

# **Financial Information**

**HORIBA, Ltd.**

**March, 2019**

**(This material was prepared for the 2019 financial results briefing performed on the 17th Feb., 2019)**

# Contents

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- 2019 Results
- 2020 Forecasts
- Business Segments Outline
- Progress of MLMAP2023
- Shareholder Return
- Other Topics

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# Review of 2019

## External Events

- ◆ The rise of protectionism (the US-China trade conflict, the deteriorating Japan-South Korea relationship)
- ◆ BREXIT
- ◆ Slowdown in capital spending on semiconductors
- ◆ The accelerating automotive electrification trend and tighter emission regulations globally

## Internal Events

- ◆ Formulation of the Mid-Long Term Management Plan “MLMAP2023”
- ◆ Continual enhancement of R&D bases on a global scale
- ◆ Aggressive launch of new products
- ◆ Selected as a “Nadeshiko Brand” and for the “Health & Productivity Stock Selection Program” by METI and the Tokyo Stock Exchange

# Summary of 2019 Results

Year-on year decrease in sales and profit due to slowdown of the semiconductor segment

P&L

- ◆ Year-on-year decrease in sales and profit of the Semiconductor segment due to impacts of the market
- ◆ Due to a change in geographical sales mix and other factors, decline in profitability of the Automotive segment though the sales increased

B/S

- ◆ Total assets were ¥315.1bn, increase ¥37.7bn, mainly due to increase in cash caused by issuing corporate debts
- ◆ Equity ratio: 54.3% (-3.9%) (compared to the end of Dec. 2018)

CF

- ◆ Operating CF: Cash in ¥26.6bn due to operating profit
  - ◆ Investing CF: Cash out ¥12.3bn due to acquisition of tangible fixed assets
  - ◆ Financial CF: Cash in ¥19.2bn due to issue of corporate debts
- Free CF: +14.2bn

# 2019 Results

(Billions of Yen)

	2018	2019			
	Results	Forecast (as of Nov. 11)	Results	vs 2018	vs Forecast (as of Nov. 11)
Sales	210.5	207.0	200.2	-10.3	-6.7
Operating Profit	28.8	23.0	20.9	-7.9	-2.0
O.P.%	13.7%	11.1%	10.4%	-3.3p	-0.7p
Ordinary Profit	28.3	22.5	20.5	-7.7	-1.9
Net Income attributable to Owners of Parent	22.3	16.0	15.4	-6.8	-0.5
USD/JPY	110.44	110.00	109.03	-1.41	-0.97
EUR/JPY	130.35	122.00	122.03	-8.32	+0.03

# 2019 Results by Segment

(Billions of Yen)

	Sales					Operating profit				
	2018	2019			2018	2019				
	Results	Forecast (as of Nov. 11)	Results	vs 2018	vs Forecast (as of Nov. 11)	Results	Forecast (as of Nov. 11)	Results	vs 2018	vs Forecast (as of Nov. 11)
★:Record-high										
Auto	79.6	83.0	★ 81.0	+1.3	-1.9	7.7	7.0	6.4	-1.2	-0.5
P&E	19.3	20.0	★ 19.5	+0.1	-0.4	2.0	2.0	1.6	-0.3	-0.3
Medical	26.0	26.0	25.3	-0.6	-0.6	1.8	1.5	1.3	-0.5	-0.1
Semi	57.7	50.0	47.1	-10.5	-2.8	17.0	12.0	10.7	-6.3	-1.2
Scientific	27.7	28.0	27.1	-0.5	-0.8	0.2	0.5	0.7	+0.5	+0.2
Total	210.5	207.0	200.2	-10.3	-6.7	28.8	23.0	20.9	-7.9	-2.0

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# Market Assumptions for 2020

Auto		<p>Tighter emission regulations mainly in Asia</p> <p>Strong appetite for investment in the automotive sector due to innovation in electrification &amp; autonomous driving</p>
P&E		<p>Increase in demand due to tighter environmental regulations in emerging countries</p> <p>Recovery in investment in the oil industry</p>
Medical		<p>Japan: Favorable sales to doctors in private practice</p> <p>Overseas: Increase in demand for blood testing equipment in emerging countries</p>
Semi		<p>Recovery of capital spending by semiconductor manufacturers</p> <p>Solid demand for semiconductor devices from a mid- to long-term perspective</p>
Scientific		<p>Robust corporate R&amp;D spending</p> <p>Accelerating research on new materials for secondary batteries</p>
Total		<p><b>【Impact of COVID-19 (New Coronavirus)】</b></p> <p>At present: Limited impacts on production and the supply chain</p> <p>Longer term: Concerns over impacts of lower production in the automotive and semiconductor industries</p>

# Exchange Rate

(Yen)

	2018	2019	2020	
	Results	Results	Forecast	VS 2019
<b>USD</b>	110.44	109.03	110.00	+ 0.97
<b>EUR</b>	130.35	122.03	120.00	▲ 2.03

1 yen O.P. sensitivity for 2020 forecast (Yen appreciation)

USD -216 million yen

EUR -21 million yen

# 2020 Forecast

(Billions of Yen)

	2018	2019	2020	
	Results	Results	Forecast	vs 2019
★:Record-high				
Sales	210.5	200.2	★ 215.0	+14.7
Operating Profit	28.8	20.9	25.0	+4.0
O.P.%	13.7%	10.4%	11.6%	+1.2p
Ordinary Profit	28.3	20.5	24.5	+3.9
Net Income attributable to Owners of Parent	22.3	15.4	17.5	+2.0
Net profit per share (Yen)	529	367	414	+47
ROE	14.3%	9.3%	9.9%	+0.6p

# 2020 Forecast by Segment

(Billions of Yen)

	Sales			Operating Profit		
	2019 Results	2020 Forecast	vs 2019	2019 Results	2020 Forecast	vs 2019
★ :Record-high						
Auto	81.0	★ 85.0	+3.9	6.4	7.5	+1.0
P&E	19.5	★ 21.5	+1.9	1.6	1.5	-0.1
Medical	25.3	27.0	+1.6	1.3	1.5	+0.1
Semi	47.1	52.5	+5.3	10.7	13.5	+2.7
Scientific	27.1	★ 29.0	+1.8	0.7	1.0	+0.2
Total	200.2	★ 215.0	+14.7	20.9	25.0	+4.0

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# 2019 Results/2020 Forecast

(Billions of yen)

## 2019 Results

- 【EMS】 Higher demand mainly in Asia, driven by adoption of new regulations
  - 【MCT<sup>1</sup>】 Increase in demand for fuel cell test systems
  - 【ECT<sup>2</sup>】 Business expansion in the next-gen automotive technology development field, but an increase in expenses
- 1: Mechatronics  
2: Engineering Consultancy & Testing

## A new product in 2019 Driving robot for vehicle development



- ✓ Automate running tests on chassis dynamos
- ✓ Realize automation of emission measurement tests with high reproducibility

Contribute to highly-efficient R&D environment for vehicles

## 2020 Forecast

- 【EMS】 Robust sales in Asia  
Increase in R&D expenses aimed at enhancing competitiveness
- 【MCT】 Sales increase in response to automotive-related manufacturers' accelerated investment in electrified vehicle development
- 【ECT】 Improved profitability driven by business expansion

### Sales and O.P.



# 2019 Results/2020 Forecast

(Billions of yen)

## 2019 Results

### 【Stack gas analyzers/Air quality monitoring system】

Robust sales of stack gas analyzers in Japan  
 Increase in demand for air quality monitoring system in Europe  
 Decline from last year, when a large project was recorded in Asia

### 【Water quality monitoring system】

Increase in sales due to business expansion in Japan and Asia

## 2020 Forecast

### 【Stack gas analyzers/Air quality monitoring system】

Business opportunities in Asia driven by tightening environmental regulations

### 【Process measurement equipment】

Anticipating a recovery in investment by customers

### 【Water quality monitoring system】

Robust sales of water quality monitoring system for vessels

### Topic in 2019

#### Adopted in JICA's SDG Support Project

✓ The project aims to introduce continuous elemental and particulate mass analysis with automatic sampling and the air monitoring system in Morocco.

The diagram illustrates a process flow: 'SUSTAINABLE DEVELOPMENT GOALS' leads to 'Increased awareness of environmental preservation globally', which leads to 'Business expansion'. An image of a HORIBA air monitoring system is shown on the right.

Sales and O.P.



# 2019 Results/2020 Forecast

(Billions of yen)

## 2019 Results

- Business expansion in emerging countries
- Enhanced sales of the new product in Japan
- Decrease in sales from Europe in yen terms due to the euro's depreciation against the yen; increase in expenses

## A new product in 2019: Yumizen M100 Banalyst

- ✓ Enables **screening of diabetes and infectious diseases** with tiny amount of blood
- ✓ Used mainly by **general practitioners and pediatrics**



- μTAS technology acquired from Rohm Co., Ltd
- Top-class accuracy measurement technology in POCT\*



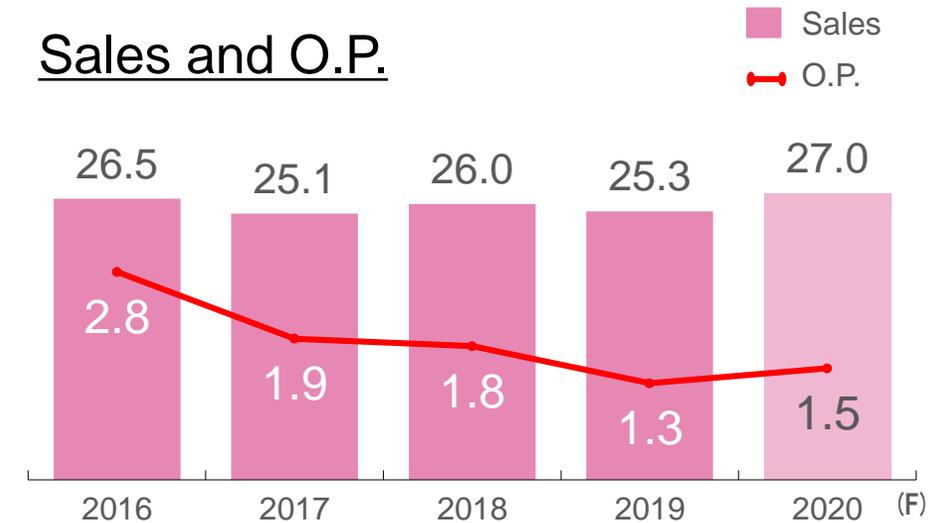
Disposable chip containing liquid reagent

\*Point of Care Testing

## 2020 Forecast

- Anticipating a sales increase driven by expansion of the product line-up
- Further business expansion in emerging countries due to an increase in demand
- Start supplying products to Siemens; uptrend in expenses

## Sales and O.P.



# 2019 Results/2020 Forecast

(Billions of yen)

## 2019 Results

- Decline in both sales and operating profit from the previous year
- Recovery trend in capital spending by semiconductor manufacturers later in the year

## 2020 Forecast

- Anticipating an increase in sales driven by a recovery in investment by semiconductor manufacturers
- Concerns over the world situation and its impact on the economy

### Topics in 2019: Contribution to miniaturization and 3D-integration processes

#### Miniaturization & EUV 【Pellicle particle detection system】

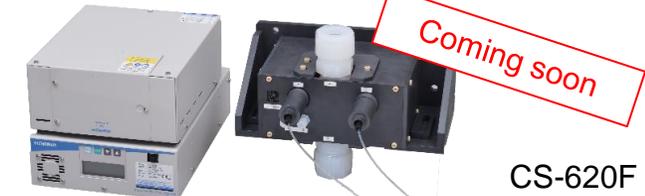
- ✓ Particle detection for pellicles of reticles



PR-PD3EP

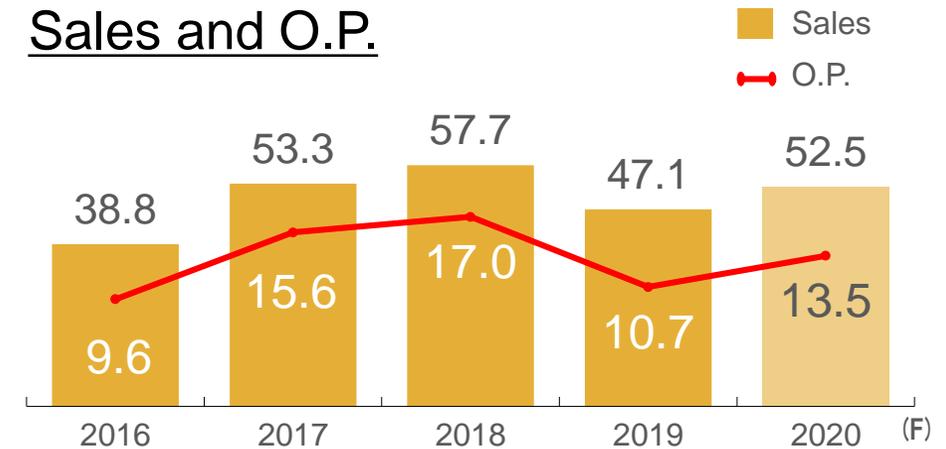
#### 3D-integration & 3D-NAND 【Hot phosphoric acid concentration monitor】

- ✓ Monitor concentration of hot phosphoric acid in the etching process
- ✓ Contamination-free, direct measurement of heat solutions



CS-620F

### Sales and O.P.



# 2019 Results/2020 Forecast

(Billions of yen)

## 2019 Results

- Decrease in sales in Asia due to the economic slowdown
- Increase in sales of high-value-added products that meet customer needs, and improvement in profitability

## 2020 Forecast

- Anticipating a recovery in demand in Asia
- Will standardize successful cases of products that meet customer needs and further improve profitability
- Making use of synergies between business segments to capture new markets

### A new product in 2019: LAQUA

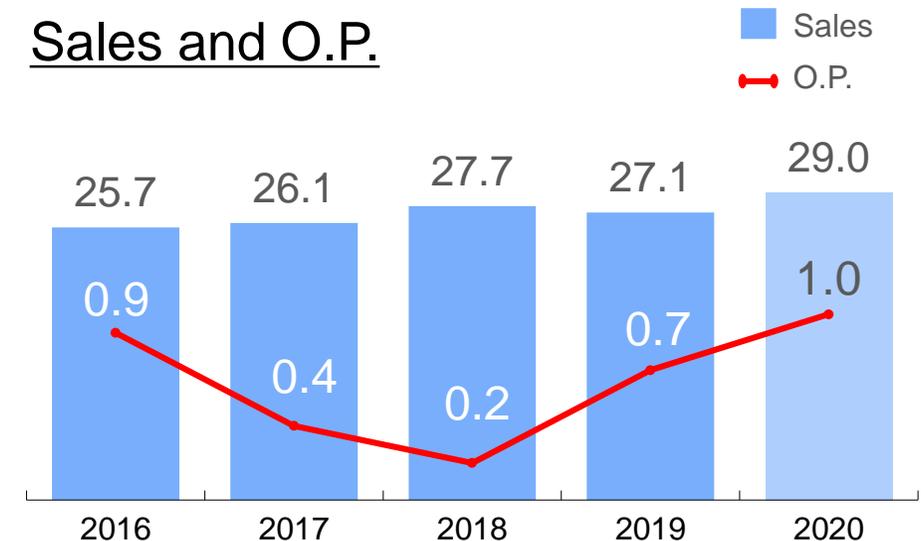
- ✓ Collect feedback from people who implement water analysis both **within and outside Japan**
- ✓ **Portable pH/water quality analyzers** for the global market



Left: D-200/Right: WQ-300

Aim to increase global market share

### Sales and O.P.



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# Priority Measures of MLMAP2023

## MLMAP2023 Slogan “ONE STAGE AHEAD”

### 1. Market Oriented Business

- ✓ To develop analysis and measurement solutions, utilizing HORIBA’s core technologies, in the leading three business fields of the mega trend

### 2. Solution Provider Beyond Life Cycle Management

- ✓ To support customers’ core businesses from all aspects – from product introduction to replacement

### 3. HORIBA Core Values “The Next Stage of Super Dream Team”

- ✓ To enhance the organizational structure that fosters resilient human resources, which are the driving force of all businesses
  - BlackJack Project/Stained Glass Project/HORIBA Premium Value



# Accelerate Business in Electrification Area

Global increase in demand for electrified vehicles

Enhance the field of evaluation of fuel cell and power-train systems

MCT business



Technologies of HORIBA FuelCon

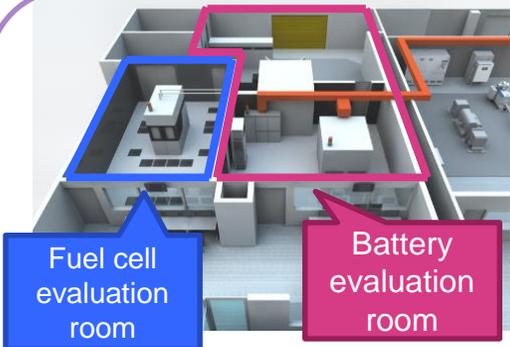
Establish a production system that responds to demand

HORIBA FuelCon's new facility



Magdeburg in Germany (architectural rendering)  
 Construction to be completed at the end of 2021  
 Total cost: approx. 3.5 billion yen

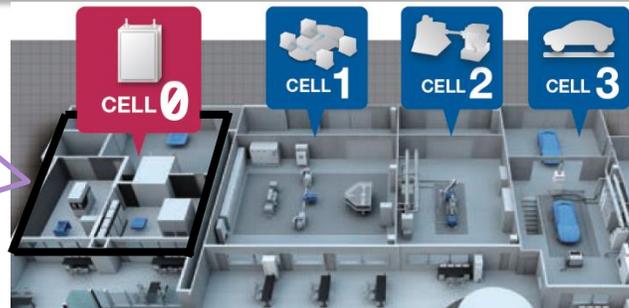
Open the test facility for evaluation of batteries for electrified vehicles "CELL 0"



Fuel cell evaluation room

Battery evaluation room

Useful in evaluating electrified vehicles and fuel cells



- Enable connection from CELL0 up to CELL3
- ◆ Total evaluation system "Test in the Loop"
- ◆ Offer value-added measurement solutions

Expand production capacity  
 Shorten lead times with strategic facilities  
**Become a center of excellence for electrification business**

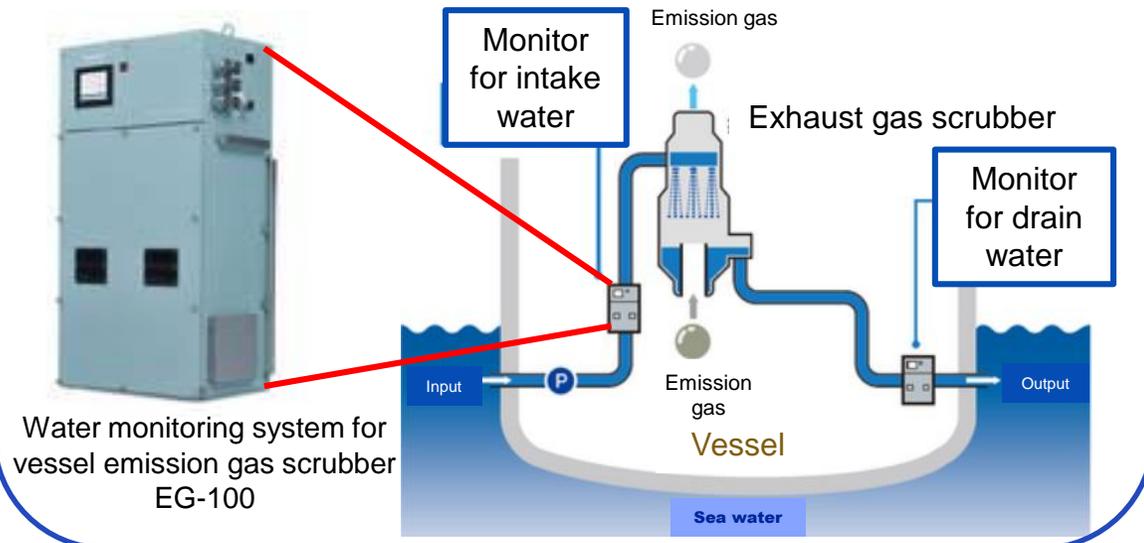
# Growing Needs for Environmental Measures

## 【Water monitoring】

Water monitoring system for vessel emission gas scrubber

Emission gas regulations targeting vessels (SOx Regulation)

Monitor intake- and drain-water from exhaust gas scrubbers



## 【Gas monitoring】

Air pollution monitoring system

Air pollution such as PM2.5 is a global-wide issue

Specify the air pollution source  
Identify the causal mechanism



Implement corrective measures promptly and appropriately

【U.S.】

- ✓ Air monitoring at several points, using PX-375 installed on a vehicle,



Respond to globally expanding environmental regulations

# Contribute to the entire semiconductor manufacturing process



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

\*Typical product example

## Material assessment

## Manufacturing process

## Quality control & waste water treatment

Materials Analysis    Device Analysis



Raman spectrometer

Device Analysis



Cathodoluminescence measurement system

Lithography

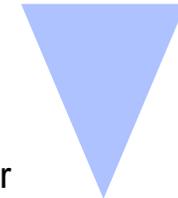


Reticle/mask particle detection systems

Dry Process    Wet Process



End-point monitor



Utility/Wastewater



pH meter



Industrial water quality analyzer

## Ultra-thin Mass Flow Controller (MFC)

Gas flow conditions used in a chamber are becoming more complex as semiconductor devices become increasingly miniaturized and highly integrated

Increase in the number of MFCs installed in a chamber

Gas box size is limited



Ultra-thin Mass Flow Controller "DZ-100" is 3 times thinner than existing models

## New chemical concentration monitor

The issue: chemical leakage in the chemical treatment process



Non-Contact Chemical Concentration Monitor "CS-900"

Enable measurement of chemicals delivered through piping without touching them

Exclude factors causing leaks or contamination

# Medical: Expand and Maintain Production Bases

## Japan

Renovate the production line at Aso Plant, HORIBA STEC

Reinforce adaptation to the global standard



## France

Purchase of the land adjacent to HORIBA ABX

- ✓ Establish a base for production, storage and logistics
- ✓ Respond to an increase in production under the partnership agreement with Siemens Healthcare Diagnostics Inc.



## Emerging countries

Prepare for the expanding Medical business

### India, China

- ✓ Strengthen the reagent supply system
- ✓ Enhance local production



Strengthen the structure globally to expand business in the focus market

# Contribute to Research in Life Sciences



## Analyzers for life sciences

### Transmission Raman



- ✓ 2D analysis of medicinal elements in pills  
⇒ Analyze therapeutic drugs for Parkinson's disease

### Confocal Raman Microscope



LabRAM HR Evolution

- ✓ Label-free cell analysis  
⇒ Evaluate differentiation of ES cells and iPS cells

### Nanoparticle measurement instrument



ViewSizer™ 3000

- ✓ Particle distribution analysis of exosomes\*  
\*Granular materials, diameter 50-150nm, secreted by various cells

### Fluorescence analyzer



DUETTA

- ✓ Analyze interaction between molecules
- ✓ Simultaneous measurement for absorption and fluorescence spectra  
⇒ Effective in quality control of vaccines

## 2020 Masao Horiba Awards



### 【Theme】

Research in the field of life sciences, notably state-of-the-art optical/spectroscopic measurement technologies

Support technology development in the field of cutting-edge drug discovery and medicine manufacture



# To Change to a Solution-proposal Style Business

Always with You  
Support customers in all ways



In the same premises as HORIBA HQ, Kyoto  
Construction to be completed in Nov. 2020  
Total cost: approx. 3.8 billion yen

## Building a new HQ for HORIBA TECHNO SERVICE

- ✓ Integrate functions and enhance abilities to gather/transmit information
- ✓ Expand the analysis lab, the maintenance facility and the training space

MLMAP2023

Maintenance services using operating data

Consulting using measurement data

**Integrate equipment sales with high-value-added support**

**Aim to create a new business to provide data and solutions based on analysis technologies**

# Start construction of a new facility in China

Integrate strengths of all businesses and R&D/production/service functions

Architectural rendering



Jiading, Shanghai

Construction to be completed in April 2021

Total cost: approx. 9.0 billion yen

## Automotive testing labs

- ✓ Install battery/fuel cell test systems, chassis dynamo, and drive test systems
- ✓ Enable tests that combine vehicles/real machines and simulation

## Scientific analysis application center

- ✓ Profit from being based in China's new energy development area
- ✓ Collaborate with academia and companies in application development

## Manufacturing

- ✓ Enhance local engineering and supply capacity for gas and water monitoring systems
- ✓ Establish a production system to supply the semiconductor market in China

## Technical center

- ✓ Provide services according to the product life cycle, from installation to after-sales service

**Aim to further expand business in the Chinese market**

# A "Super Dream Team" to Embody "Joy and Fun"

Activities to create new value and realize a strong HORIBA

## BlackJack Project

Basis for multi-product low-volume manufacturing and a global business



BLACKJACK

Expand across the entire group



Close contact between the front-line and top management

【BlackJack Project】

HORIBA's unique operational improvement initiative began in 1997 with the objective of changing the awareness and activities of employees

Aim to be a truly flat organization

## Stained Glass Project

Promote diversity as a management strategy

Encourage change in awareness and action to achieve both "job satisfaction" and a "comfortable working environment"

Think about employees' healthcare from the management perspective

Issued the "Physical and Mental Health Promotion Declaration" by top management and carried out various activities



【Example】  
Promote health management activities through meals

Improve productivity and enhance competitiveness

Highly evaluated from the ESG investment perspective

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# Shareholder Return

## Basic policy

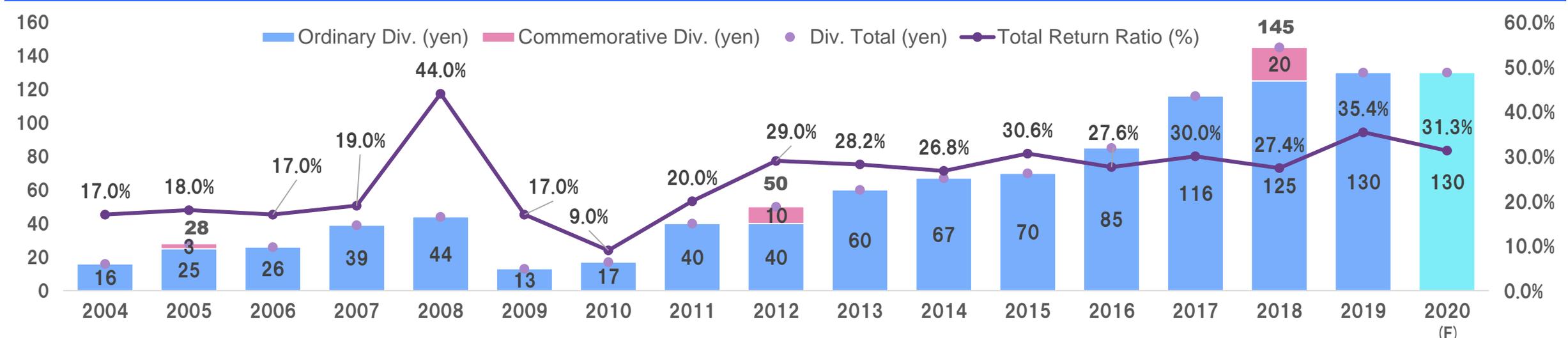
- Dividend payment + Share buyback = 30% of Consolidated net profit to be targeted
- Remaining earnings are retained internally for strategic investment (i.e. facilities, M&A)

## Dividends per share and Share buybacks

- 2018 Results 145yen [Interim 50yen/Year-end 95yen]
- 2019 Forecast 130yen [Interim 50yen/Year-end 80yen]
- 2020 Results 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 2020 Forecast)



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# Expand Core Technologies and Contribute to Society

HORIBA Jobin Yvon IBH received the Business Innovation Award from the Institute of Physics in the UK



- Award theme: Development of FLIMERA, fluorescence lifetime microscope camera
- Joint development project members: Prof. Henderson, University of Edinburgh (back row, third from left), Prof. Burch, University of Strathclyde (front row, third from left), and others

**Institute of Physics Business Innovation Award**  
 Awarding companies which realize successful innovation utilizing physics



**Fluorescence lifetime microscope camera, FLIMERA**

- ✓ Applicable technology in observation of living cells in the bio and life-science field

Montajir Rahman, HORIBA Instruments (US), received the SAE/InterRegs Standards & Regulations Award 2020



- Montajir Rahman (center) obtained a doctorate degree from a university in Japan
- Awarded for his work and involvement in numerous regulations and industry standards related to emissions reduction

**SAE/InterRegs Standards & Regulations Award**  
 Rewards and encourages engineers' participation in standards and regulations

- SAE (Society of Automotive Engineers): A US non-profit organization with members who are experts in the mobility field
- InterRegs: A UK organization which collects information related to vehicle safety and emission regulations and provides such information online

Thank you

Omoshiro-okashiku  
Joy and Fun



Danke

Grazie

Tack ska du ha

ありがとうございました

Dziękuję

Gracias

Σας ευχαριστώ πάρα πολύ

**THANK YOU**

ขอบคุณครับ

Obrigado

Большое спасибо

Cảm ơn

**Merci**

감사합니다

நன்றி

Terima kasih

谢谢

धन्यवाद

شُكْرًا