# HORIBA, Ltd.

# **Financial Information**

August, 2017

### Contents

- 2017 First-Half Results
- 2017 Full Year Forecast
- Business Segment Outline
- Shareholder Return
- Other Topics
- Financial Data
- Corporate Profile

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# Review of the First-Half of 2017

# External Events

- Start of the Trump administration in US
- UK's announcement to leave EU
  - -> General election in UK
- Presidential election in France
  - -> Japan-EU Economic Partnership Agreement
- Booming semiconductor market
- Autonomous driving, EV, Emission regulation

# Internal Events

- New/expanded facilities (US, UK and South Korea)
- Renewed a record-high share price. Market cap exceeded 300bn yen.
- Workstyle innovation

# Summary of the First-Half Results of 2017

# Renewed record-highs in Sales, Operating profit and Net profit for the First Half

P&L

Year-on-year increase in sales and profits in the Automotive Test Systems (ATS) and Semiconductor segments.

B/S

- ◆ Total assets were 243.6bn yen, up 4.0bn yen from the end of 2016, due to capital spending
- ◆ Loans payable were 26.7bn yen, down 4.9bn yen from the end of 2016, due to using capability of finance subsidiaries in US and in UK.
- ► Equity ratio: 56.7%

- ◆ Operating CF: Cash in 16.2bn yen, due to growth in profit
- ◆ Investing CF: Cash out 6.8bn yen, due to capital spending
- Financial CF: Cash out 7.1bn yen, due to short-term repayment

+9.4 bn yen

**FCF** 



# First-Half Results of 2017

(Billions of Yen)

	2016 First-Half		2017 First-Half					
*	: Record-highs	Results	Forecast as of May 12	Results		vs.2016	vs. Forecast as of May 12	
	Sales	79.9	87.5	*	87.3	+7.3	-0.1	
	O.P.	7.7	10.0	*	9.7	+1.9	-0.2	
	O.P. %	9.7%	11.4%		11.1%	<b>+1.4</b> p	-0.3p	
	Ordinary profit	7.5	9.7	*	9.5	+1.9	-0.1	
	Net Income attributable to Owners of Parent	4.1	6.1	*	6.4	+2.3	+0.3	
	USD/JPY	111.70	110.00		112.34	+0.64	+2.34	
	EUR/JPY	124.52	120.00		121.66	-2.86	+1.66	



# First-Half Results of 2017 by Segment

(Billions of Yen)

					_					
		S	Sales		Operating profit					
	2016		2017			2016		2017		
	First-Half		First-Ha	alf		First-Half		First-Ha	alf	
★:Record-hig	<sup>hs</sup> Results	Forecast as of May 12	Results	vs.2016	vs. Forecast as of May 12	Results	Forecast as of May 12	Results	vs.2016	vs. Forecast as of May 12
Auto	28.1	32.0	<b>*</b> 30.6	+2.4	-1.3	0.5	2.2	2.1	+1.6	-0.0
P&E	7.7	8.0	8.0	+0.2	+0.0	0.8	0.4	0.3	-0.5	-0.0
Medical	13.8	12.0	12.3	-1.4	+0.3	1.5	1.0	0.8	-0.7	-0.1
Semi	17.8	24.0	<b>2</b> 4.7	+6.8	+0.7	4.4	6.5	<b>*</b> 6.7	+2.3	+0.2
Scientific	12.3	11.5	11.5	-0.8	+0.0	0.2	-0.1	-0.4	-0.7	-0.3
Total	79.9	87.5	<b>★</b> 87.3	+7.3	-0.1	7.7	10.0	<b>*9.7</b>	+1.9	-0.2

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# Market Overview for the Full-Year 2017

#### Auto



- Expect steady R&D investment by auto/auto parts manufacturers due to tighter emission regulations in EU and Japan.
- Active investment trend in global automotive sector.

#### P&E



- Tighter environmental regulations in China
- Business opportunities in water treatment facilities due to capacity expansion by semiconductor factories

#### Medical



- Japan: Continuing favorable sales to doctors in private practice.
- Overseas: Decline in demand in EU and South America.

#### Semi



- Expect continuous investment by semiconductor manufacturers
- High demand for etching equipment thanks to an increase in demand for 3D NAND

#### Scientific



- Decrease in government budgets for research in developed countries
- Increase in demand for optical components from the private sector



# Exchange rate forecast for 2017

(Yen)

	2016						
	First-Half		Resi	ults		<b>F</b>	Second
	Results	Forecast as of May 12	1Q	2Q	First-Half Results	Forecast	Half Forecast
USD	111.70	110	113.60	111.08	112.34	110	107
EUR	124.52	120	121.05	122.27	121.66	120	118

1 yen O.P. sensitivity for 2017 Forecast

USD 162 million yen

EUR 28 million yen

Explore the future

# Forecast of 2017

(Billions of Yen)

				'
	2016		2017	
★ : Record-highs	Results	Forecast as of May 12	Revised Forecast	vs. Forecast as of May 12
Sales	170.0	183.0	187.0	+4.0
Operating profit	18.4	21.0	22.0	+1.0
O.P. %	10.9%	11.5%	11.8%	+0.3p
Ordinary profit	18.2	20.3	21.3	+1.0
Net Income attributable to Owners of Parent	12.9	13.6	14.5	+0.9
Net profit per share(Yen)	308	322	344	+2.1
ROE	10.0%	9.9%	10.5%	+0.5%



# Forecast of 2017 by segment

(Billions of Yen)

							וווום)	ons or rem
		Sa	les			Ο.	.Р.	
	2016	2017	2017	VS.	2016	2017	2017	VS.
★:Record-highs	Resuts	Forecast as of May 12	Reviesd Forecast	Forecast as of May 12	Resuts	Forecast as of May 12	Reviesd Forecast	Forecast as of May 12
Auto	62.2	69.0	<b>∗</b> 71.0	+2.0	3.5	5.2	5.7	+0.5
P&E	16.7	18.0	<b>*</b> 18.0	No change	1.5	1.1	1.1	No change
Medical	26.5	25.0	25.0	No change	2.8	2.2	1.7	-0.5
Semi	38.8	46.0	*48.0	+2.0	9.6	12.0	<b>*</b> 13.0	+1.0
Scientific	25.7	25.0	25.0	No change	0.9	0.5	0.5	No change
Total	170.0	183.0	<b>*</b> 187.0	+4.0	18.4	21.0	<b>*</b> 22.0	+1.0



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Automatics Text Contract | Process & Entiremental | Medical | Contract | Process & Entiremental | Process & Entirement

# Auto

#### First-Half Results and Forecast for 2017

(Billions of Yen)

#### 2017 First-Half Results

\*EMS = Emission Measurement Systems

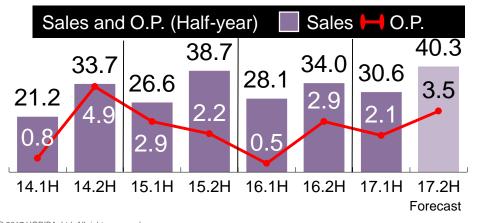
- EMS Sales increase due to tighter emission regulations
- MCT Recovery in capital spending by automakers
- Expense increase due to founding MIRA Japan team

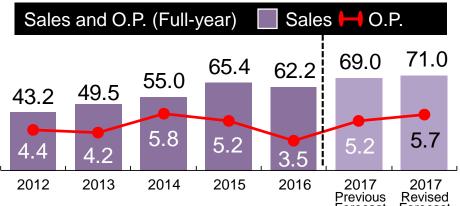
	2017 First-half results Sales (prior year)
EMS	19.8 (18.3)
MCT	6.3 (5.0)
ITS	0.8 (0.7)
ECT	3.6 (3.9)

#### 2017 Full-Year Forecast

- EMS Continuous high demand in response to new regulations
- MCT Sales increase by steady delivery of orders received
- ECT Good orders received, to impact earnings from next year

	2017 Full-year Forecast Sales (prior year)
EMS	44.0 (40.1)
MCT	18.0 (13.2)
ITS	2.0 (1.6)
ECT	7.0 (7.1)







# Auto

# Action for next-generation emission regulations

(Billions of Yen)

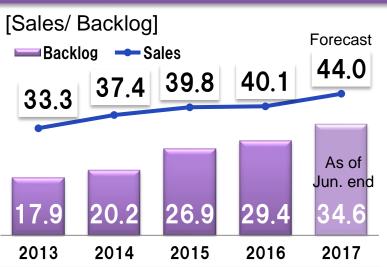
# EMS: Action for next-generation emission regulations

WLTP<sup>\*\*1</sup>(unified emission regulations by the UN)

Start: Sep. 2017 in EU; Oct. 2018 in Japan

RDE Regulation\*2 (On-board emission regulation)

Start: Sep. 2017 in EU; 2022 in Japan



#### Establishment of Advanced Emissions Test Centre (AETC)

Start: July 5<sup>th</sup>, 2017

Place: HORIBA MIRA Ltd. (UK)

Function: Advanced Emission Test Lab.

- In-house real driving testing simulation
- Simulation in various temperature

Objective: Business enhancement concerning RDE regulations



Testing equipment

<sup>\*1</sup> Worldwide harmonized Light vehicles Test Procedure

<sup>\*2</sup> Real Driving Emission

# Contributing to R&D for EVs and autonomous driving vehicles

(Billions of Yen)

## MCT Business: Response to the trend to promote EVs

Improve sales and profitability in 2017

- Recovery in automakers' capex
- The Turn Key Business expansion\*
  - \* Business model to provide the solution combining EMS and MCT

#### [Sales/ Backlog]



#### HORIBA's business areas

Provide solutions, from single systems (i.e., powertrain,

E-Motor) to comprehensive systems, incl. vehicle evaluation

E-Motor testing equipment



Electric vehicle testing



Expand testing business areas, i.e., battery control system in HORIBA MIRA

#### ECT Business: MIRA participates the autonomous vehicle project

- Collaborate with a local company in designing a test course for autonomous vehicles in Hungary
- Establish a firm position in autonomous vehicle R&D

Signing ceremony

Autonomous vehicle technology



Automotive Test Systems | Process & Environmental | Medical | Semiconductor | Scientific

#### P&E

#### First-Half Results and Forecast for 2017

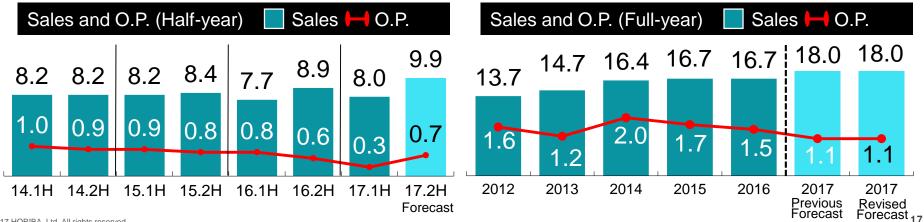
(Billions of Yen)

#### 2017 First-Half Results

- Increase in demand for stack gas analyzers: replacement demand in Japan and VOC-regulation related sales in China
- Firm demand for water measurement systems in Japan but less-than-expected sales growth

#### 2017 Full-Year Forecast

- Stack gas analyzers Capture domestic replacement demand
- VOC regulations in China Anticipate further demand growth
- More inquiries but slow sales in the process measurement equipment business in N. America



# P&E Enhancing global business

#### Invest in the process measurement equipment business: New Houston factory

Start: April 1st, 2017

Place: Huston in Texas (US)

Function: Production of P&E equipment; Scientific &

Medical-related sample tasting

Objective: Business growth through expansion of

production capacity

Houston factory



Analyzer house\*



\* Shelter with analyzers and sampling systems. Measurement equipment for each process is systemized to provide total solutions.

#### Expand the water quality measurement business

Ammonia Nitrogen Monitor "HC-200NH"

- Launch in 2016 through collaborative
   R&D with the Tokyo Bureau of Sewerage
- Contributing to less electric consumption in sewage treatment by continuous monitoring

Expand global business for big sewerage plants

HC-200NH



Concentration of resources in water measurement in HORIBA Advanced Techno from Jan. 2017

- Speed up R&D and production
  - Accelerate product launch
- Enhance marketing function
  - Approach semiconductor makers for P&E products

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#### Medical First-Half Results and Forecast for 2017

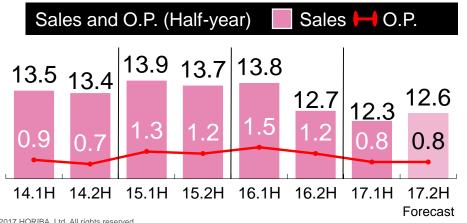
(Billions of Yen)

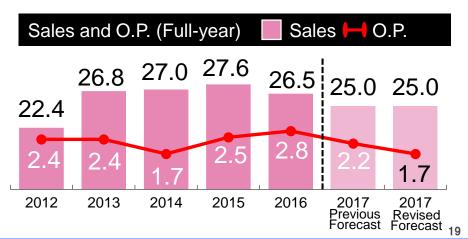
#### 2017 First-Half Results

- Increase in expense in promoting hematology and CRP analyzers in Japan
- Sales drop in EU/South America; impacts of French new products in and after 2018

#### 2017 Full-Year Forecast

- Intensified competition in hematology and CRP analyzers in Japan
- Increase in expense for US FDA approval and sales promotion of new products





# Medical New product launch for business expansion

#### New product and "HELO Solution" in the mid- to high-end market

- Strengths
  - Total solutions including clinical data management system
  - Flexibility in layout
- ◆ Schedule
  - Global launch in the 2Q of 2017
  - Start installation in Brazil, UK and France

"HELO Solution" (Launch in 2017)



Rendering of installed products in a customer's lab, in Brazil





#### New product "Yumizen H550" for developing countries

- Strengths
- Small hematology analyzer with autoloader
- Stable, high-precision measurement in various condition
- Sales and production network
- Utilize HORIBA's global network
- Local production of reagents near consuming areas





"Yumizen H500" (Launch in 2016)



# Semi

#### First-Half Results and Forecast for 2017

(Billions of Yen)

#### 2017 First-Half Results

- Record-high sales and OP
  - Increase in capital spending in Asia
  - High demand for etching for 3D-NAND
- Record-high production volume in Mass flow controller (MFC)

#### 2017 Full-Year Forecast

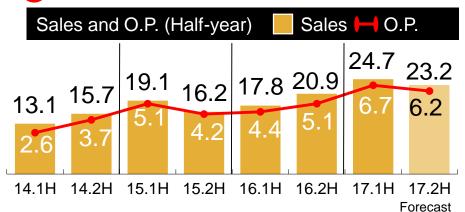
- Robust capital spending by Semi. makers
- Continuous high-level production of MFC

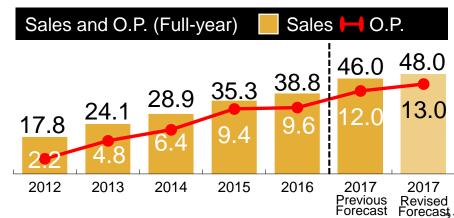
#### MFC-related topics in Semi. market

- Transition of memory in data centers
- -> Surge in semiconductor
- Change in semi. technology (Miniaturization, 3D-NAND, Multi-layered)
- -> High demand for etching

#### HORIBA's strengths

Business portfolio to supply accurate MFC sustainably





# Semi

# Further enhancing stable supply

## Investment in production factory (Aso in Japan; South Korea)

◆ Expanding Aso factory of HORIBA STEC Co., Ltd.

Investment: App. 2.7bn yen / Completion: Dec. 2017 (Plan)

Objective: Expand production capacity of MFC (1.5 times in floor space)

Established a new head office of HORIBA STEC KOREA, Ltd.

Start: Apr. 1<sup>st</sup>, 2017 / Place: Yongin-si (Suburb of Seoul)

Objective: Increase production and engineers, enhance training capability

# Expansion in Aso factory

HORIBA STEC KOREA's new office

#### Trend of Semi. market

Invest controlled by Semi. makers

Less fluctuating silicon cycle



Become stable market

#### Action for quality improvement

- ◆ Acquire ISO/IEC 17025\* that is related to gas calibration
- Kyoto Fukuchiyama Technology Center (HORIBA STEC Co., Ltd.)
- Develop measurement system for calibration
- = Stable supply of higher-precision MFCs

\*ISO/IEC 17025; Quality management system and technology management for testing and calibration

R&D of next-generation materials, jointly with Semi. device makers



Fukuchiyama Technology Center (HORIBA STEC)

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#### Scientific First-Half Results and Forecast for 2017

(Billions of Yen)

#### 2017 First-Half Results

- Sales increase of core components for optical products in US and EU
- Sluggish sales for universities in Japan, US, and EU ⇔ 😁 Strong sales in China
- Increase in R&D expenses for new product launch

#### 2017 Full-Year Forecast

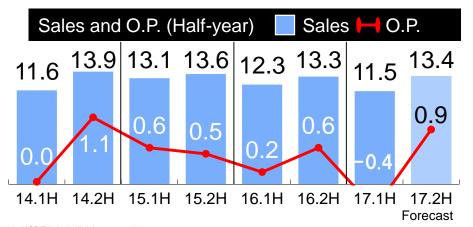
- Firm sales of core components for optical products
- Slow demand from universities in Japan, US, and EU

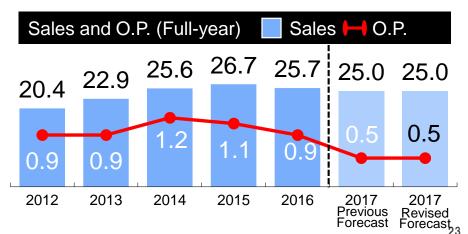
#### Diffraction grating

- Core components for optical products
- Global top-level technology



Develop new market by customized products to meet needs of each customer





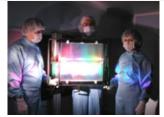
#### Scientific

# Supporting to cultivate HORIBA's technologies

#### "Diffracting grating," core technology of the French subsidiary

- Increase in demand for customized grating for high-intensity laser
- Increase in demand for optical equipment including grating increase for SPE\* makers

\*Semiconductor Production Equipment





Customized grating

Optical equipment

#### HORIBA France S.A.S. (former HORIBA Jobin Yvon S.A.S.)

- Long-established manufacturer of optical instruments with mass-production technology in grating
- Founded in 1819 (200-year anniversary in 2019)





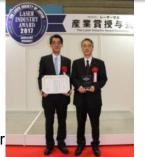
HORIBA France S.A.S.

#### Laser particle-size analyzers received the 9<sup>th</sup> Laser Society Industry Awards

- Award laser products and technologies that contribute to development of the domestic industry
- Equipment to irradiate particles with a laser to measure their size
- Utilize for R&D and quality improvement of particles in various fields (i.e., electronic parts, battery, food, abrasives, medicines)



Laser diffraction particle size analyzer





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# Shareholder return

#### Basic policy

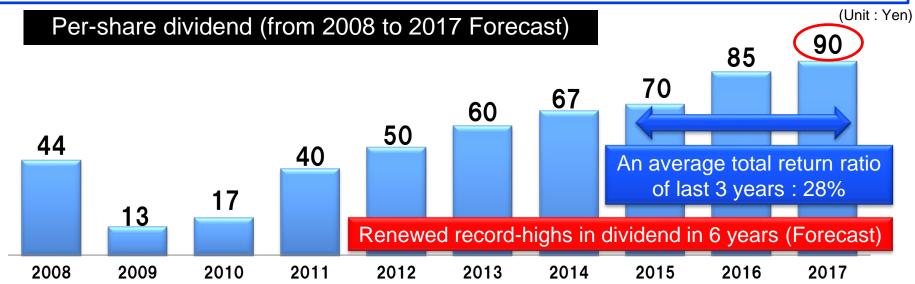
- Dividend payment + Share buyback = 30% of Consolidated net profit to be targeted
- Remaining earnings are retained internally for strategic investment (i.e., facilities, M&A)

#### Dividends per share and Share buybacks

2015 Results 70 yen [Interim 28 yen, Year-end 42 yen] +Share Buyback (0.99bn yen)

2016 Results 85 yen [Interim 30 yen, Year-end 55 yen]

2017 Forecast 90 yen [Interim 40 yen, Year-end 50 yen] (No change from previous forecast)



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# Action for workstyle innovation

#### "Stained Glass Project" initiatives

STEP 1 2014

- Start from promoting women's empowerment

STEP 2 2015

- Start "workstyle innovation" workshop
- Theme: "Change actions by individuals"

STEP 3 2016 -

- "Stained Glass" connects management, human resources and work front
- Make use of the characteristics of each worksite and organization

"KAERU" Meeting \*KAERU" =Going home (from May 2017)

- 111 persons (18 teams) join
- Themes: "Efficient operation" "Individual skill-up"
- 70 ideas have been registered



Recognized under the 2017 Certified Health and Productivity Management Organization Recognition Program

Program to award companies engaged in health-conscious management (designed by the METI and operated by the Nippon Kenko Kaigi)

**Evaluation** given to **HORIBA** 

Top management's declaration to promote mental/physical health Innovative ideas by cross-sectoral projects and teams

ホワイト500

Automotive Test Systems | Process & Environmental | Medical | Semiconductor | Scientific

# **HORIBA Stained Glass Project**

#### When diverse human resources can shine, HORIBA can become even stronger

#### <Goals>



- 1. Increase the corporate competitiveness of HORIBA through diversity
  - Turn diversity beyond gender, generation, group, nationality, form of employment, disability, etc. into power and promote innovation by encouraging all members to be aware of and challenge mental barriers.



- 2. Create next-generation leaders and role models for diverse working styles
  - Support the discovery and creation of best practices and share them inside and outside HORIBA.



- 3. Increase added value and productivity per hour of organizations and individuals
  - Increase added value of individuals by radically reforming their working styles to allow them to achieve a good work-life balance.

#### <Project system>

- Project Owner: Executive Vice President
- Advisor: HORIBA's first female board member
- Project Leader: A female manager who proposed the project
- Members : A wide variety of human resources from group companies

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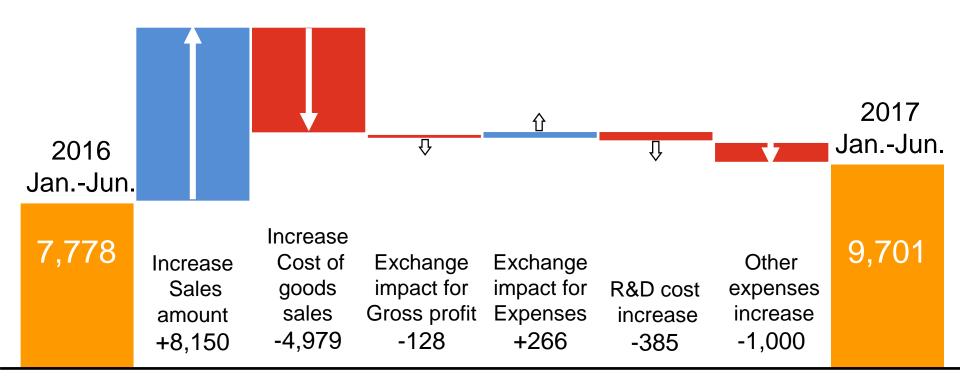
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# Operating profit analysis (vs. 2016)

(Millions of Yen)



Exchange impact Expenses impact Sales impact / +3,170 Decrease sales cost ratio +139 -1,385

Increase of Operating profit +1,923

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# Impact of fluctuation in foreign exchange

# Exchange rate impact for 2017 Forecast

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

#### <u>Sales</u>

USD -448 millions of yen EUR -331 millions of yen GBP -88 millions of yen

#### **Operating Profit**

USD -162 millions of yen EUR -28 millions of yen GBP -4 millions of yen

# Exchange rate impact (2017 First-Half Results)

(Millions of Yen)		Sa	les		Operating Profit			
	Total	USD	EUR	GBP	Total	USD	EUR	GBP
Auto	- 649	+ 24	- 129	- 552	+ 96	+3	+8	+ 86
P&E	- 24	+7	- 18	- 11	- 35	+0	- 7	- 22
Medical	- 120	+ 14	- 113	- 22	-6	+0	+9	- 15
Semi	+ 61	+ 65	- 5	- 101	+ 50	+ 54	- 2	- 102
Scientific	- 74	+ 24	- 81	- 25	+ 34	+2	+0	+ 19
Total	- 806	+ 134	- 346	- 711	+ 139	+ 59	+9	- 35

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# **Consolidated Cash Flows**

(Millions of yen)

INIIIIOLI						
	2016 First-Half	2017 First-Half	Variation			
Cash flows from operating activities	5,987	16,274	+10,287			
Cash flows from investing activities	-5,071	-6,804	-1,732			
Cash flows from financing activities	59	-7,104	-7,164			
Cash and cash equivalents at end of year	47,719	54,174	+6,454			
Free cash flows	915	9,470	+8,555			

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# Capital Investment, Depreciation, R&D

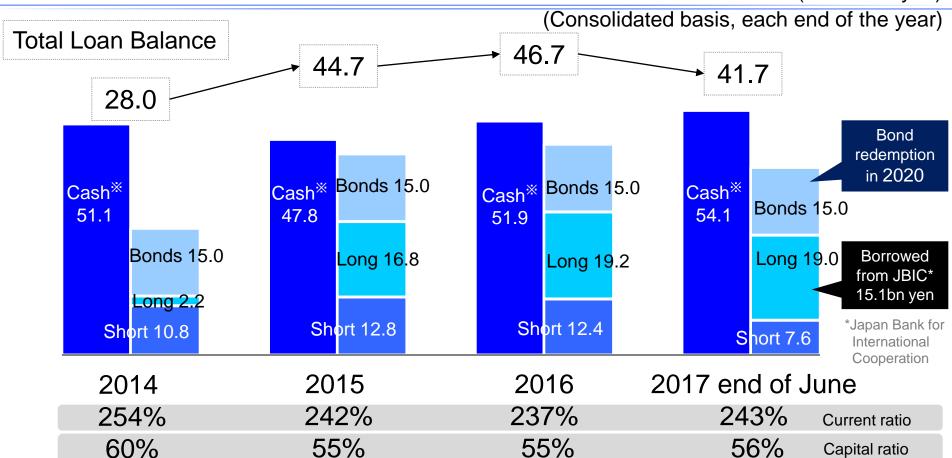
(Billions of Yen)

		2016	2017 Forecast			0040	0047
		Results	Forecast as of May 12	Revised Forecast	vs Forecast as of May 12	2016 First-Half	2017 First-Half
	PP&E	13.4	14.6	14.6	-	5.6	5.3
	Intangibles	0.3	0.4	0.4	-	0.2	0.1
Ca <sub>l</sub>	pital Investment	13.7	15.0	15.0	-	5.8	5.5
De	preciation	6.8	7.2	7.2	-	3.2	3.6
R8	kD	12.9	14.0	14.0	-	6.3	6.6
	(To net sales)	7.6%	7.7%	7.4%	-0.3p	7.9%	7.5%

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#### Cash Balance

(Billions of yen)



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

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# Corporate Profile

Head office Kyoto, Japan

Founded 1945

Incorporated 1953

CEO Atsushi Horiba

Fiscal year end December 31

Atsushi Horiba President & CEO



- Corporate motto -

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

**Process & Environmental** 



Medical



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

Semiconductor



Scientific



In-situ Analysis

Mass Flow Controller

- Synergy among HORIBA HQ, HORIBA STEC, HORIBA Advanced Techno and HORIBA Jobin Yvon's Technologies
- Raman, Grating, and Fluorescence
- Synergy of HORIBA and HORIBA Jobin Yvon's Technologies



# **Business Segments**

Automotive Test Systems

Process & Environmental



Medical



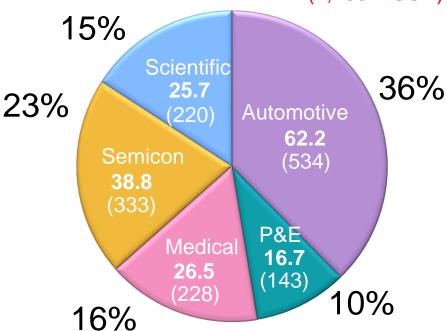
Semiconductor



Sales Breakdown by Segment

**Sales: 170.0 B.JPY** 

(1,460 MUSD)



() =Segment Sales in MUSD

% = Segment Sales Ratio

(Sales of FY2016)

39

# Market Shares

#### Global

**Emission Measurement Systems** 



Stack Gas Analyzers





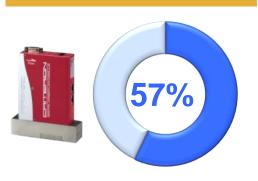
#### **Domestic**

**Automatic Blood Cell Counter** plus CRP



(As of December 31, 2015)

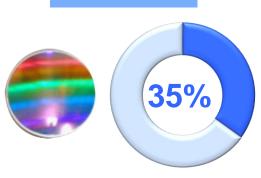
#### Mass Flow Controllers



Raman Spectrophotometers



Gratings

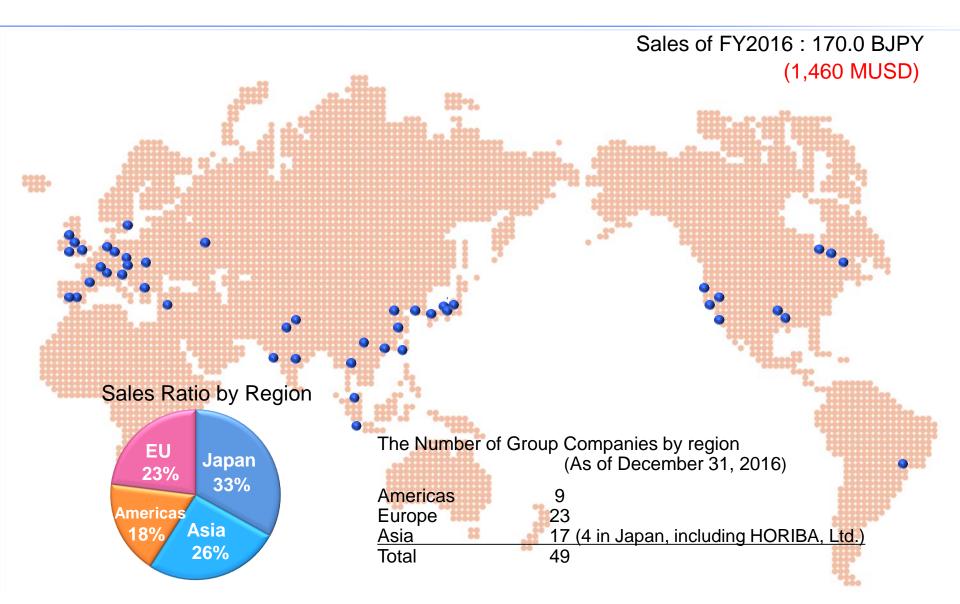


\*Market shares quoted are estimates by HORIBA.

40



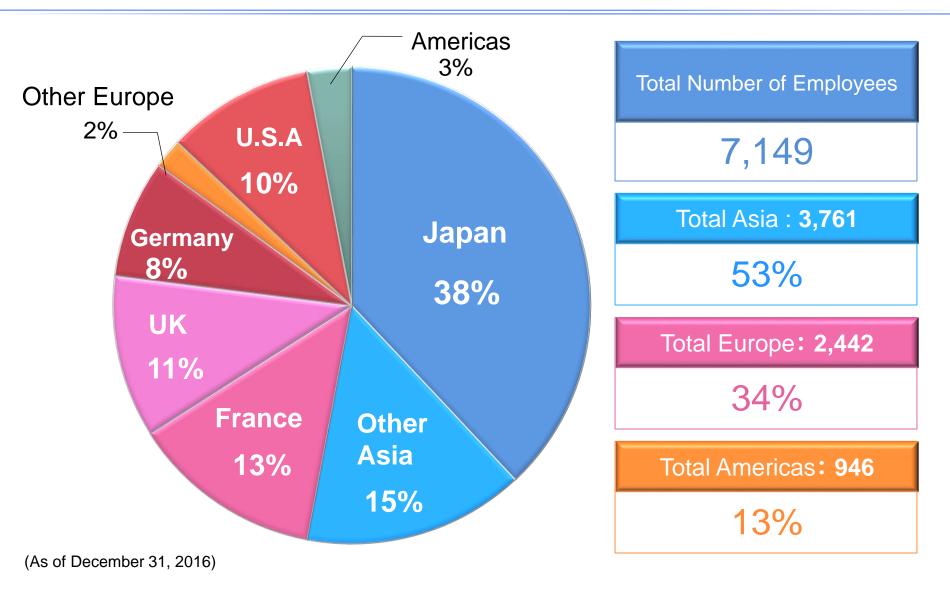
# **HORIBA** Worldwide



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# **Employees by Region**



Explore the future

**HORIBA** 

Thank you very much for your attention.

