scheck AG was acquired in Germany



In 1997, Jobin Yvon S.A. was acquired in France  
(now HORIBA FRANCE SAS)

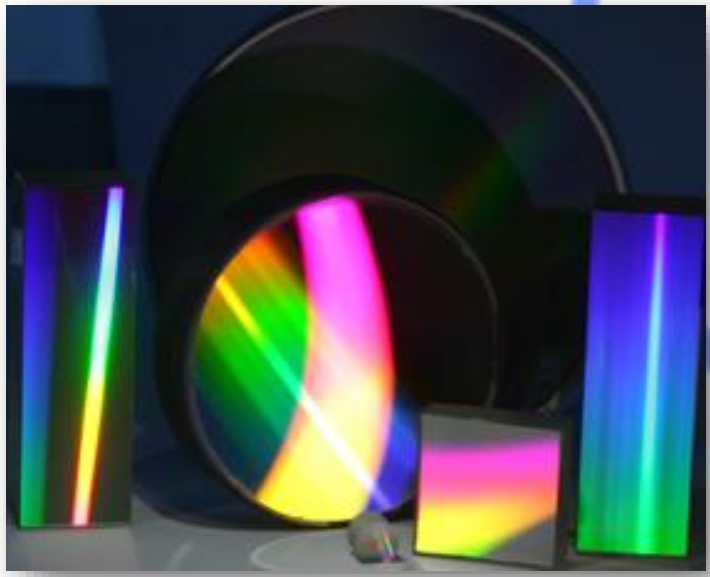
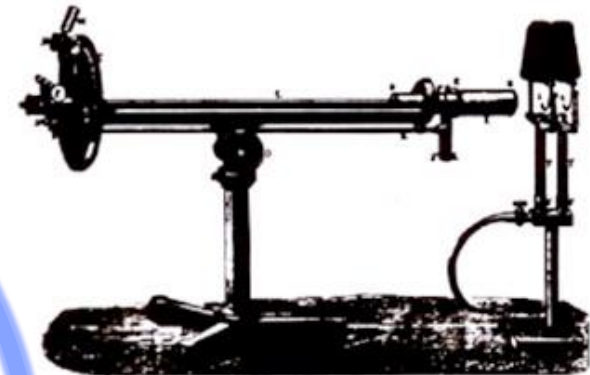
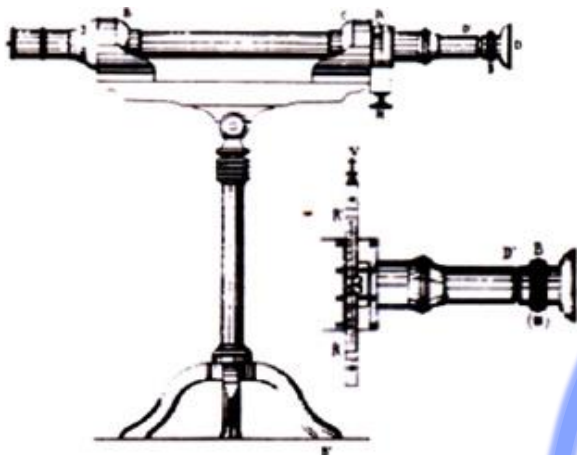


In 2018, FuelCon AG. was acquired in Germany  
(now HORIBA FuelCon GmbH)



In 2015, MIRA Ltd. was acquired in the U.K.  
(now HORIBA MIRA Limited)

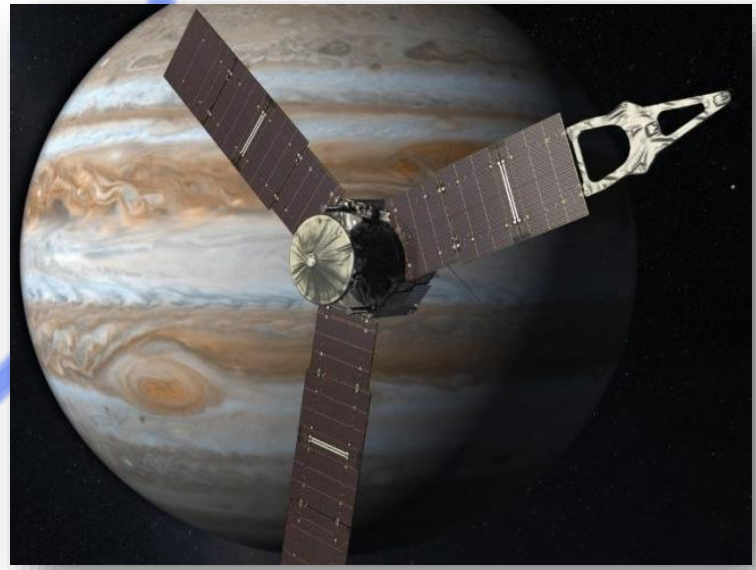
# Jobin Yvon 200<sup>th</sup> Anniversary of Foundation



200 YEARS  
1819-2019

**HORIBA** JOBIN YVON

**Sharing light and passion**  
200 years of optical innovation



# Product at the Time of Its Startup

HORIBA



pH Meters

Jobin Yvon



Fresnel Lens for  
a Lighthouse

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- 2018 Results
- 2019 Forecast
- Business Segments Outline
- Share Holder Return
- Other Topics
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- Corporate profile

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# Review of 2018

<b>External Events</b>	<ul style="list-style-type: none"><li>◆ Overheated US-China trade friction</li><li>◆ Intensified Brexit uncertainties</li><li>◆ Tighter automotive emission regulations and electrification trend</li><li>◆ Slowdown in capital spending for semiconductors from the second half of 2018</li></ul>
<b>Internal Events</b>	<ul style="list-style-type: none"><li>◆ New Management of HORIBA Group started</li><li>◆ Enhanced North American bases (for Semiconductors and Scientific)</li><li>◆ Expanded the Aso factory (for Semiconductors)</li><li>◆ Invested aggressively in battery test technologies, including M&amp;A</li><li>◆ Exceeded ¥200bn in annual sales for the first time</li></ul>

# Summary of 2018 Results

## Achieved record-highs in sales, profit and dividend

### P&L

- ◆ Increase in sales and profit in Automotive and Semiconductor segments, year-on-year
- ◆ Semiconductor sales were weak in the second half of the year due to changes in market conditions

### B/S

- ◆ Total asset were ¥278.1bn, up ¥12.2bn, due to increase in inventory.
- ◆ Short-term loans payable were ¥12.0bn, up ¥3.6bn, mainly due to acquisition of FuelCon AG
- ◆ Equity ratio: 58.0% (+1.5bp) (Compared to the end of Dec. 2017)

### CF

- |  |                      |
|--|----------------------|
| ◆ Operating CF: Cash in ¥19.5bn due to growth in profit    | } Free CF<br>+¥8.5bn |
| ◆ Investing CF: Cash out ¥11.0bn due to capital spending   |                      |
| ◆ Financial CF: Cash out ¥3.2bn due to payment of dividend |                      |



# 2018 Results

(Billions of Yen)

	2017	2018					
	Results	Forecast (as of Feb.13)	Forecast (as of Nov.9)	Results	VS 2017	VS Forecast (as of Feb.13)	VS Forecast (as of Nov.9)
★ : Record-high							
Sales	195.3	210.0	207.0	★ 210.5	+15.1	+0.5	+3.5
Operating Profit	26.8	29.0	27.5	★ 28.8	+2.0	-0.1	+1.3
O. P. %	13.7%	13.8%	13.3%	13.7%	-0.0p	-0.1p	+0.4p
Ordinary Profit	26.6	28.4	26.9	★ 28.3	+1.7	-0.0	+1.4
Net Income attributable to Owners of Parent	16.2	19.0	20.0	★ 22.3	+6.0	+3.3	+2.3
USD / JPY	112.16	110.00	110.00	110.44	-1.72	+0.44	+0.44
EUR / JPY	126.70	130.00	130.00	130.35	+3.65	+0.35	+0.35

# 2018 Results by Segment

(Billions of Yen)




	Sales							Operating Profit							
	2017	2018			2017	2018			2017	2018			2017	2018	
★ : Record-high	Results	Forecast (as of Feb. 13)	Forecast (as of Nov. 13)	Results	vs 2017	vs Forecast (as of Feb.13)	vs Forecast (as of Nov.9)	Results	Forecast (as of Feb. 13)	Forecast (as of Nov. 13)	Results	vs 2017	vs Forecast (as of Feb.13)	vs Forecast (as of Nov.9)	
Auto	73.3	79.0	78.0	★ 79.6	+6.2	+0.6	+1.6	7.6	8.0	6.5	★ 7.7	0.0	-0.2	1.2	
P&E	17.4	19.0	19.0	★ 19.3	+1.9	+0.3	+0.3	1.0	1.4	1.4	2.0	0.9	0.6	0.6	
Medical	25.1	26.0	26.0	26.0	+8.0	+0.0	+0.0	1.9	2.0	2.0	1.8	0.0	-0.1	-0.1	
Semi	53.3	58.0	56.0	★ 57.7	+4.4	-0.2	+1.7	15.6	17.0	17.0	★ 17.0	1.4	0.0	0.0	
Scientific	26.1	28.0	28.0	★ 27.7	+1.6	-0.2	-0.2	0.4	0.6	0.6	0.2	-0.2	-0.3	-0.3	
Total	195.3	210.0	207.0	★ 210.5	+15.1	+0.5	+3.5	26.8	29.0	27.5	★ 28.8	2.0	-0.1	1.3	

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# Market Assumptions for 2019

Auto		Strong appetite for investment in the global automotive sector due to tighter emission regulations mainly in 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
Medical		Japan: Favorable sales to doctors in private practice Overseas: Increase in demand for blood testing equipment in emerging countries
Semi		Temporary subdued capital spending by semiconductor manufacturers Anticipate a pick-up in investment, on the back of robust demand for semiconductor devices from a mid- to long-term perspective
Scientific		Robust corporate R&D spending Accelerating research on new materials for secondary batteries

# Exchange rate

(Yen)

	2017	2018	2019	
	Results	Results	Forecast	vs 2018
USD	112.16	110.44	110	-0.44
EUR	126.70	130.35	125	-5.35

1 yen O.P. sensitivity for 2019 Forecast (Yen appreciation)

USD -243 million yen

EUR -12 million yen

# 2019 Forecast

(Billions of yen)

	2017	2018	2019	
	Results	Results	Forecast	vs 2018
★ : Record-high				
Sales	195.3	210.5	★ 218.0	+7.4
Operating Profit	26.8	28.8	★ 29.0	+0.1
O. P. %	13.7%	13.7%	13.3%	-0.4p
Ordinary Profit	26.6	28.3	★ 28.5	+0.1
Net Income attribute to Owners of Parent	16.2	22.3	20.0	-2.3
Net profit per share (Yen)	386	529	474	-55
ROE	11.5%	14.3%	11.9%	-2.4p

# 2019 Forecast by Segment

(Billions of yen)

	Sales			Operating Profit		
	2018 Results	2019 Forecast	vs 2018	2018 Results	2019 Forecast	vs 2018
★ : Record-high						
Auto	79.6	★ 85.0	+5.3	7.7	★ 9.0	+1.2
P&E	19.3	★ 20.0	+0.6	2.0	2.0	-0.0
Medical	26.0	★ 28.0	+1.9	1.8	2.0	+0.1
Semi	57.7	55.0	-2.7	17.0	15.0	-2.0
Scientific	27.7	★ 30.0	+2.2	0.2	1.0	+0.7
Total	210.5	★ 218.0	+7.4	28.8	★ 29.0	+1.0

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# 2018 Results and 2019 Forecast

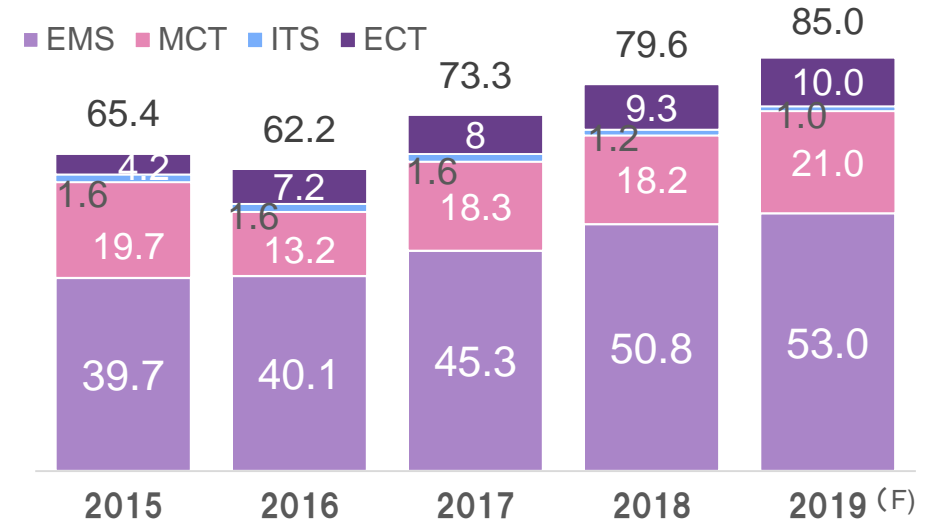
(Billions of yen)

## 2018 Results

- + EMS Higher demand in China and India due to new regulations
- + - MCT※1 One-off expenses, including acquisition costs
- + - ECT※2 Business expansion in next-gen. automotive technology development

1: Mechatronics    2: Engineering Consultancy & Testing

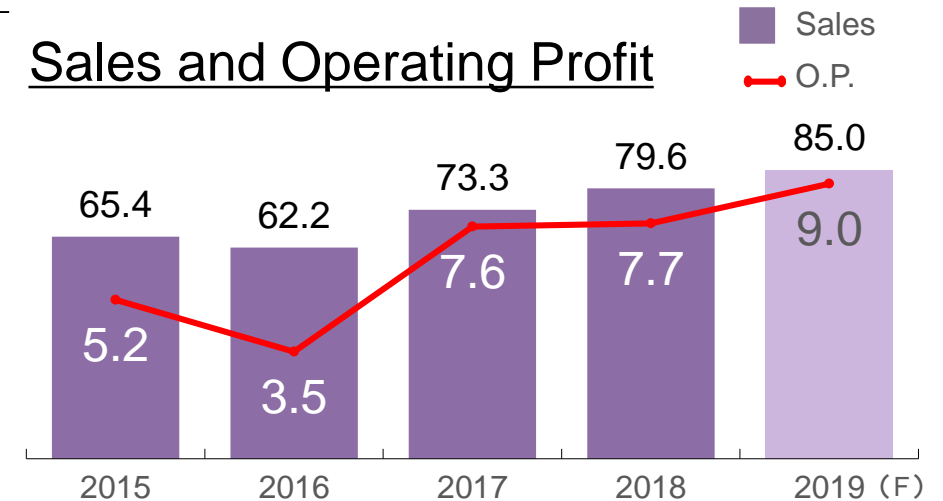
## Automotive Sales Breakdown



## 2019 Forecast

- + - EMS Robust sales in Asia and Europe  
Increase in investment for achieving greater competitiveness
- + MCT Increase in sales in Japan and Europe
- + ECT Aggressive investment to accelerate growth

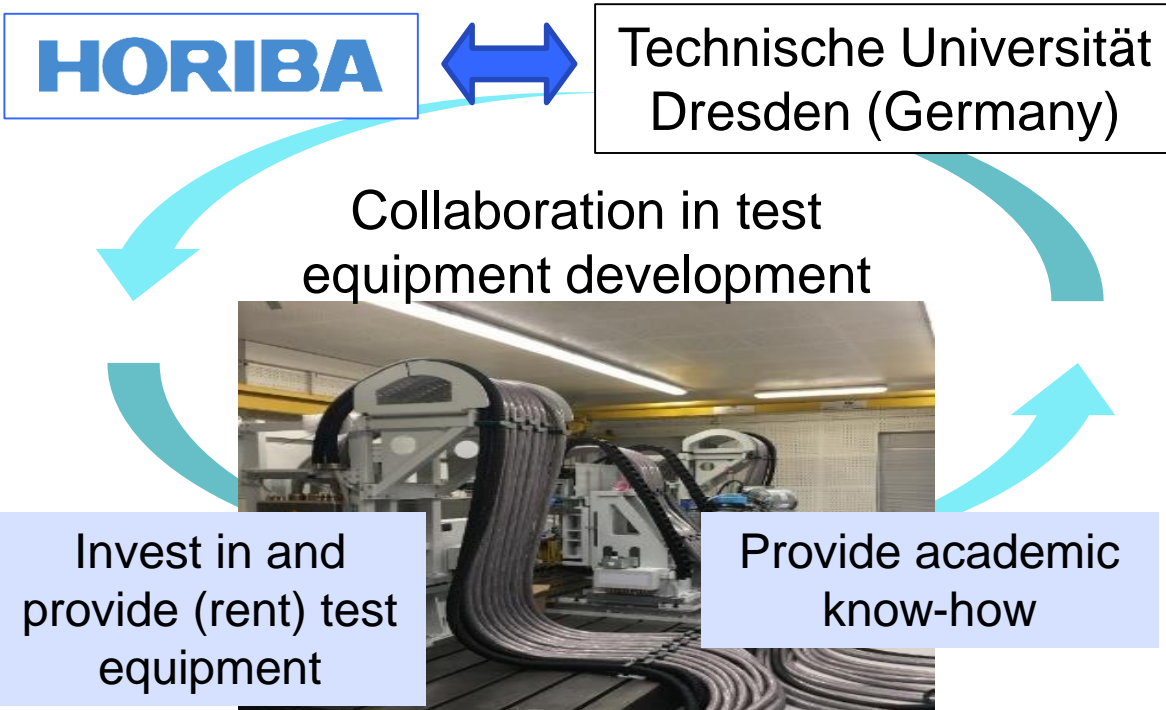
## Sales and Operating Profit



# Industry-academia tie-up to respond to change in the automotive industry

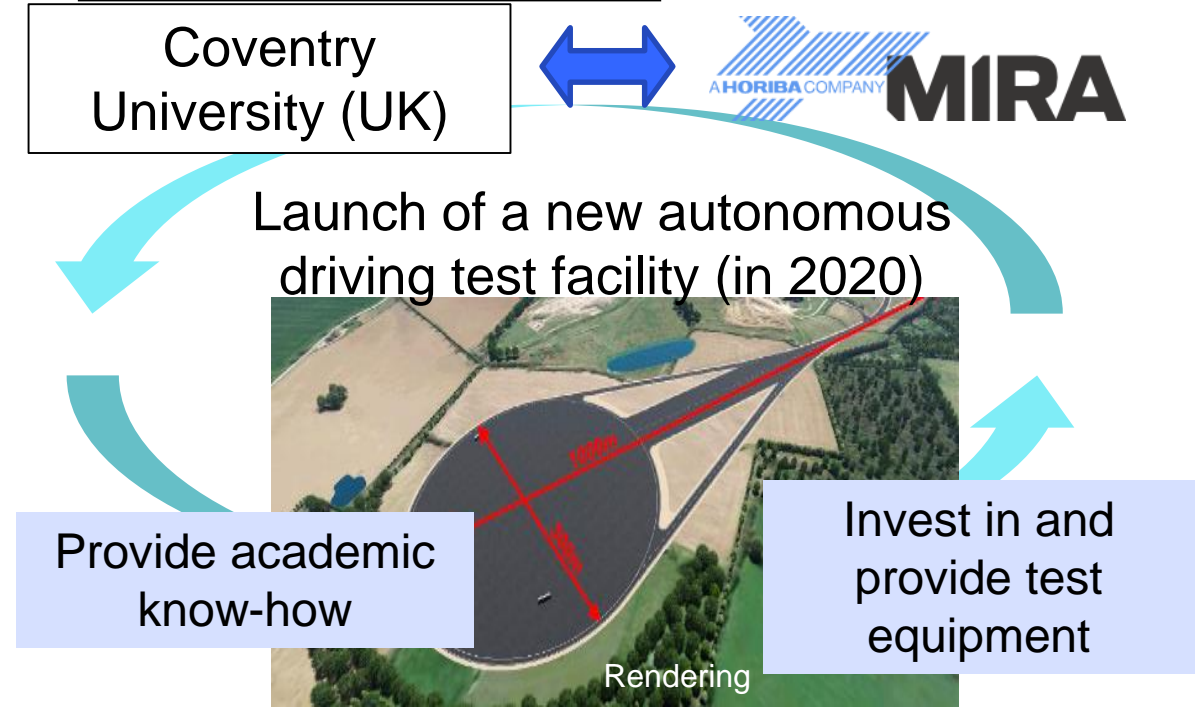
## Contributing to boosting efficiency in the accelerated simulation-based automotive development

- Improve development of test equipment allowing to verify effects before making prototypes



## Promoting development of connected /autonomous driving technology

- Ensure safety against cyber attacks
- Test/evaluate high-speed autonomous driving of more than one vehicle



## Acquisition of FuelCon AG (Germany) to strengthen battery test business [September 2018]

### 【Main business】

Development and production of fuel cell and battery test systems for electric vehicles

### 【Major customers】

Volkswagen, BMW, Audi, Hyundai, Bosch, etc.

### 【Sales breakdown】

Battery test systems: 23%  
Fuel cell test systems: 77%

\*Results of the 4<sup>th</sup> Quarter, 2018

Accelerate business growth  
in electric vehicle  
development



Battery module/2018年第4四半期実績



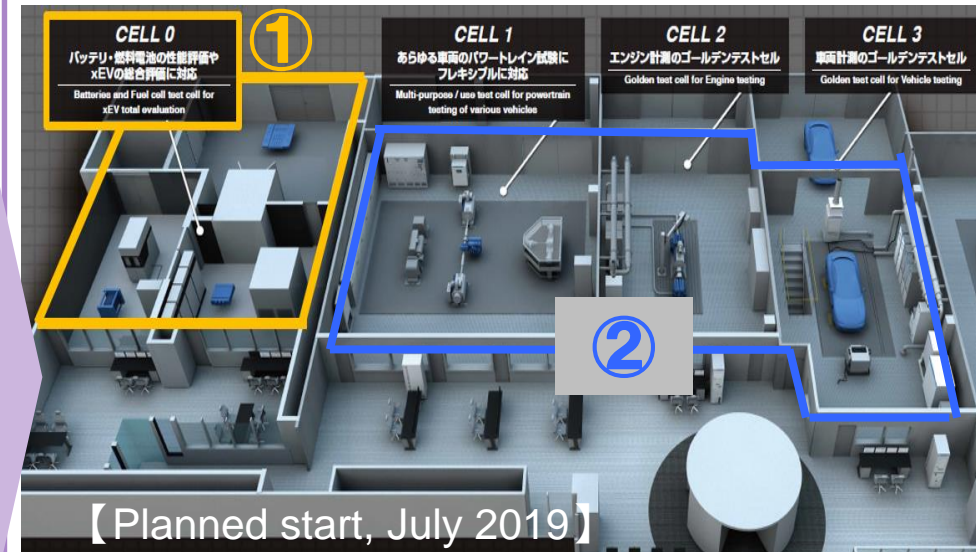
Battery emulation system



Battery production line test system

## Open an advanced lab for vehicle electrification

### HORIBA BIWAKO E-HARBOR Cell Zero



- 1) Cell 0: Adopting technologies of FuelCon and MIRA
- 2) Cell 1-3: Powertrain and vehicle test systems (in operation)

Enabling total powertrain simulation  
→ Completing HORIBA's unique evaluation and test facility

# 2018 Results and 2019 Forecast

(Billions of yen)

## 2018 Results

- + 【Stack gas analyzers / Process measurement equipment】  
Sales increase in North America by sales efforts
- + 【Air quality monitoring】  
Demand growth in emerging countries due to enhanced regulations
- + 【Water quality monitoring】  
Sales increase due to business growth in Asia

Supplied **water quality analyzers (tap water)** to Kuala Lumpur



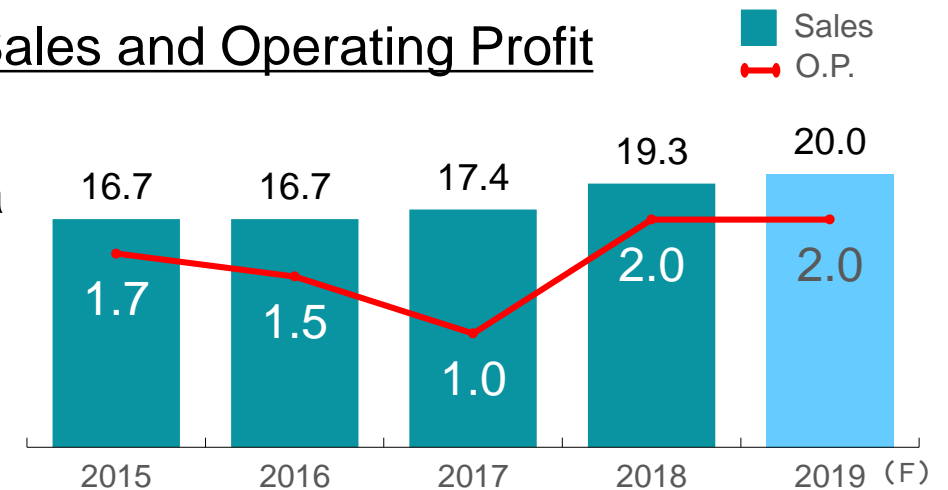
Received repeat orders in 2019



## 2019 Forecast

- + 【Stack gas analyzers / Air quality monitoring】  
Anticipate recovery in Japan and tighter regulations in Asia
- + 【Process measurement equipment】  
Anticipate continued recovery in investment by customers
- + 【Water quality monitoring】  
Expand more business growth in emerging countries

Sales and Operating Profit



# Promote localization for business expansion



Localization according to trends in developed/emerging markets yields good results

**●** HORIBA Group's main bases in the P&E segment

**【Germany】**  
 Enhance manufacturing/sales  
 Record shipment of pollution measurement units in Europe

Stack gas analyzer

**【India】**  
 Enhance engineering  
 Demand increase for stack gas analyzers; local production and sales

**【China, Asia】**  
 Promote dev't/engineering; enhance sales  
 Tighter environmental regulations raised need for measurement equipment  
 【Water quality measurement】  
 Automatic total nitrogen, phosphorous measurement equipment

**【USA】**  
 Enhance sales/product dev't  
 Greater enhanced process measurement equipment business

Systemization of measurement equipment in oil refining process and bundle sales

Aim at solidifying HORIBA's position in global business

# 2018 Results and 2019 Forecast

(Billions of yen)

## 2018 Results

- + Strong sales of hematology analyzers in China and India
- + - Increase in R&D expenses for achieving greater competitiveness
- + Acquisition of a micro-blood analysis system business to expand the product line-up

Latest test system



**Solution**

(Launched in 2017)

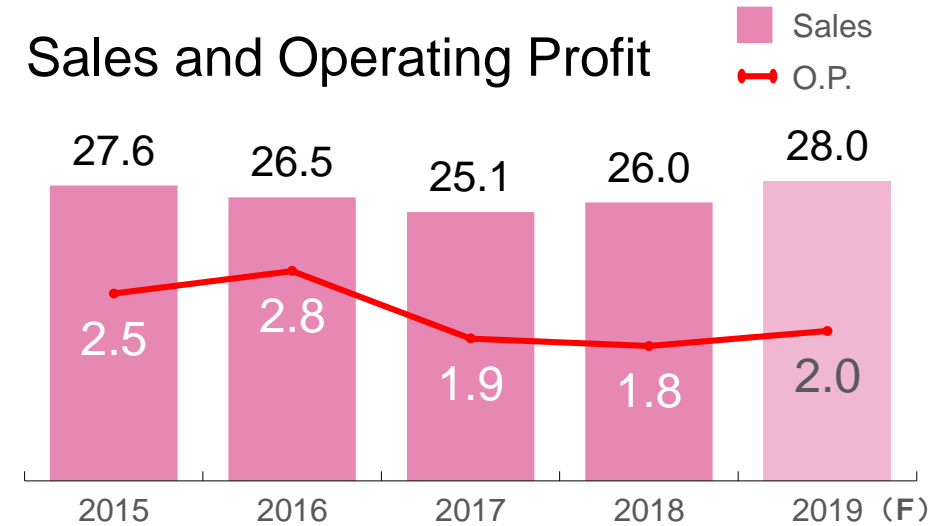


Operation of the large-scale testing centers in the UK and Brazil (Photo from Brazil)

## 2019 Forecast

- + - Aim at growth in sales by promoting new products to achieve greater results despite intensified competition in hematology and CRP analyzers in Japan
- + - Increase in R&D expenses for business expansion (i.e., micro-blood analysis system business)

Sales and Operating Profit



# Broaden technologies and product functions



## Acquisition of a micro-blood analysis system business from Rohm Co., Ltd.

### 【Main business】

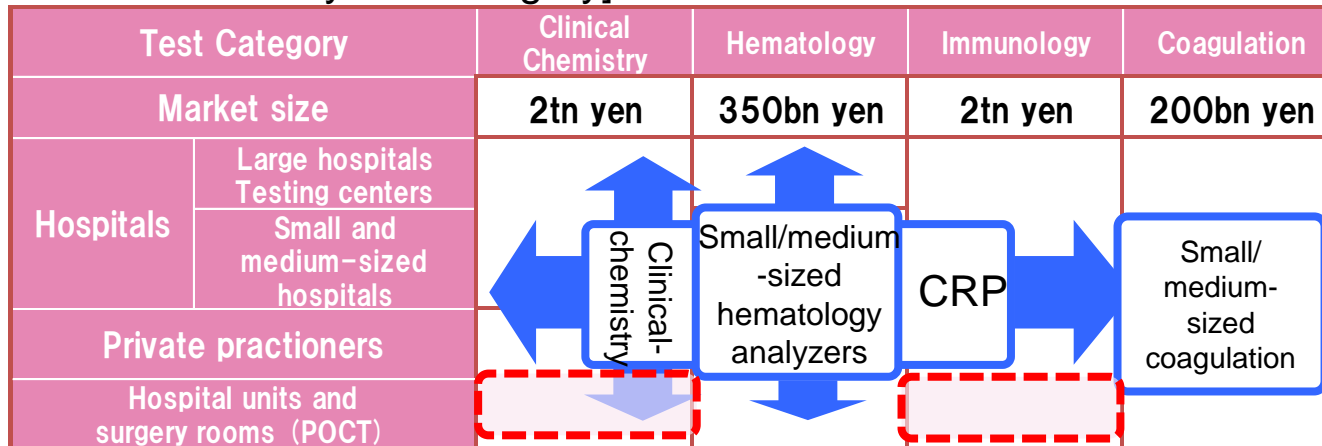
Development of  $\mu$ TAS<sup>1</sup> technology, which uses micro processing technology of electronic components

### 【Technology characteristics】

Enable offering of compact products that measure CRP<sup>2</sup> and HbA1c<sup>3</sup> at low cost

- 1: Micro Total Analysis System
- 2: C-Reactive Protein, a representative inflammatory marker
- 3: Hemoglobin A1c that indicates blood-sugar levels of the past 1-2 months

### [Business evolution by test category]



Expand a line-up in the POCT category (focus on clinical-chemical and immunology)  
 Broader portfolio → Higher shares in tests in hospitals market

## Broader functions of products help solve social challenges

### HORIBA's hematology analyzers have additional function of Malaria infection screening

- Reduction in test processes in malaria infection testing
- Cheaper than purchase of new equipment



SDGs advocate eliminating malaria.

**Fight Malaria** + **Grow business**

# 2018 Results and 2019 Forecast

(Billions of yen)

## 2018 Results

- + Record-high sales and operating profit
- + Boosted supply and enhanced development capability by the Aso factory expansion and opening of HORIBA Reno Technology Center (USA)
- Slowdown in the second half due to semiconductor makers' temporary investment adjustment

## HORIBA STEC's 45<sup>th</sup> anniversary

Launched Japan's first mass flow controllers in 1980



Grew to achieve a global high 60%\* share

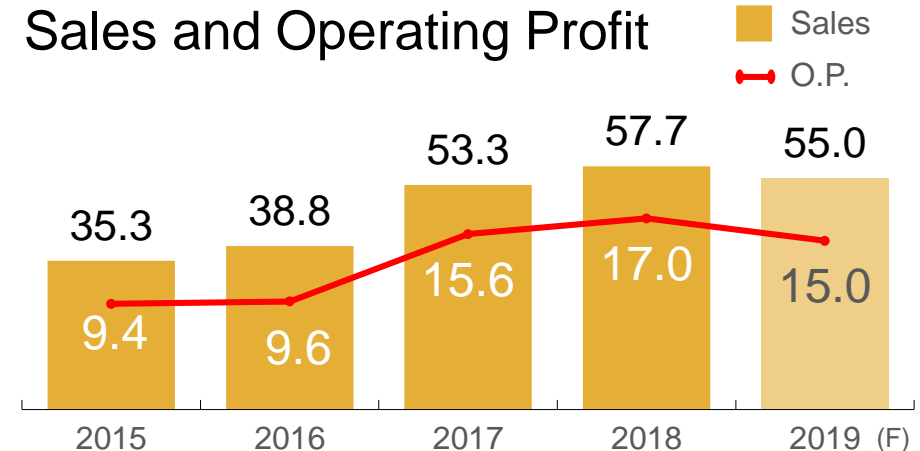


\* HORIBA's estimate for 2019

## 2019 Forecast

- + - Expect semiconductor makers' investment to be in an adjustment phase in the first half but to pick up in the second half due to mid- to long-term solid demand

Sales and Operating Profit





# Expand business to cover the entire semiconductor manufacturing process

Diverse product line-up contributing to the overall semicon manufacturing process

## Material assessment

### Materials Analysis



Raman spectrometer (next-gen. semicon material assessment)

### Device Analysis



Cathodoluminescence measurement system (assessment of compound semiconductors)

## Manufacturing process

### Dry Process



Mass flow controller (Precision enhancement in the etching process)

### Lithography



Reticle/mask particle detection systems (quality enhancement of exposure process)

### Wet Process



Chemical concentration monitor (high-precision measurement of chemicals)

## Quality control and waste water treatment

### Utility/Wastewater



pH meter



Industrial water quality analyzer

(Appropriate pure water/wastewater control within a factory)

Beyond Water with You  
Water-related business

\*Typical product example

# 2018 Results and 2019 Forecast

(Billions of yen)

## 2018 Results

- + Sales increase in Japan and Europe on the back of robust corporate R&D spending
- + Recognized expenses to enhance bases in the Americas

## 2019 Forecast

- + Anticipate sales increase in the Americas due to production capacity growth
- + Expect solid demand to continue in Japan and Europe
- + Enhance actions for business expansion in secondary batteries

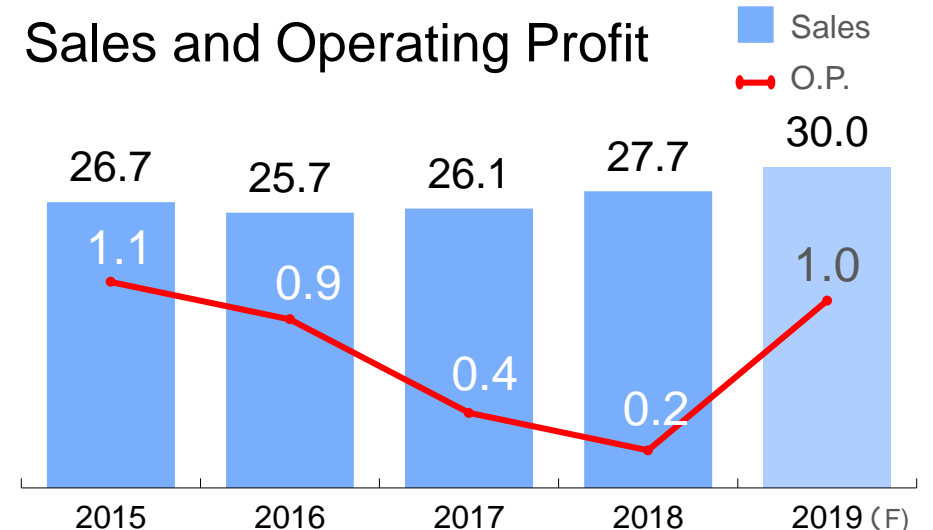
### New product launched in 2018 X-ray analytical microscope XGT9000

- ✓ More accurate defect and foreign material analysis of products
- ✓ Non-destructive, non-contact



Can be used in analysis of lithium ion batteries, semiconductor ICs, foods, and drugs

### Sales and Operating Profit



# Expand core business and contribute to technology innovation

## Acquisition of MANTA Instruments Inc. to obtain new technology

- Acquired this U.S. start-up company that develops, manufactures and sells nanoparticle measurement instrument, in January 2019.
- High reputation; has patents in related technology

### MANTA Instruments, Inc.

- Located in San Diego
- Established September 2014
- Six employees



### ViewSizer3000

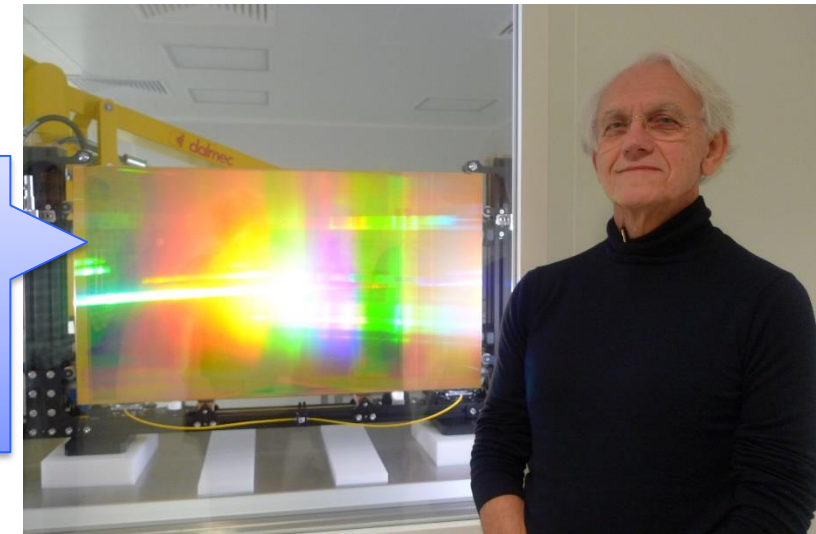
Used in life science, and for semiconductor, drugs, foods, cosmetics, catalysts and secondary batteries

Aim at expanding the particle measurement instrument business

## Contributing to technology innovation

- Prof. Gérard Mourou, who was awarded the 2018 Nobel prize in physics, has been a long-time user of HORIBA's grating.

HORIBA's meter-size grating



HORIBA's grating was selected to be exhibited at the Nobel Prize Museum

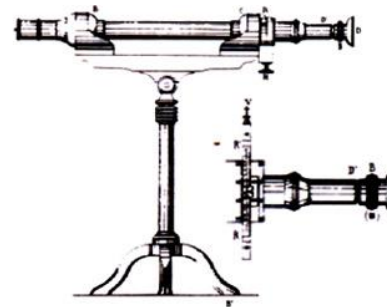
# Core analytic technology supports cutting-edge progress

20 years of technological integration of HORIBA and Jobin Yvon and new market development

HORIBA celebrates 65<sup>th</sup> anniversary



HORIBA's strengths in measurement instruments for industry



Jobin Yvon's strengths in products for scientists and advanced research

## Scientific segment

Prominent as developer of unique markets; functioning as an incubator of HORIBA business

Automotive

Process & Environmental

Medical

Semiconductor

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# Shareholder Return

## Basic policy

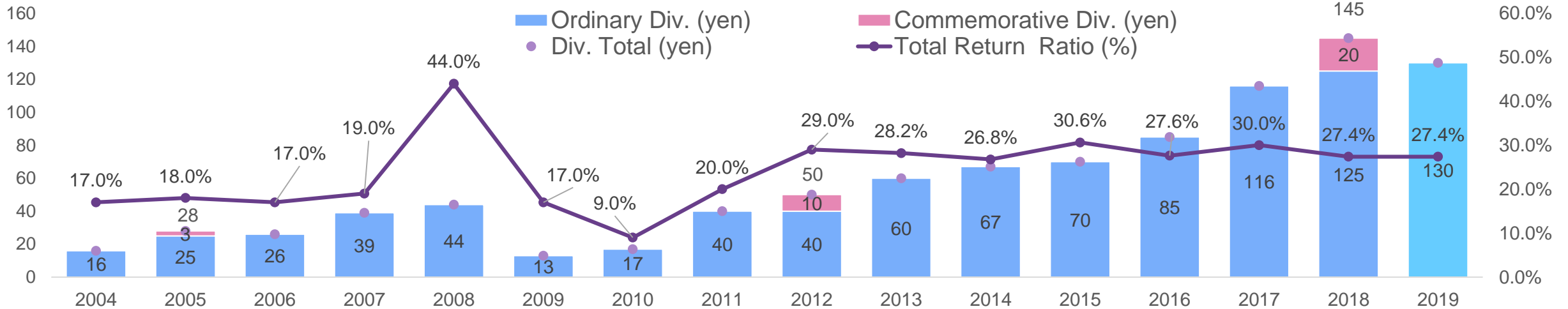
- Dividend payment + Share buyback = 30% of Consolidated net profit to be targeted
- Remaining earnings are retained internally for strategic investment (i.e. facilities, M&A)

## Dividends per share and Share buybacks

- 2017 Results 116yen [Interim 40yen/Year-end 76yen]
- 2018 Results 145yen [Interim 50yen/Year-end 95yen]
- 2019 Forecast 130yen [Interim 50yen/Year-end 80yen]

Ordinary dividend: 125yen  
 Commemorative dividend for the 65th anniversary of the company foundation: 20yen

Per-share dividend (from 2004 to 2019 Forecast)



Renewed record-highs in dividend in 9 years

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# Workplace-rooted Workstyle Renovation

## Stained Glass Project

Step 1  
in 2014

- Initial focus on engagement of women at workplace

Step 2  
from 2015

- Start “work style renovation” workshop
- Theme: Change in individual behavior

Step 3  
from 2016

- Organize a dedicated team to connect the management, HR team and workplaces
- Activities to make the best use of characteristics of each workplace/organization

## Introducing “Good Place” work system

**Allowing flexible workstyle and aiming at capable employees to continue working**

### “Good Place” work system

- ✓ Allows work other than home
- ✓ No limit to work-at-home days

A guideline is made and used by each team



Opened a website to present diversity-related initiatives

<http://www.horiba.com/diversity/>

Experience of the Telework Days\* is reflected in the “Good Place” work system.

\*The Japanese government’s initiative calling to participate a nation-wide remote working campaign on certain days





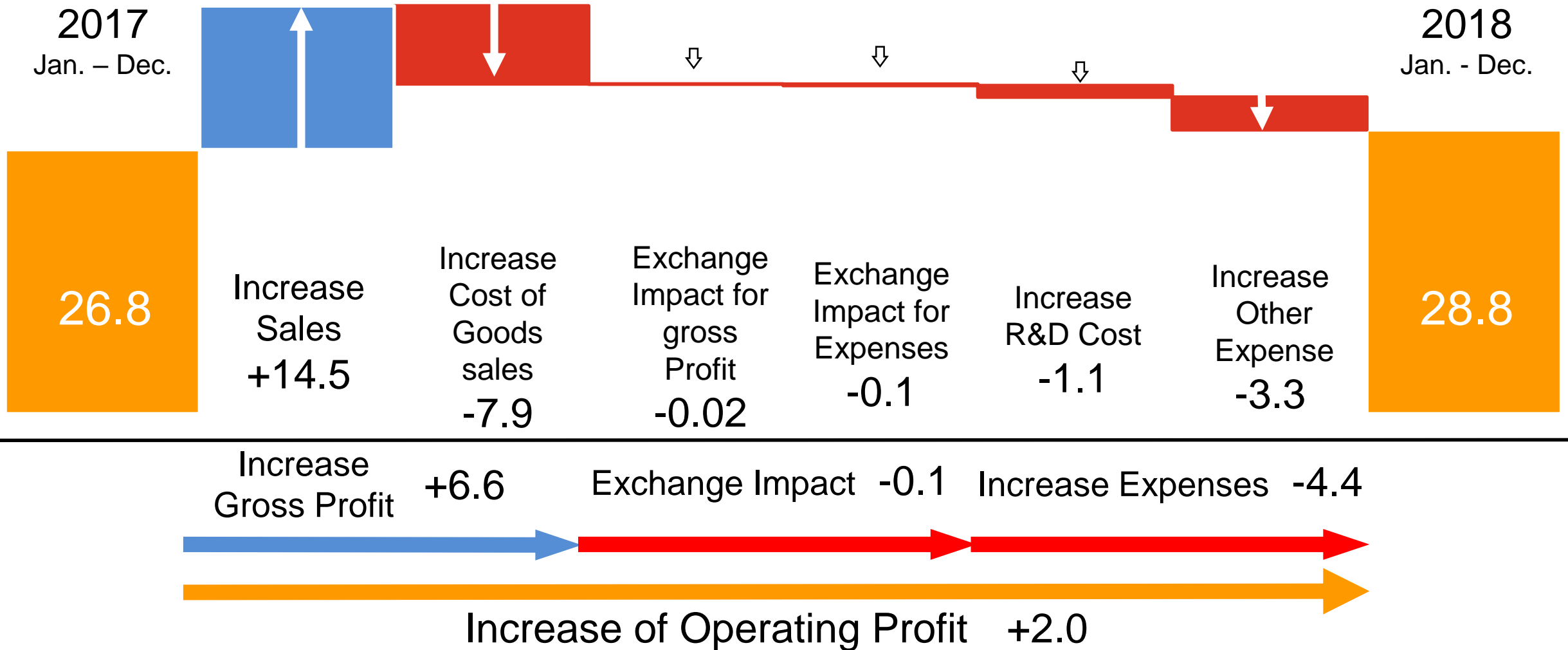
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# Operating Profit Analysis (vs 2018)

(Billions of yen)



# Impact of Fluctuation in Foreign exchange

(Millions of yen)

## Exchange rate impact (2018 result)

Sales +¥579mn O.P. -¥182mn

	Sales			Operating Profit		
	Total	USD	EUR	Total	USD	EUR
Auto	+581	-177	+586	-11	-41	+56
P&E	+5	-55	+63	+29	+2	+27
Medical	+117	-62	+298	+8	+2	-4
Semi	-228	-367	+27	-228	-338	+19
Scientific	+104	-156	+249	+19	-8	+16
Total	+579	-817	+1,223	-182	-383	+114

※Total is not matching with sum-up of each content due to other small currency effect.

## Exchange rate impact for 2019 Forecast

1 yen impact of Sales and O.P.  
(Yen appreciation)

Sales	
USD	-¥489mn
EUR	-¥373mn
Operating Profit	
USD	-¥243mn
EUR	-¥12mn

	2017	2018	2019
(JPY)	Result	Result	Forecast
USD	112.16	110.44	110.00
EUR	126.70	130.35	125.00

# Capital Investment, Depreciation, R&D

(Billions of yen)

	2017	2018				2019	
	Result	Previous Forecast (as of Nov 9)	Result	vs 2017	vs Previous Forecast	Forecast	vs 2018
Capital Investment	11.6	14.0	10.2	-1.3	-3.7	16.0	+5.7
Depreciation	7.5	7.5	7.2	-0.2	-0.2	7.5	+0.2
R&D	13.9	15.5	15.1	+1.2	-0.3	16.0	+0.8
(To Net Sales)	7.1%	7.5%	7.2%	0.1%	-0.3%	7.3%	0.1%

<b>2018 Topics</b>	-PP&E	Enhancement of North American bases / Investment to MIRA / Enhancement of global bases
	-Depreciation	Decrease goodwill of MIRA, + Increase by new investment
	-R&D	Increase in Automotive segment
<b>2019 Topics</b>	-PP&E	Increase in investment in automotive-related facilities and enhancement of global bases
	-Depreciation	Increase by new investment
	-R&D	Increase in Automotive and Semiconductor segments

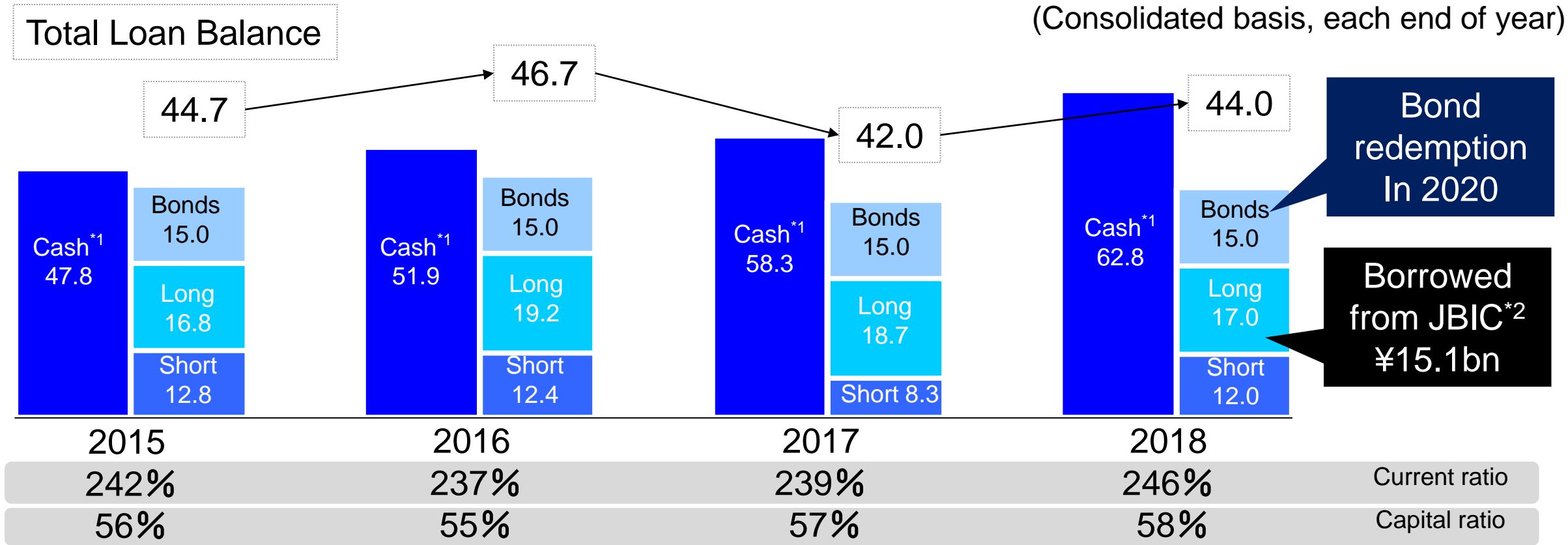
# Consolidated Cash Flows

(Billions of yen)

	2018	2017	Variation
Cash flows from operating activities	+19.5	+28.2	-8.7
Cash flows from investing activities	-11.0	-13.1	+2.1
Cash flows from financing activities	-3.2	-9.0	+5.8
Cash and cash equivalents at end of year	+62.8	+58.3	+4.5
Free cash flows	+8.5	+15.1	-6.6

# Cash Balance

(Billions of yen)



Bond redemption  
In 2020

Borrowed  
from JBIC\*<sup>2</sup>  
¥15.1bn

- Loan repayment due to group financing
- Recent issuer rating : R&I “A” (Sep. 2018), JCR “A” (Aug. 2018)

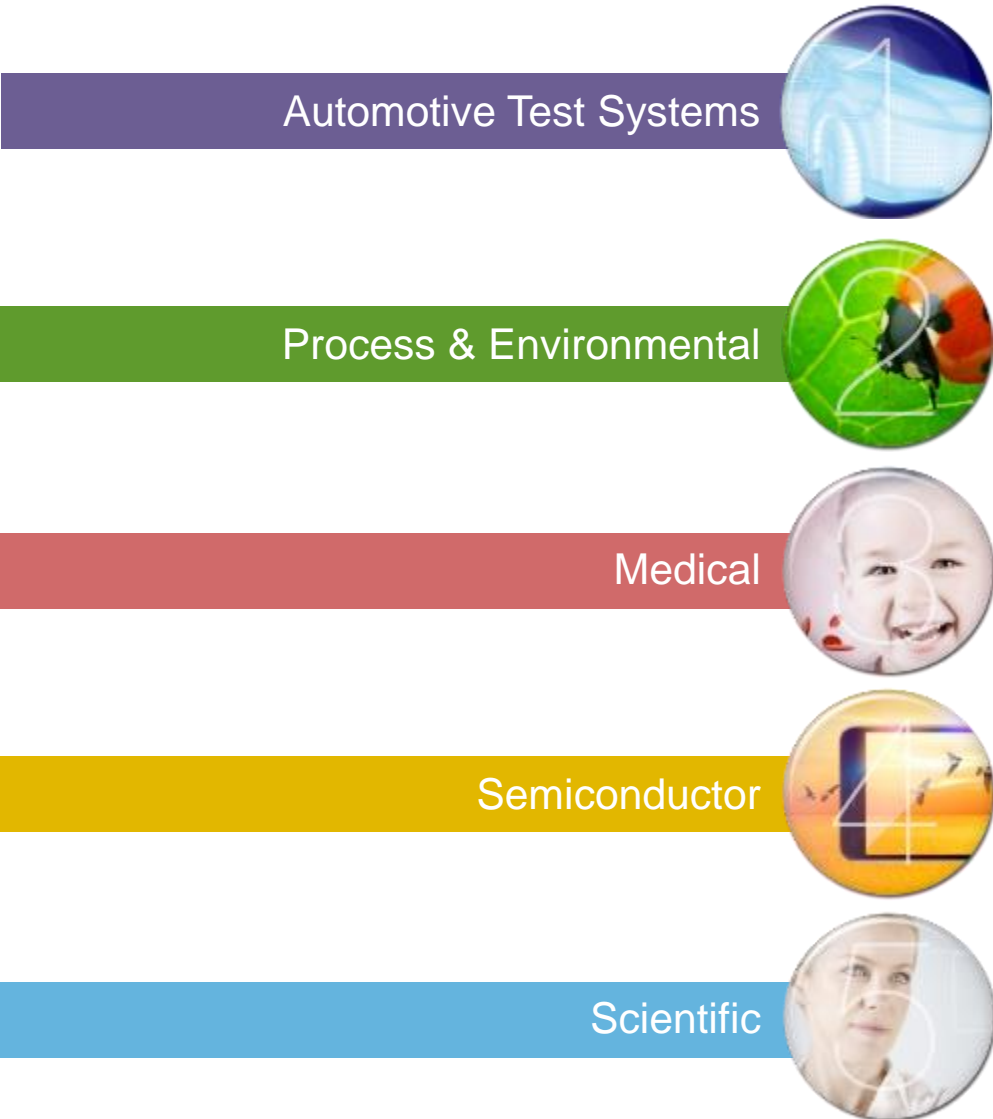
\*1 Cash\*...Cash and Cash Equivalents at End of Period. \*2 JBIC: Japan Bank for International Cooperation

# Contents

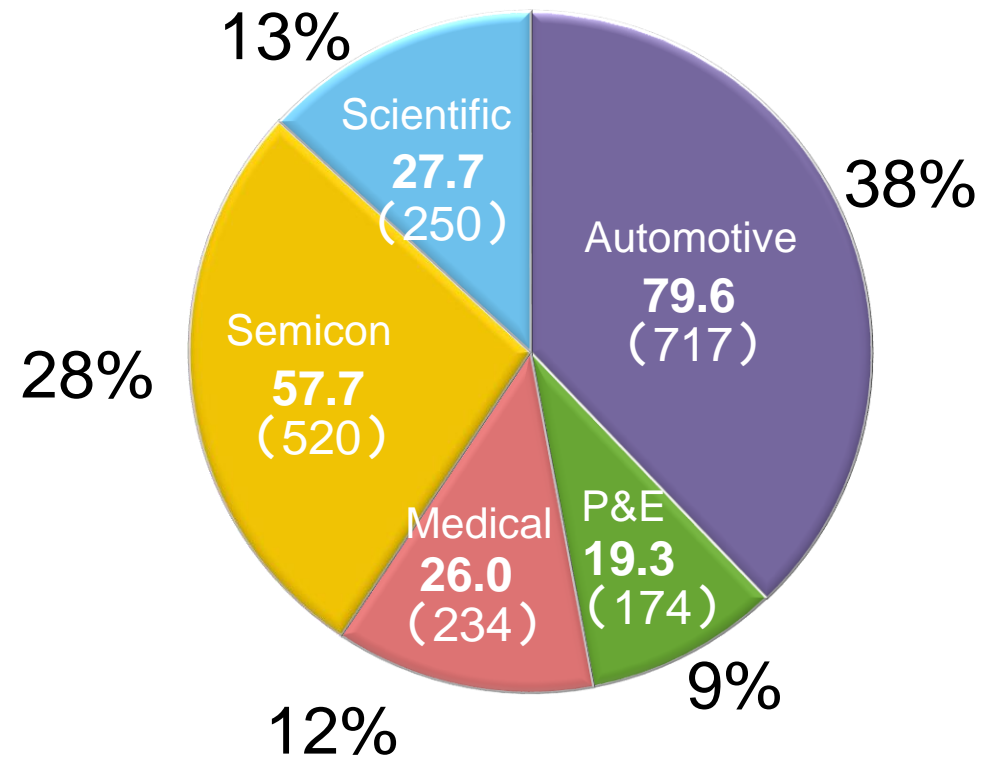
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- 2018 Results
- 2019 Forecast
- Business Segments Outline
- Share Holder Return
- Other Topics
- Financial Data
- **Corporate profile**

# Business Segments



Sales Breakdown by Segment  
**Sales: ¥210.5bn (1,897MUSD)**



( ) = Segment Sales in MUSD

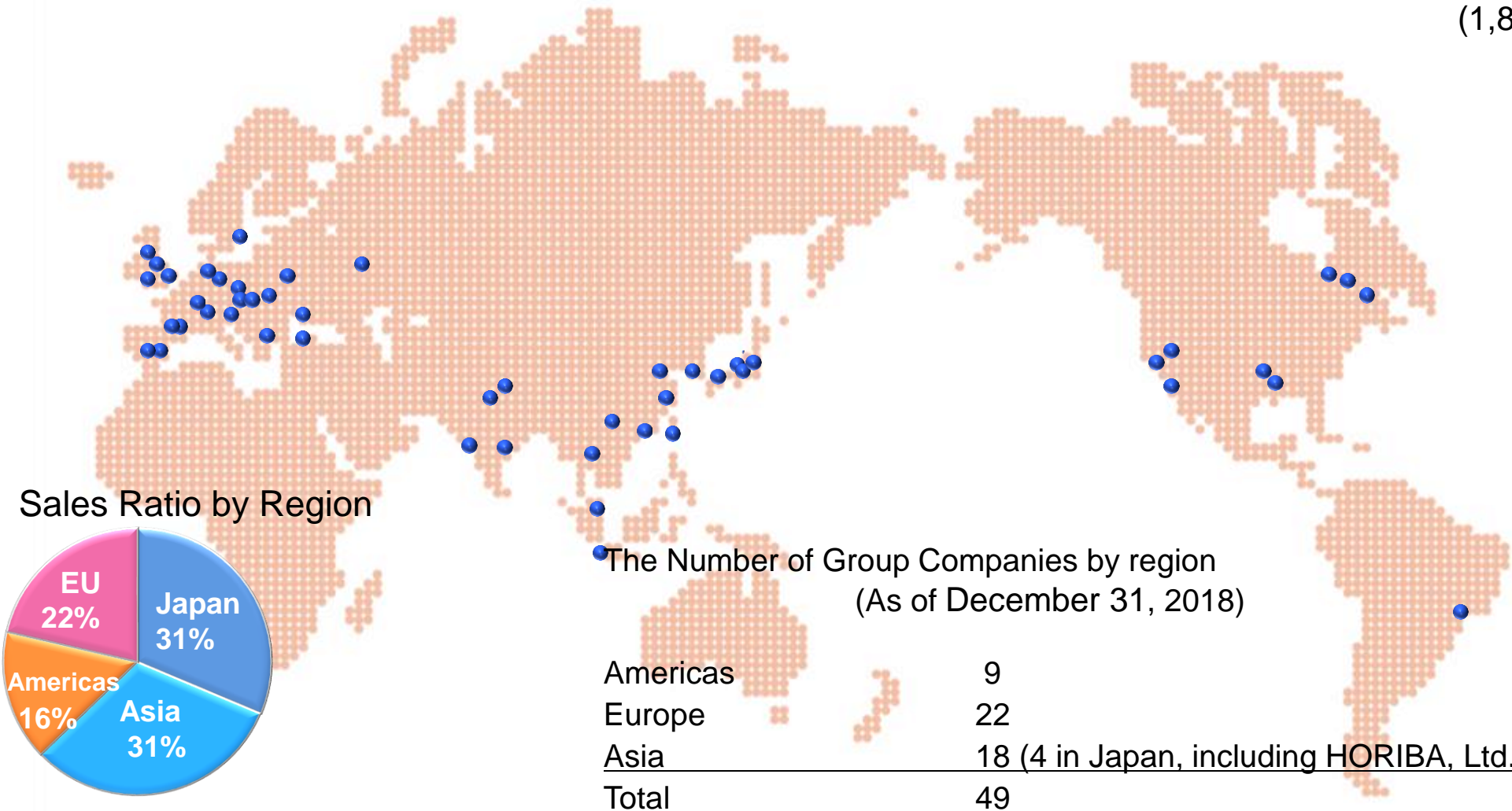
% = Segment Sales Ratio

(Sales of FY2018)

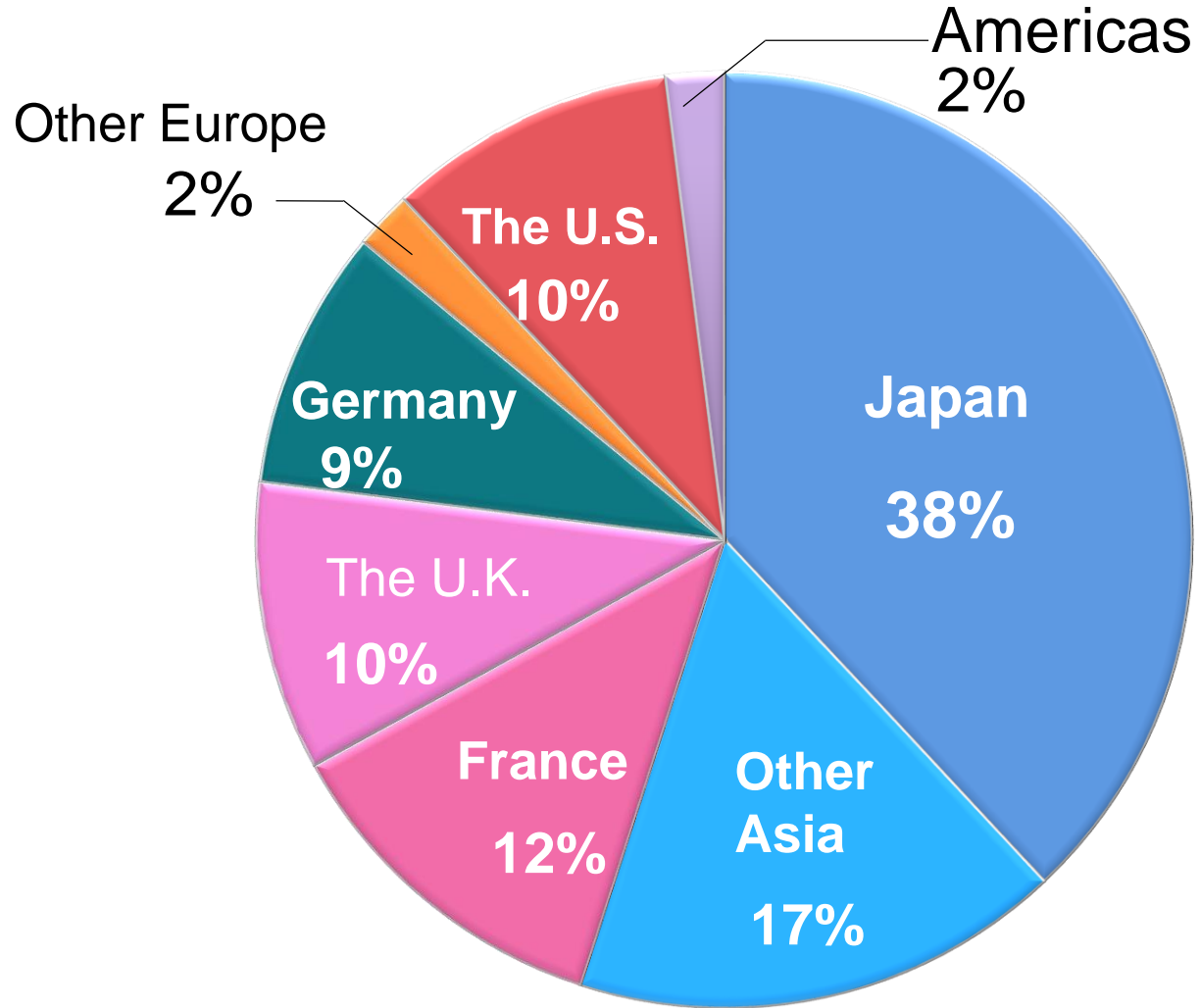


# HORIBA Worldwide

Sales of FY2018 : ¥210.5bn  
(1,897 MUSD)



# Employees by Region



(As of December 31, 2018)

Total Number of Employees	7,943
Total Asia : 4,315	55%
Total Europe: 2,637	33%
Total Americas: 991	12%

Thank you

# 【Ref.】 Business results trend for 20years/Targets/Progress of MLMAP

(Billions of yen)

Continuous growth in Sales/Operating Profit/Net Income

Growth in two times for 10 years from 2010

