

## **Financial Information**

HORIBA, Ltd.



- 2021 Results
- 2021 Forecast
- Outlines by Business Segment
- Topics Deepening Cross-segment Activities
- Shareholder Return
- Financial Data
- Corporate Profile



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## Review of 2021

# External Events

- Increased momentum to de-carbonization and carbon neutral
- Accelerated investment in vehicle electrification
- Increased investment in semiconductor production equipment due to increased demand for data transmission
- Further heightened interest in life science

# Internal Events

- Continued investment for growth mainly in China and Europe
- Focused development of new technologies and aggressive launch of new products
- ◆ Implemented M&A in the medical and energy fields
- Business expansion in new markets related to hydrogen energy and life-science

2021 Results

	2020		2021		
	Results	Forecasts (as of Nov. 11)	Results	vs 2020	vs Forecasts (as of Nov. 11)
Sales	187.0	220.0	<b>*</b> 224.3	+37.2	+4.3
Operating Profit	19.6	28.5	<b>*</b> 32.0	+12.3	+3.5
O.P.%	10.5%	13.0%	14.3%	+3.8p	+1.3p
Ordinary Profit	19.3	28.0	<b>*</b> 32.0	+12.6	+4.0
Net Income attributable to Owners of Parent	13.1	18.5	21.3	+8.1	+2.8
USD/JPY	106.76	109.00	109.90	+3.14	+0.90
EUR/JPY	121.88	130.00	129.91	+8.03	-0.09

(Billions of Yen)

	Sales				Operating Profit					
	2020		2021			2020		2021		
	Results	Forecasts (as of Nov. 11)	Results	vs 2020	VS Forecasts (as of Nov. 11)	Results	Forecasts (as of Nov. 11)	Results	vs 2020	VS Forecasts (as of Nov. 11)
Auto	63.9	64.0	61.2	-2.6	-2.7	2.4	1.0	-0.0	-2.4	-1.0
P&E	18.3	21.0	<b>*</b> 20.2	+1.8	-0.7	1.6	1.5	1.9	+0.3	+0.4
Medical	21.0	25.0	25.8	+4.8	+0.8	-0.4	0.5	0.1	+0.5	-0.3
Semi	56.9	81.0	<b>*</b> 87.0	+30.0	+6.0	14.0	24.0	<b>*</b> 28.0	+13.9	+4.0
Scientific	26.8	29.0	<b>*</b> 29.9	+3.1	+0.9	1.9	1.5	1.9	-0.0	+0.4
Total	187.0	220.0	<b>*</b> 224.3	+37.2	+4.3	19.6	28.5	<b>*</b> 32.0	+12.3	+3.5

★: Record-high



## 2021 Results (B/S, CF)

B/S

- ◆Total assets were ¥371.5bn, up ¥43.5bn, by increasing in cash and accounts receivables due to an increase in sales
- ◆Equity ratio: 54.8%

(compared to the end of Dec. 2020)

CF

- ◆Operating CF: Cash in ¥35.2bn due to operating profit
- ◆Investing CF: Cash out ¥14.6bn due to capital investments
- ◆Financial CF: Cash out ¥4.0bn due to payment of dividends

Free CF: + ¥20.6bn

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## **HORIBA's Assumptions Regarding the Market Environment**

General	Remain concerned about supply chain of components.  Expect economic activities to be revitalized in the "Living with Covid" society.
Automotive	Electrification including utilization of hydrogen and autonomous driving technology accelerates.  Stagnant demand for development investment related to internal combustion engines continues
Process & Environmental	Environmental regulation-driven demand remains strong; the Asian market expands centered on air and water quality measurement.  Decarbonization expands business opportunities in the crude oil processing market.
Medical	Opacity of the market environment, due to uncertainty of timing of containment of COVID-19 in different regions.
Semiconductor	Capital investment by semiconductor manufacturers stays high.  Medium-term, increase in demand for measurement due to technological evolution of semiconductor manufacturing processes.
Scientific	Strong demand for measurement and analysis equipment for development and manufacturing processes in the semiconductor market.  Anticipate an increase in demand in the life science market.

	2020	2021	20	)22	
	Results	Results	Forecasts	vs 2021	
Sales	187.0	224.3	<b>*</b> 250.0	+25.6	
Operating Profit	19.6	32.0	<b>★</b> 35.0	+2.9	
O.P.%	10.5%	14.3%	14.0%	-0.3p	
Ordinary Profit	19.3	32.0	<b>★</b> 34.5	+2.4	
Net Income attributable to Owners of Parent	13.1	21.3	<b>*</b> 23.0	+1.6	
Net profit per share (Yen)	312	505	545	+40	
ROE	7.6%	11.2%	10.8%	-0.4p	

(Billions of Yen)

		Sales		Operating Profit			
	2021	2022	vs 2021	2021	2022		
	Results	Forecasts		Results	Forecasts	vs 2021	
Auto	61.2	68.0	+6.7	-0.0	1.5	+1.5	
P&E	20.2	<b>*</b> 23.5	+3.2	1.9	2.0	+0.0	
Medical	25.8	<b>★</b> 28.5	+2.6	0.1	0.5	+0.3	
Semi	87.0	<b>*</b> 96.0	+8.9	28.0	<b>*</b> 29.0	+0.9	
Scientific	29.9	<b>*</b> 34.0	+4.0	1.9	<b>*</b> 2.0	+0.0	
Total	224.3	<b>*</b> 250.0	+25.6	32.0	<b>*</b> 35.0	+2.9	

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**HORIBA** 

## 2021 Results and 2022 Forecasts

(Billions of yen)

#### 2021 Results

- \*1 Mechatronics
- \*2 Engineering Consultancy & Testing
- Outlook for internal combustion engine development remained uncertain. Demand for vehicle electrification expanded.
   [EMS]
  - Sales declined as demand driven by regulations has run its course in Asia region.
- Sales in Japan were sluggish, lowering the profit margin.
   [MCT\*1 ECT\*2]

Captured demand related to vehicle electrification and hydrogen energy, and increased sales.

#### Sales and O.P. (Half Year/Full Year)



#### 2022 Forecasts

\*3 Advanced Driver-Assistance Systems

\*4 Connected and Autonomous Vehicle

#### [EMS]

Expect the similar level of capital investment by automotive manufacturers as in 2021.

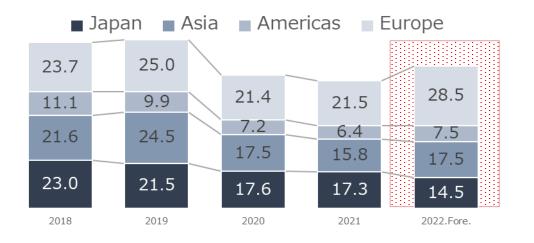
#### [MCT]

Expect an increase in sales by faster growth of R&D investment for vehicle electrification and hydrogen energy utilization.

#### [ECT]

Inquiries related to ADAS\*3 / CAV\*4 and vehicle electrification increase.

#### Sales by Region



## 2021 Results and 2022 Forecasts

(Billions of yen)

#### 2021 Results

Demand for public investment remained firm against the backdrop of environmental regulations, which led to an increase in sales.

【Gas Monitoring】

Sales increased in Asia due to strong demand related to environmental regulations.

[Water quality]

Demand for water quality measurement equipment for manufacturing processes in the electronics industry, and demand based on compliance with environmental regulations were strong.

#### 2022 Forecasts

X1 Carbon dioxide Capture, Utilization and StorageX2 Total Organic Carbon

#### [Gas Monitoring]

- Strong demand for product replacement in Japan and Europe.
- Increase in demand related to new energy technology (such as hydrogen energy and ammonia combustion power generation) and the CCUS\*1 related business.

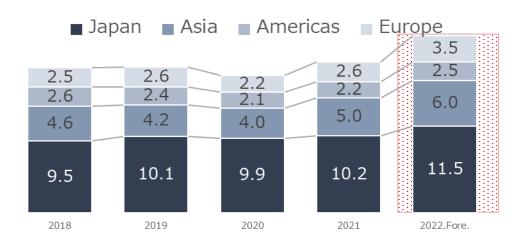
#### [Water quality]

Increase in sales by capturing demand for new products such as TOC\*2 analyzers and by responding to regulations.

#### Sales and O.P. (Half Year/Full Year)



#### Sales by Region



Medical-Diagnosis

## 2021 Results and 2022 Forecasts

(Billions of yen)

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#### 2021 Results

Sales of test reagents remained sluggish due to the spread of COVID-19.

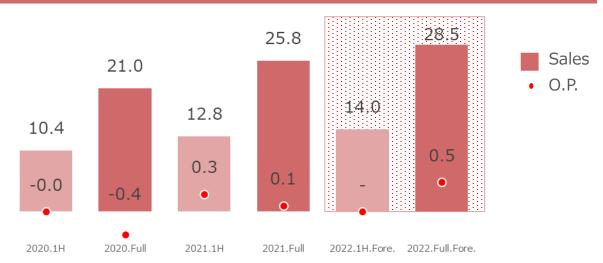
[Asia and Europe]

Increase in sales of hematology analyzers.

[Americas]

Acquisition of MedTest, a provider of clinical chemistry analyzers and reagents, contributed to increase in sales.

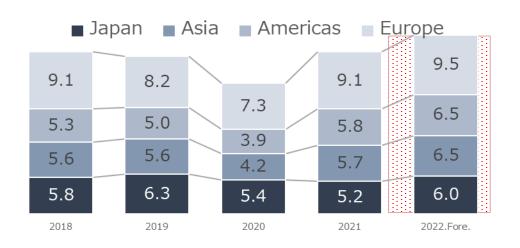
#### Sales and O.P. (Half Year/Full Year)



#### 2022 Forecasts

- Expect containment of COVID-19, enabling full normalization of the number of hospital in-patients.
- Increase in sales of large-scale analyzers following start of supply of hematology analyzers to Siemens. Outlook is for profit contribution over the medium to long term.
- Further expansion in the clinical chemistry field through the business by MedTest.

#### Sales by Region





## 2021 Results and 2022 Forecasts

(Billions of yen)

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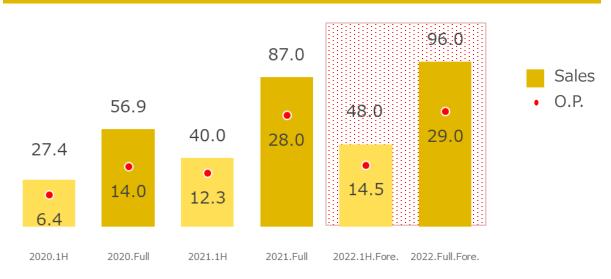
#### 2021 Results

- Significant increase in sales to semiconductor manufacturing equipment (SME) manufacturers, who expanded capital investment driven by increased semiconductor demand.
- Less-then-expected effects of supply chain problems, that were limited up to the end of 2021.

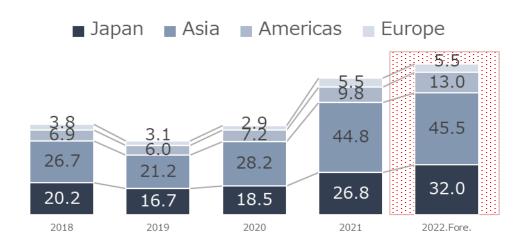
#### 2022 Forecasts

- Increase in sales to SME manufacturers on the back of higher capital investment by semiconductor manufacturers.
- Risk of persistent supply chain issues.
- Growth of new products sales, contributing to semiconductor manufacturing in addition to the existing main products.

#### Sales and O.P. (Half Year/Full Year)



#### Sales by Region



**HORIBA** 

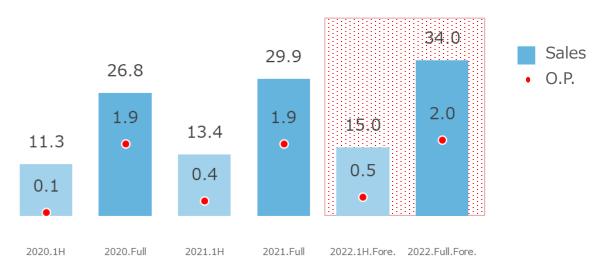
## 2021 Results and 2022 Forecasts

(Billions of yen)

#### 2021 Results

- Strong demand and sales increase of optical components for semiconductor manufacturing equipment (SME).
- A gradual recovery in corporate R&D investment due to recovery from the COVID-19 impact led to an improvement in sales of particle-size distribution analyzers and other devices.

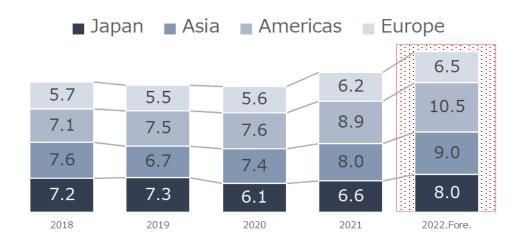
#### Sales and O.P. (Half Year/Full Year)



#### 2022 Forecasts

- Strengthening of analytical and measurement applications in terms of both technologies and sales. Expect to reap the harvest from products recently introduced to the market.
- Demand growth for special products in the life science field (i.e., certain pharmaceuticals) and industrial processes at semiconductor makers.

#### Sales by Region



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## **HORIBA's Contribution to Social Issues**

## Cross-segmentation in Response to Various Social Issues

## **Market Oriented Business**

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

Energy & Environment

Bio & Healthcare

Materials & Semiconductor

Medical-Diagnostic

Process

Scientific

## Solution Provider Beyond "Life Cycle Management"

To support customers' core businesses from all aspects – from product introduction to replacement

Mid-Long Term Management Plan "MLMAP2023"



## Organizational Restructuring to Deepen Cross-Segments

Our objective: Further growth by creating new businesses

## Established the Business Incubation Division

Operations at five centers

Alternative Energy Conversion Center

Mobility Solution Business Center

Bio · Life Science Center

Optical Smart Sensing (OSS)
(Belongs to HORIBA STEC)

R&D Planning Center

**Technology Innovation Center** 

- ✓ Personnel assigned to cross-segment activities became dedicated full-time.
- ✓ Propose solutions that integrate core technologies to the three focused fields in the MLMAP2023.



Corporate Officer (CTO)
General Manager of
Business Incubation Division
Hiroshi Nakamura
(Doctor of Engineering)

Simultaneously restructure the organization and work process, and accelerate product launches

## Concept for reorganization of automotive business

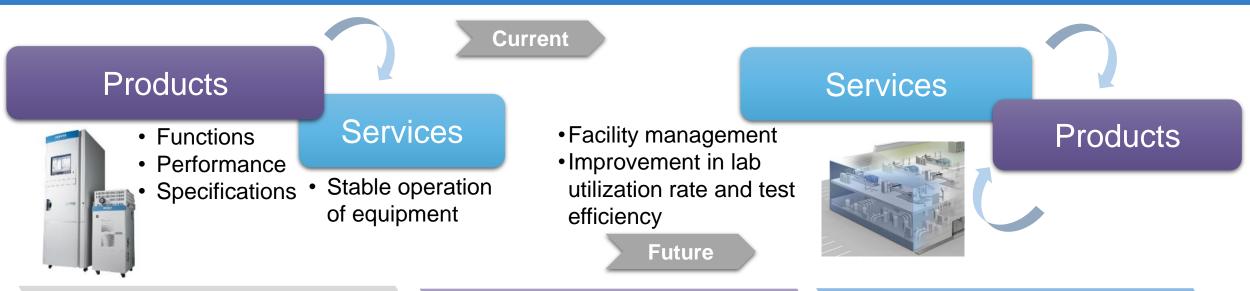
**Dawn Market Matured Market** Market growth Response to electrified vehicle Service (Drive systems etc.) Lifecycle Vehicle Resilience: **Management Emission measurement** Solutions that eliminate threats associated with advanced vehicle \*2 Advanced Driver-Assistance Systems VRES\*1/Cyber security Mobility Autonomous vehicle/ADAS\*2 Solution Data science Business Model-base development Fuel cells/batteries Alternative Energy New energy Conversion (Hydrogen/alternative energy)

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## Service Lifecycle Management (1/2)

Expanding service coverage to include the function of customers' facility management



[Equipment maintenance]
Services that contribute to the stable operation of equipment

[Facility maintenance]
High-level utilization of the entire facility and affordable maintenance costs

Total facility planning
Enhanced test efficiency and optimal capital investment

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Transformation from equipment sales to facility management business starting from an installation base

**HORIBA** 

## Service Lifecycle Management (2/2)

## Business model transformation starting from 8,000 installed sites



2001-2021
Shipped about 8,000 units of MEXA emission measurement systems (currently in operation)

**HORIBA's installed sites** 

Providing high-quality services to make the most of existing facilities



HORIBA Techno Service handles the service business

[Social needs]
Vehicle electrification

- ✓ New vehicle demand during the transition period
- ✓ EURO7 and other new regulations

[Issues at customers' sites]

Reduced

capital investment budget

- ✓ Difficulty to renew aging equipment
  - ✓ Reduced frequency of maintenance

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Thoroughly support the transformation of the automotive industry



# New business

## **Mobility Solution Business (1/2)**

## Strengthening the supply of solutions for the mobility business

#### Mobility Solution Business: Focus areas

## Model-based development

Providing applications that support customers' modelbased development



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#### Date science

✓ From data management platform building to data utilization

Solution development

Enhancement of technologies

## VRES\*/ Cyber security

✓ Developing efficient vehicle evaluation solutions for cyber security and functional safety

> New technology fields

Tighter regulations

#### Autonomous driving/ ADAS

Business development with an eye on potential regulation of vehicle evaluation solutions for autonomous driving/ ADAS functions



Approach to the target markets



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## **Mobility Solution Business (2/2)**

## Supporting R&D for vehicles in the new fields

#### HORIBA MIRA to expand global activities



#### **Autonomous driving/ADAS**

- Comprehensive support for vehicle control performance and safety evaluation tests for practical use of autonomous driving technology
- Constructed a high-speed marginal behavior evaluation course, which is equipped with a controllable communication network (1km in straight line and 300m in diameter) in December 2021.
- Enable digital simulation and feasibility tests seamlessly (digital-twin).
- ✓ Developing a comprehensive approach in fields including automotive cyber security and functional safety
  - Contracted for a project related to functional safety from the US emerging EV manufacturer, Rivian Automotive.

**VRES/Cyber security** 

## **Alternative Energy Conversion (1/3)**

Promoting new application development by utilizing existing business network

Generation

**Energy conversion** 

Utilization

Existing business area

<Business Incubation>
Alternative Energy
Conversion

Existing business area

Process & Environmental









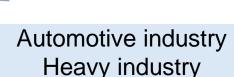
Core technologies





Sales network Concentrate resources on developing applications for new energy industries such as hydrogen

Sales network



Energy related business (electricity, gas, oil)



## **Alternative Energy Conversion (2/3)**

## Contributing to carbon neutral strategy in France

✓ In July 2021, Atsushi Horiba, Chairman and Group CEO, met with President Emmanuel Macron of France.



## **HORIBA**

Support to build a hydrogen energy society



✓ Delivered the electrolyzer test system to GENVIA.



- "Introduce multiple small nuclear reactors and aim for mass production of clean hydrogen using the electric power."

  (President Macron's speech in October 2021)
- ✓ President Macron visited GENVIA's factory in November 2021 and announced an additional investment of €1.9 billion.
  - Of this amount, €200 million will be used for R&D investment by GENVIA.

- A hydrogen technology venture company in France
- Clean hydrogen production, energy storage, fuel application development

**GENVIA** 

## **Alternative Energy Conversion (3/3)**

## Various measures for expanding new energy business

#### HORIBA Fuelcon: Construction of a new factory

Architectural rendering (construction to be completed in 2022)



- ✓ Construction of a new factory with the aim to establish a production system with high ability to respond to demand
- ✓ An increase in production capacity will enable timely response in demand, including shipment to GENVIA, France.
- ✓ Participated in "H2Giga", a large-scale research and feasibility project on hydrogen technology.

#### [H2Giga project]

Germany's national project aimed at mass production and price reduction of hydrogen electrolyzers

#### HORIBA MIRA: Partnering with Octopus Hydrogen



- ✓ Installed a hydrogen/EV charging station of Octopus Hydrogen at HORIBA MIRA for the purpose of vehicle development.
- ✓ Produce hydrogen energy from solar power.

## HORIBA Institute for Mobility & Connectivity<sup>2</sup>





- ✓ A research institute for realization of power and mobility connectivity established at the University of California, Irvine
- ✓ HORIBA agreed to financial support in 2018 in anticipation of the coming of a sustainable-energy society.

**HORIBA** 

## **Bio-life Science** (1/2)

Providing a wide range of analytical and measurement solutions for R&D and manufacturing





Strengthen
HORIBA's area of
expertise

Analysis and measurement in cutting-edge research

## **Bio-life science**

Research institutes

Corporate R&D

Industrial process



Grow in new areas

Product process
evaluation and
manufacturing
process monitoring

Concentrate human resources and technologies at the Bio-life Science Center and enhance coordination of activities in Europe, the US and Japan in order to respond globally

## **Bio-life Science** (2/2)

## Business expansion in the pharmaceutical industry

Propose customized technologies and contribute to the realization of high-quality continuous production

## Analysis of cell / biological samples

✓ Analyze exosomes, which are expected to be applied to biomarkers



Viewsizer™ 3000

# Analysis of small module medicines (formulation)

 ✓ Fast analysis of medical ingredients in tablets



Transmission raman spectrometer

## Quality inspection for vaccine

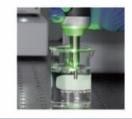
 Efficient testing of vaccines used in the research process

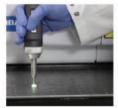


Chromophoric Dissolved Organic Matter (CDOM) fluorescence analyzer, Aqualog

#### **Analysis of antibody medicines**

✓ Reactor monitoring in the manufacturing process





Analytical probe &
Microscopic raman

**Exploratory** research

Development of new drugs

Pharmaceutical manufacturing process



## Optical Smart Sensing (OSS) (1/2)

## Develop the sensing technology for semiconductor manufacturing market

Mass flow controller

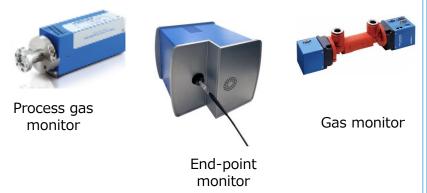


Chemical
Concentration
monitor



## **Optical Smart Sensing**

In-line process monitoring



From R&D to quality control

Measurement equipment used in a wide range of applications





X-ray fluorescence analyzers

Spectroscopic ellipsometry

Established the business for the semiconductor market

## Intend to develop as a new business for the semiconductor market

Diversify applications for the semiconductor market by utilizing various sensing technologies owned by the HORIBA Group globally

## Optical Smart Sensing (OSS) (2/2)

## Deploying solutions that meet customer needs, based on core technologies

Contribute to improving productivity in semiconductor manufacturing processes

#### **Reticle/Mask Particle Detection system PD Xpadion**



✓ Fast measurement of particles on reticles\* and blanks used in the lithography process

\*Surface of pattern/glass/pellicle

- Fast measurement of micro-sized particles.
- Improve detection efficiency by using in combination with defect inspection equipment.

From legacy to cutting-edge processes such as EUV, the system allows efficient inspection of particles

#### **Plasma Emission Monitor EV 2.0**

- ✓ Monitor the state of plasma in the semiconductor manufacturing process.
- ✓ Automatically extract wavelength, which is required to find the endpoint of etching.



#### Spectroscopic Ellipsometer UVISEL Plus

- ✓ Analyze characteristics of thin films, surfaces and interfaces.
  - Enable evaluation of ultra-thin films SiO2 (approx. 9.7nm).
- Measure changes in film thickness in real time by mounting UVISEL Plus in the chamber.



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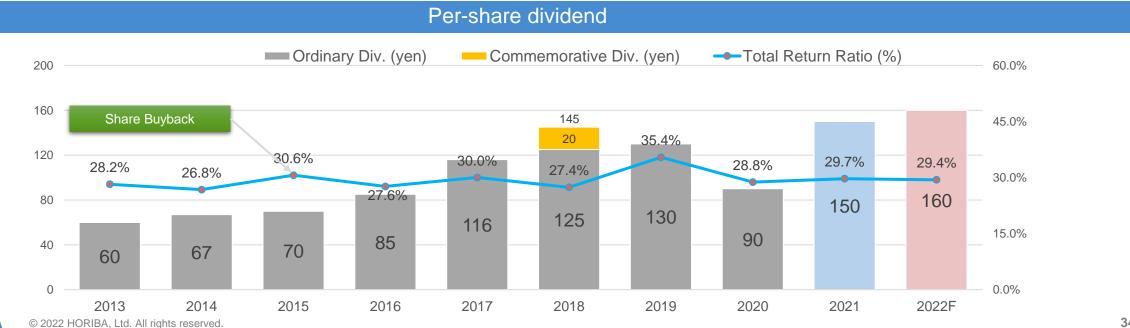
## Shareholder Return

#### 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)

#### <u>Dividends per share and Share buybacks</u>

- 2020 Results 90yen [Interim 30yen/Year-end 60yen]
- 2021 Results 150yen [Interim 50yen/Year-end 100yen]
- 2022 Forecasts 160yen [Interim 50yen/Year-end 110yen]



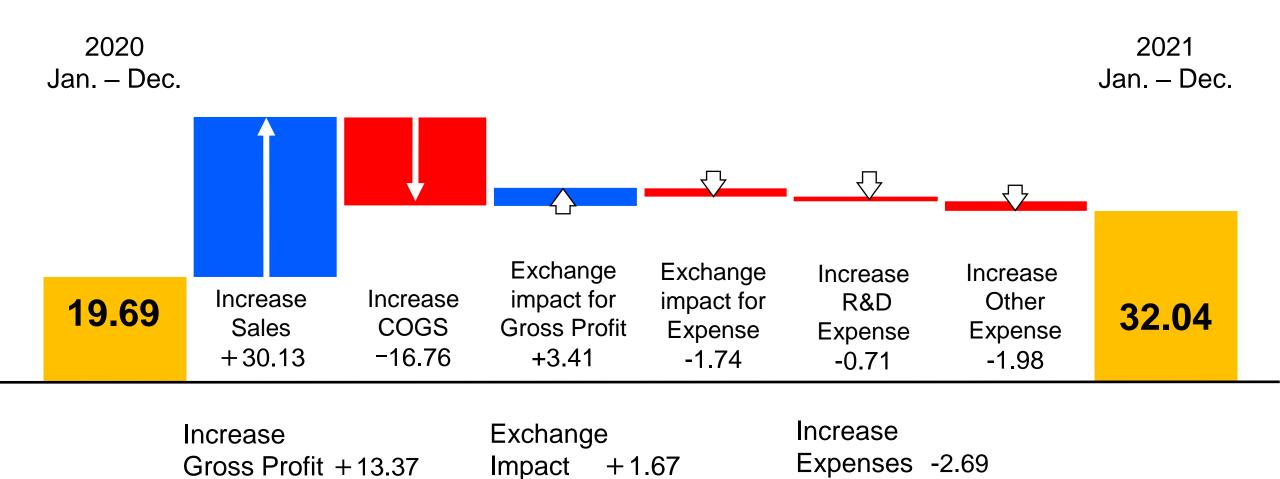


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## **Operating Profit Analysis (vs 2020)**

(Billions of yen)



Increase Operating Profit +12.35

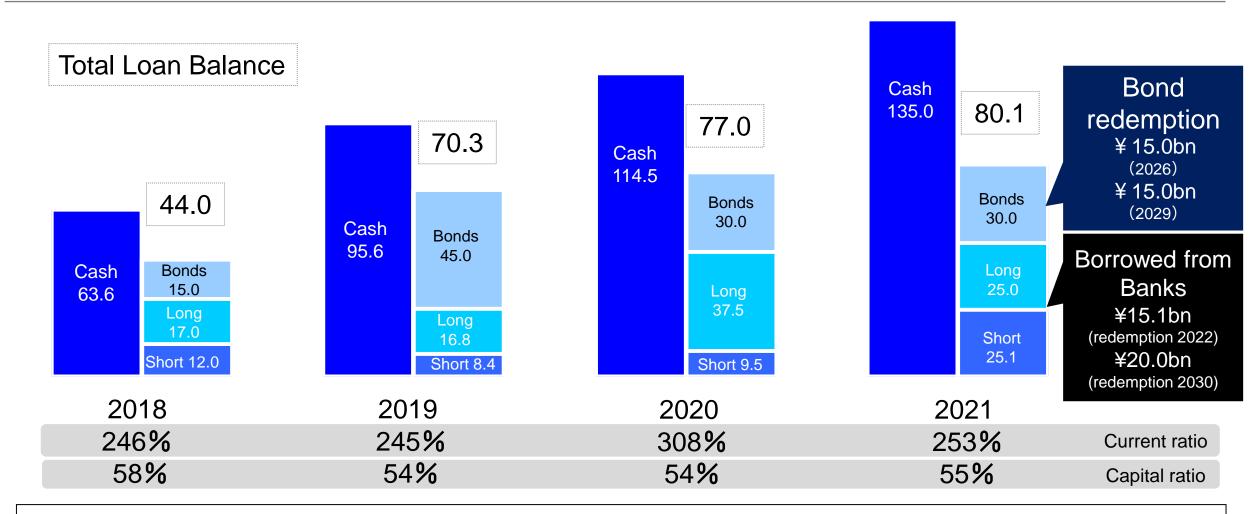


### **Consolidated Cash Flows**

	2021	2020	Variation
Cash flows from operating activities	+35.2	+32.2	+3.0
Cash flows from investing activities	-14.6	-14.0	-0.6
Cash flows from financing activities	-4.0	+0.8	-4.8
Cash and cash equivalents at end of year	133.9	114.1	+19.7
Free cash flows	+20.6	+18.2	+2.3



#### **Cash Balance**



• Recent issuer rating: R&I "A" (Aug. 2021), JCR "A+" (Aug. 2021)

## **Exchange Rate**



1 yen O.P. sensitivity for 2022 forecast (Yen appreciation)

USD -0.37 billion yen

EUR -0.01 billion yen

## Exchange rate impact for 2021 (vs 2020)

Increase Sales	+7.09
Increase Cost of Goods Sales	-3.67
Impact to Gross Profit	+3.41
Increase Expenses	-1.74
Impact to Operating Profit	+1.67

(Yen)	2020	2021	Diff.
USD	106.76	109.90	+3.14
EUR	121.88	129.91	+8.03

# Exchange rate impact for 2022 Forecasts 1 yen impact of Sales and O.P. (Yen appreciation)

	Sales	Operating Profit
USD	-0.72	-0.37
EUR	-0.35	-0.01

(Yen)	2022 Forecasts
USD	115.00
EUR	130.00

## Capital Investment, Depreciation, R&D

(Billions of Yen)

	2020	2021			2022		
	Actual	Previous Forecasts (as of Nov 11)	Actual	vs Previous	vs Forecasts	Forecasts	vs Previous
Capex	15.1	16.5	12.4	-2.6	-4.0	15.0	+2.5
Depreciation and amortization	9.6	10.5	10.4	+0.8	-0.0	11.0	+0.5
R&D expenses	15.5	17.0	16.7	+1.1	-0.2	19.0	+2.2
to net sales(%)	8.3%	7.7%	7.4%			7.6%	

2022 Topics PP&E:

Continuation: a new facility in China, investment to HORIBA FuelCon's new facility, etc.

New: enhance the base of global production



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## Five Business Segments & Major Products

Figures are the sales composition ratio for FY 2020



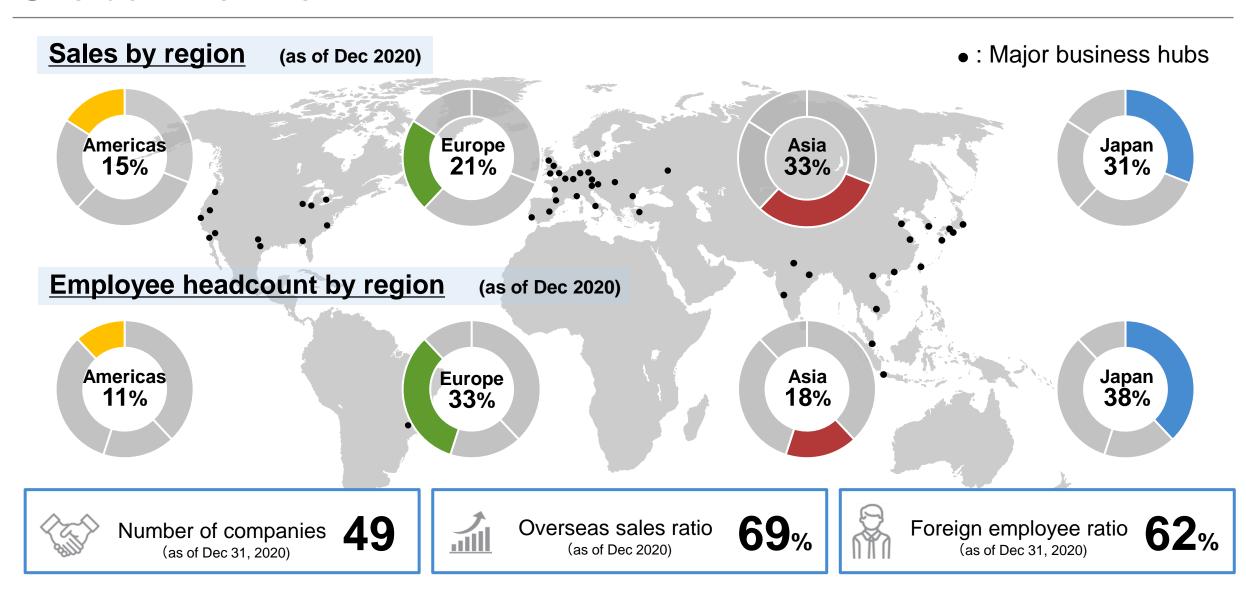






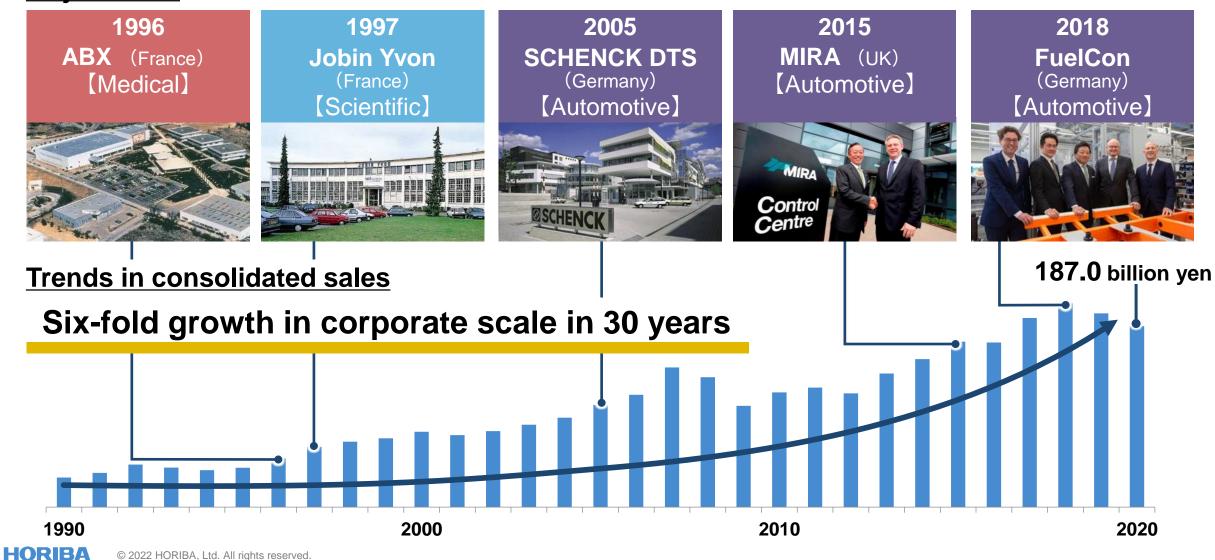


#### **Global Network**

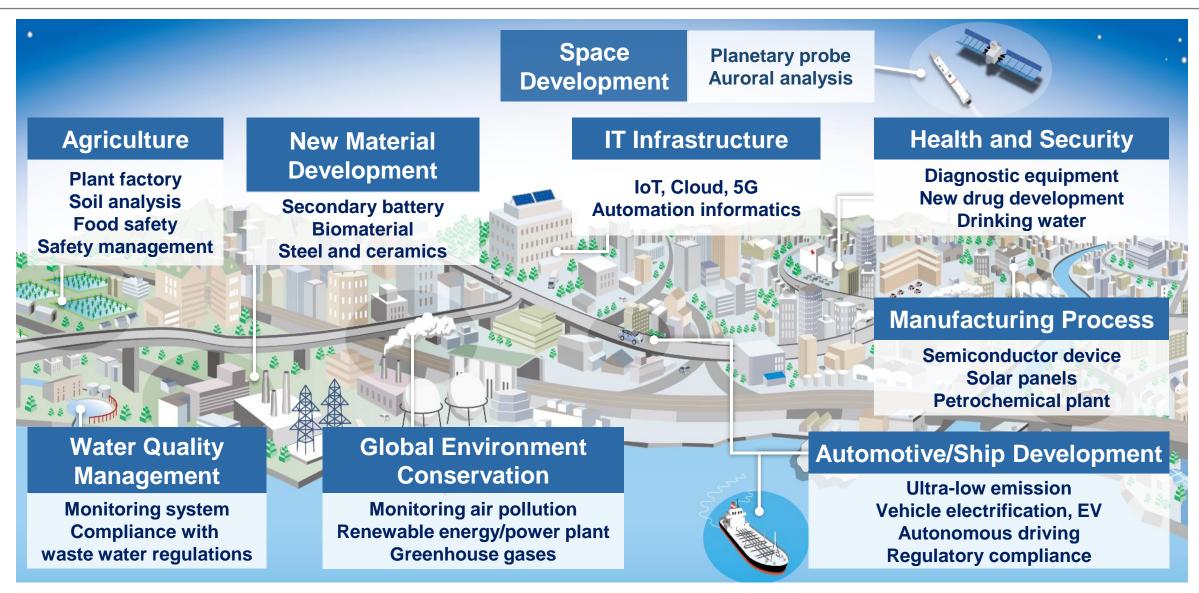


## **Achieving Sustainable Growth Through M&A**

#### **Major M&As**



#### **HORIBA's Business Domain**



## HORIBA Report 2020-2021 (Eng. ver.)

#### An Integrated Report that conveys HORIBA's "diversity" and "uniqueness"!



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