HORIBA

Mid-Long Term Management Plan "MLMAP2023"

HORIBA, Ltd. September, 2019

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MLMAP2023

2

1. Looking back on the current plan (MLMAP2020)

- 2. Numerical Targets
- 3. Priority Measures
- 4. Segment Strategy
- 5. Regional Strategy
- 6. Capital Strategy

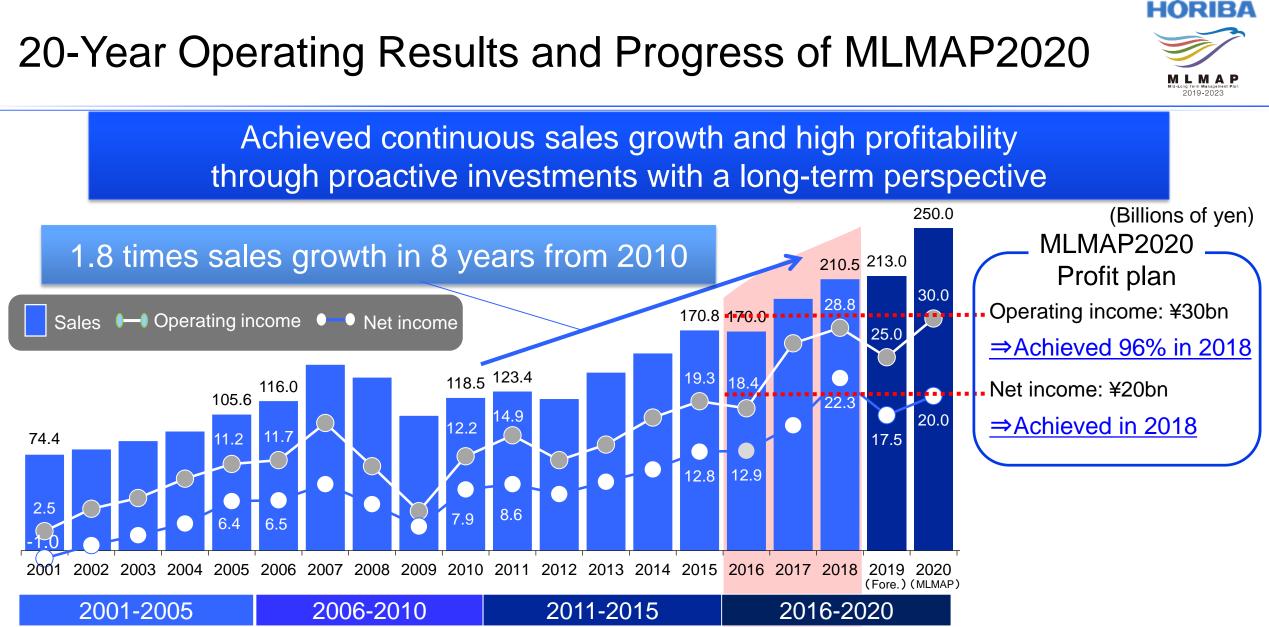






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[Change of Fiscal Year-end] For the year ended December 31, 2006, the accounting term for HORIBA, Ltd. and its domestic consolidated subsidiaries in japan was only 9 months and 11 days or only 9 months as a result of a change in the fiscal year-end to December 31. The fiscal year ended March 2006 is stated as 2005, the fiscal year ended March 2005, as 2004, and the fiscal year ended March 2004, as 2003.

HORIBA, Ltd. and its domestic consolidated subsidiaries had formerly recognized revenue mainly on a shipping basis. However, starting from fiscal 2016, HORIBA, Ltd. and its domestic consolidated subsidiaries changed their revenue recognition method to a completion-date-of-installation or delivery-date basis under the terms and conditions of the relevant contracts. The amounts in or before fiscal 2015 are not retrospectively revised.

Main Topics, 2016-2019 [M&A/Capital Investment]



Investing to expand business scale and areas at a time of drastic change in industrial structure

New businesses acquired through M&As

[UK]MIRA Ltd. Strengthening the engineering capability [DE]FuelCon AG Strengthening the battery measurement business

[US]MANTA Instruments, Inc. Strengthening particle measurement business

Micro-blood analysis system business acquired from ROHM Co., Ltd









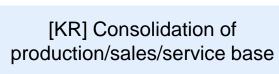
Main Topics, 2016-2019 [M&A/Capital Investment]



Investing to expand business scale and areas at a time of drastic change in industrial structure

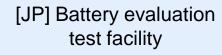
Strengthening development/production capabilities: ¥40bn invested in 3 years







[JP]Aso plant The 5th expansion







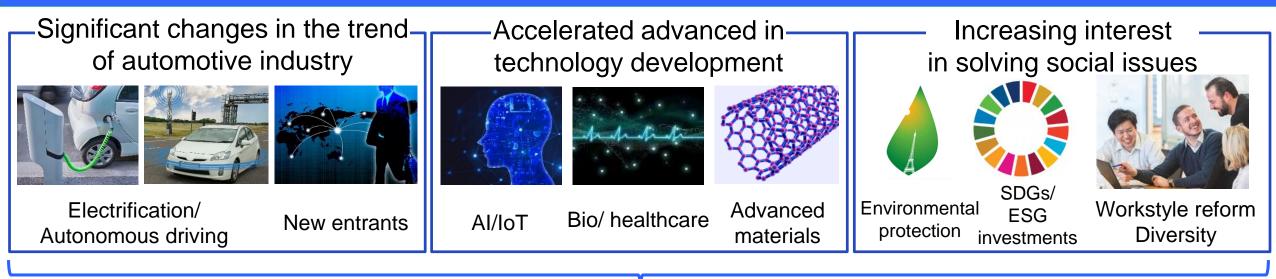


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Background in Launching MLMAP2023



Urgent need to respond to the accelerated changes in business environment



Open up a new era toward 2023, the 70th-anniversary year of HORIBA's founding, by utilizing all HORIBA resources under its new management team from 2018







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Numerical Targets of MLMAP2023

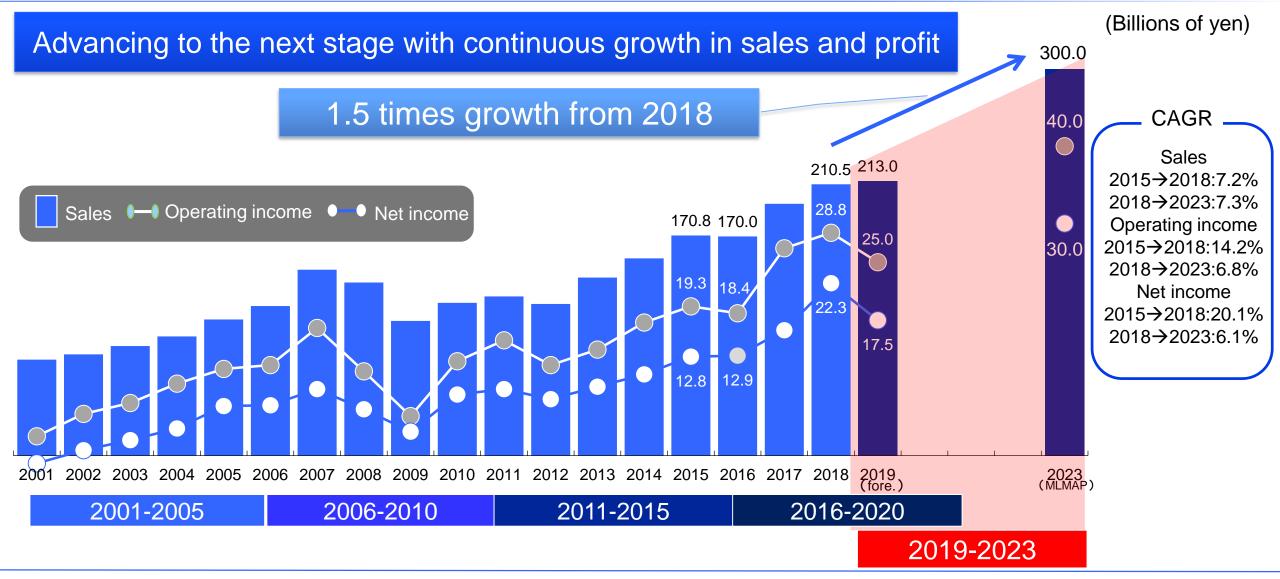


Foreign exchange rate assumptions: ¥110/US\$, ¥125/Euro

HORIBA

Numerical Targets of MLMAP2023







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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

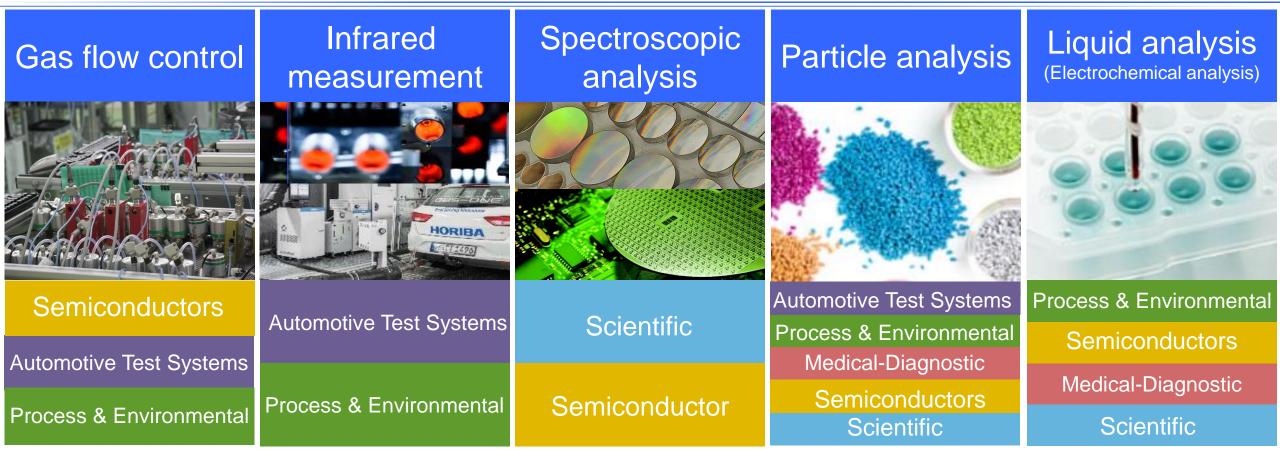
To support customers' core businesses from all aspects – from product introduction to replacement

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 Grass Project/HORIBA Premium Value

HORIBA's Core Technologies





Concentrate R&D resources into specific analysis/measurement technologies. By applying the core technologies, develop products efficiently in our five business segments, which target different markets, and launch them.

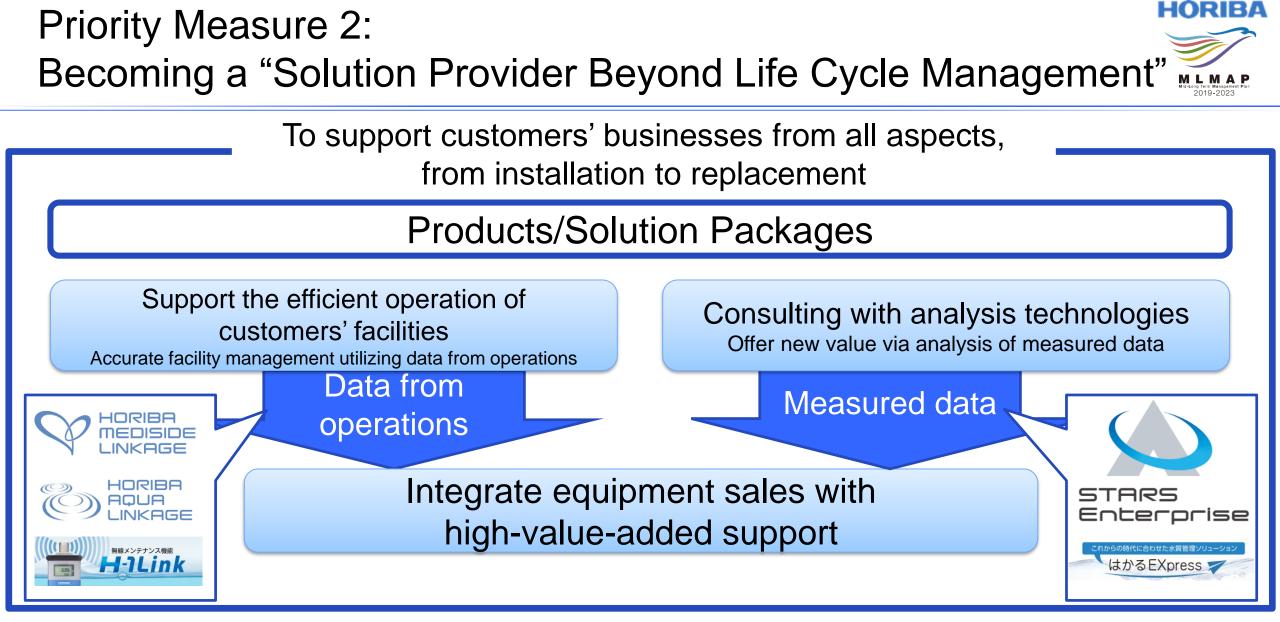
Priority Measure 1: "Market-Oriented Business"



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

Market Energy		Materials	Bio	
&		&	&	
Environment		Semiconductor	Healthcare	
Main Targets	Mobility, Power generation,	Advanced materials,	Clinical diagnostic,	
	Environmental	Materials for	Pharmaceutical, Drug	
	preservation, Water	semiconductor	discovery, Cells, DNA	
Corresponding business segments	Automotive Test Systems Process & Environmental	Semiconductor	Medical-Diagnostic	
	Scientific			

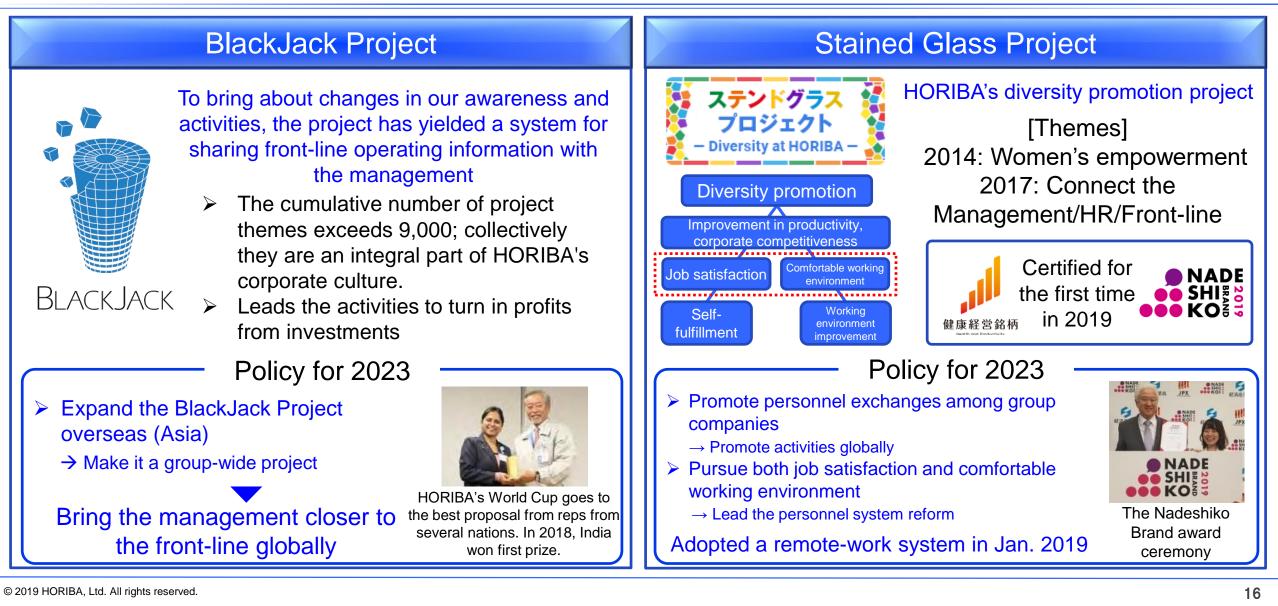
Aims to transform itself into an entity that accelerates innovation by "measurement" technologies

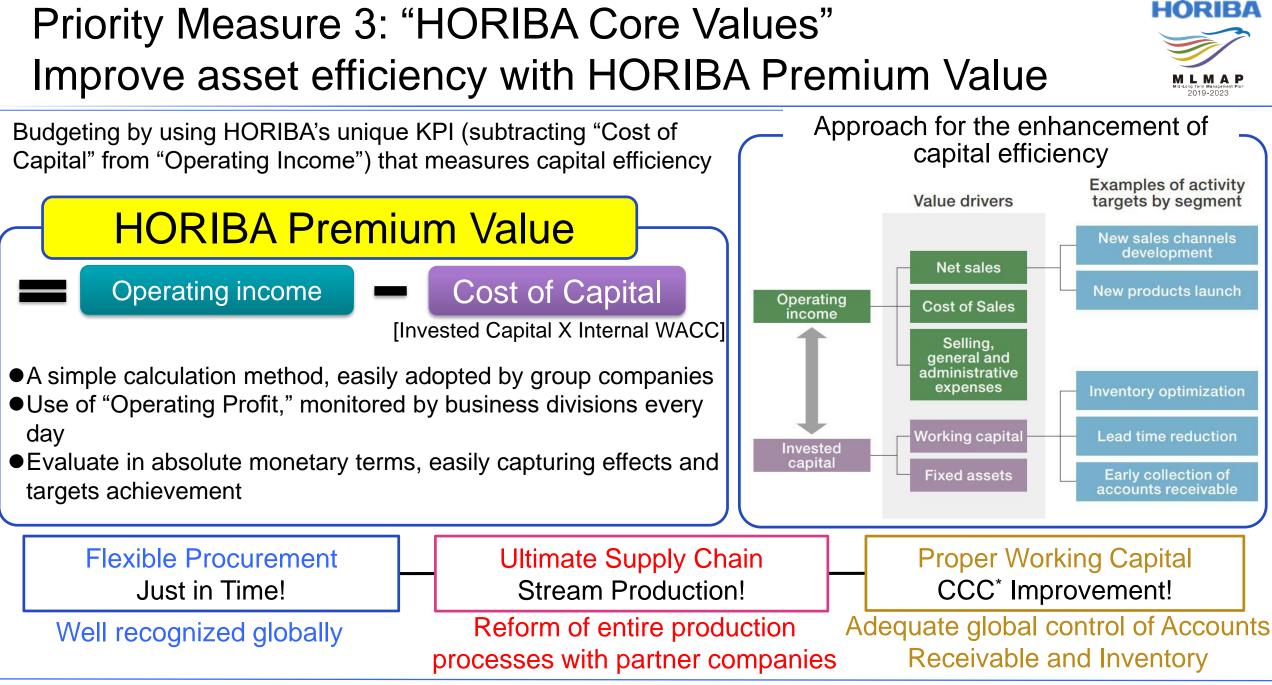


Always with you: HORIBA is always on the customer's side

Priority Measure 3: "HORIBA Core Values" The next stage of the Super Dream Team





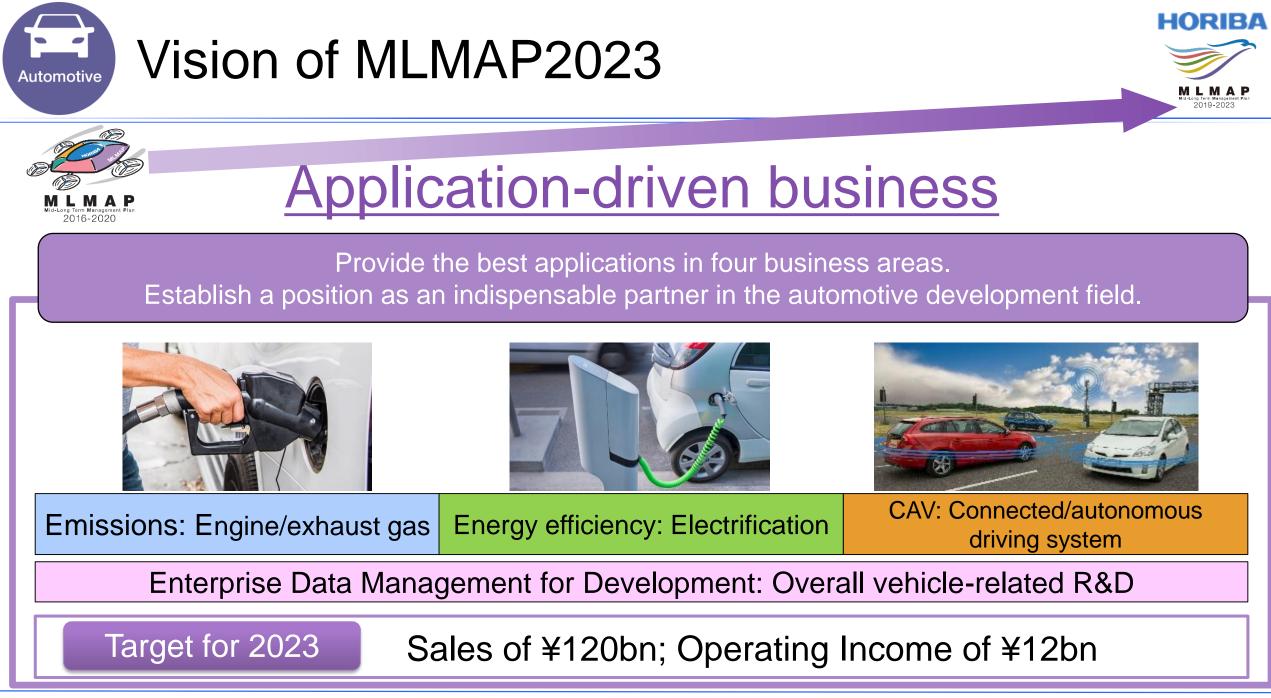


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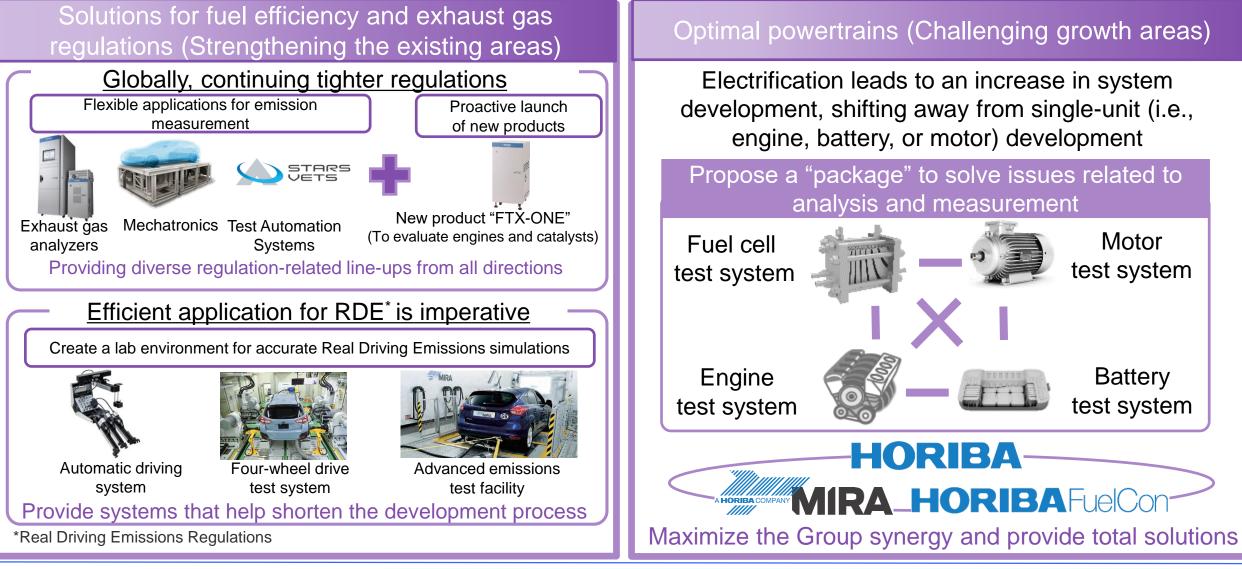


MLMAP2023



Emissions: Strengthening the existing areas and challenging growth areas







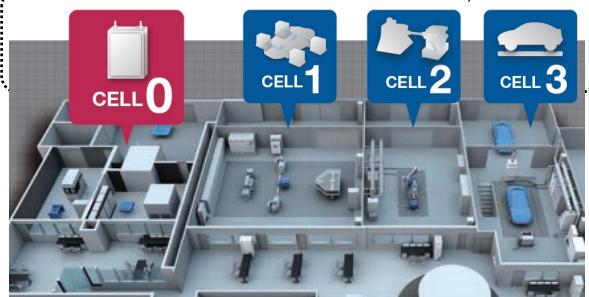
Energy Efficiency: Maximize the electrification business



Contribute to optimizing the development process of electric vehicles

Establishment of the "CELL Zero" test facility for evaluation of batteries for electric vehicles (Scheduled to open in HORIBA BIWAKO E-HARBOR in 2019)

CELL Zero to be connected with CELL 1, 2 and 3



Provide measurement solutions with new values with the "Test in the Loop" total evaluation system

Objective of "Test in the Loop"
 Proposal of a highly-efficient R&D environment
 for electric vehicles

- Data measurement in virtual environment of a real vehicle
- Performance verification, using a real vehicle with the embedded simulation model



2023: Achieve sales of ¥10bn in the electrification business



CAV*: Acquisition of Initiatives in Advanced Technology



HORIBA

* CAV: Connected and Autonomous Vehicle

"Drive/Turn/Stop & Protect" - Support R&D from all directions (HORIBA MIRA's initiatives)

Drive/Turn/Stop

Multi-purpose tests for autonomous vehicles > Verification of telecommunication function, vehicle safety/limit control range



Test facilities to verify an autonomous parking function

Open in 2020

In cooperation with the UK government and local universities, HORIBA aims to take initiative in the R&D domain of autonomous driving technologies

Protect

Opened the Vehicle Resilience^{*} Technology Centre

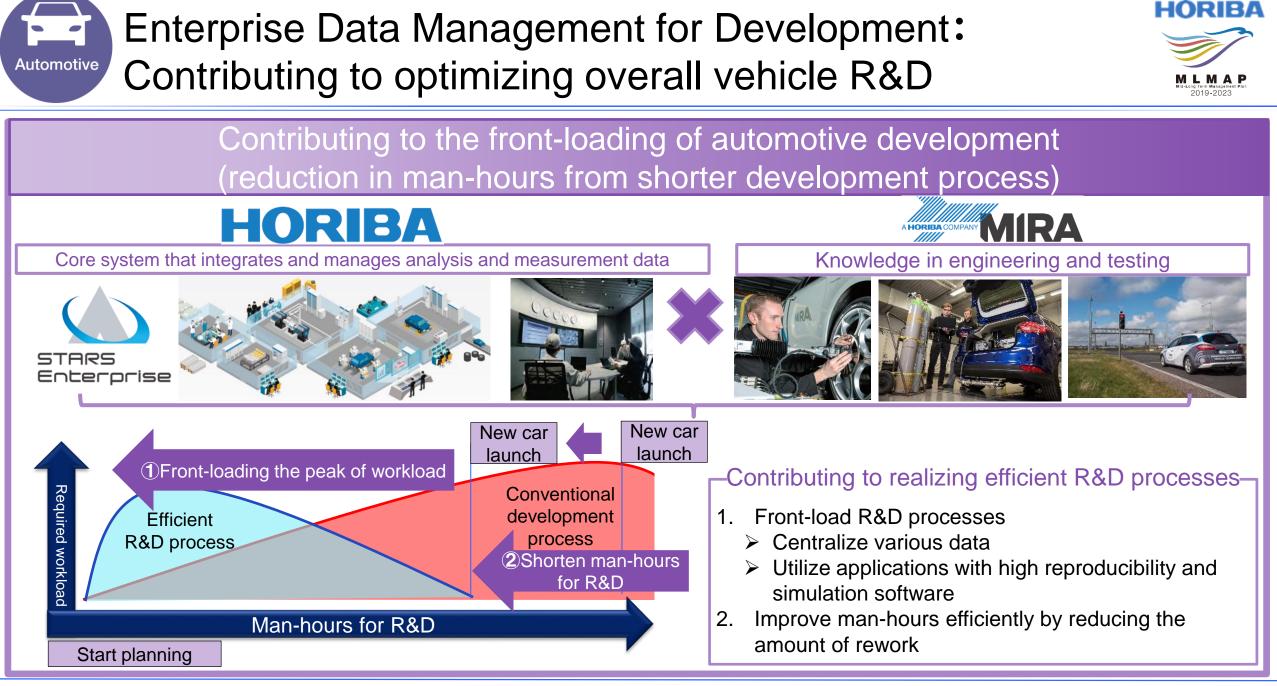
- Support of R&D of autonomous driving technologies
- Comprehensive approach that combines cyber security and EMC



 Resilience: Solutions that eliminate threats associated with advanced vehicle technologies

Web Link

HORIBA MIRA's initiatives were broadcasted in Japanese TV station KBS Kyoto's news program "KyobizX". (Go to HORIBA's website to see the program in Japanese at HORIBA's official Facebook)





Vision of MLMAP2023



HORIBA as a worldwide player who analyzes the entire earth

Provide various solutions in the global market: ranging from approaches to environmental regulations, to raising production efficiency



Business growth in emerging countries [Approaches to environmental reg.]



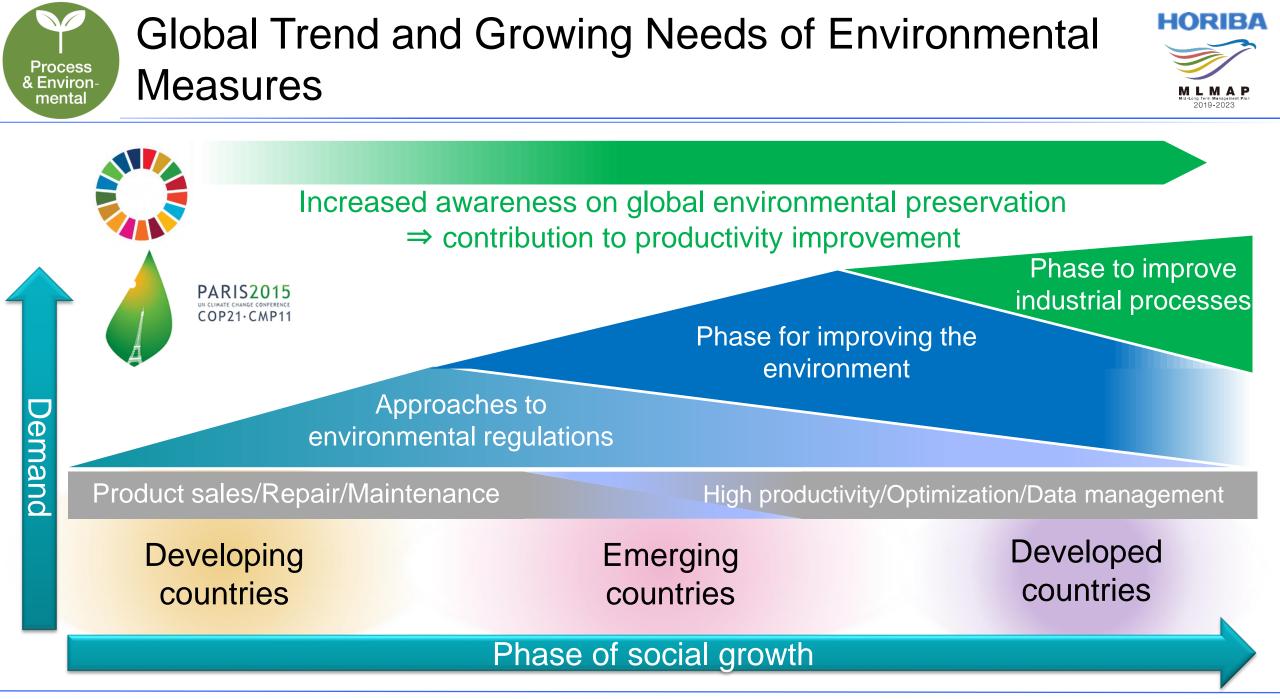
Open up markets in developed countries [Improve industrial processes]



Grow globally in the water monitoring business

Target for 2023

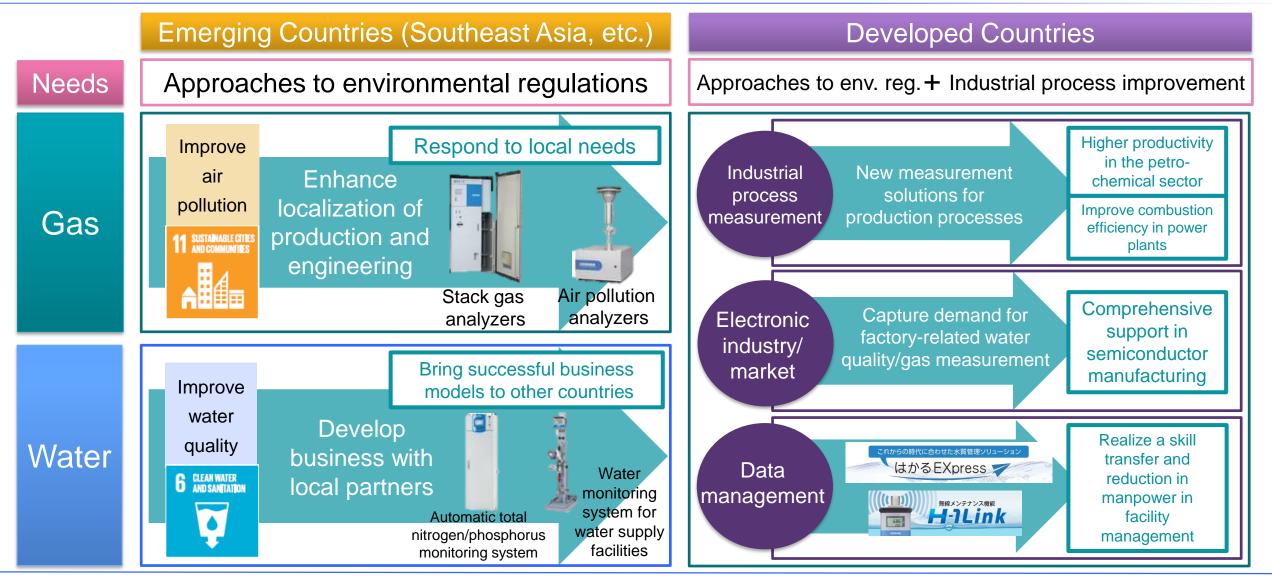
Sales of ¥28bn; Operating Income of ¥2.8bn





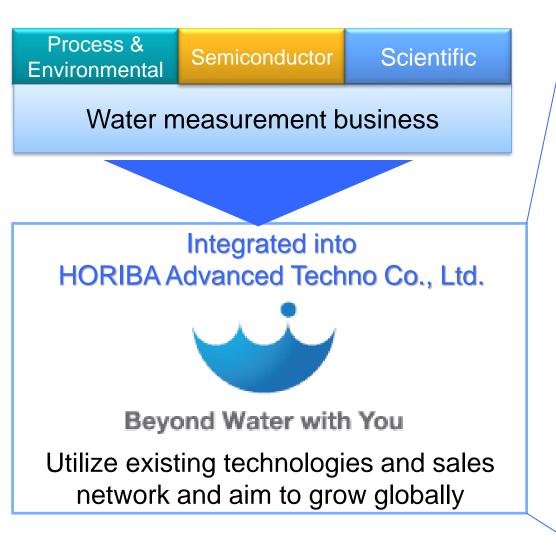
Growth in Emerging Countries/Developed Countries











Sales expansion in the tap water monitoring market

Kuala Lumpur(Malaysia)



Tap water quality monitoring system Sao Paulo(Brazil)



Monitoring of water discharge in the tap water infrastructure investment

Undertake data management and realize reduction in manpower



Free installment of analyzers \Rightarrow Charge for measured data



Enhancing strength Sales development in the small- and medium-sized market



Entering the large-scale market Access to the hospital market



Capturing emerging markets Enhance business in India/China

Target for 2023

Sales of ¥40bn; Operating Income of ¥4bn

HORIBA

Expand Business Domains



Use of proprietary technologies and alliances for further expansion

Test Category		Hematology	Clinical Chemistry	Immunology	Coagulation
Market size (HORIBA's estimates)		¥0.35tn	¥2tn	¥2tn	¥0.2tn
Hospitals	Large hospitals	Alliance			
	Testing centers	Alliance			
	Small- and medium- sized hospitals		Alliance		Alliance
Private practitioners		HORIBA New applications with µTAS [*] Technology			
Hospital units and surgery rooms (POCT)					

Small- and medium-sized market: Expand application to clinical chemistry and Immunology. Hematology: Enter the large-scale market.

Enhance strength in the small- to medium-sized market

Business environment

- Increase in testing in the background of the aging society
- Increase in importance of clinical diagnosis by primal care doctors

HORIBA's strategy

- Use µTAS* technologies, acquired from ROHM, to develop products with hematology plus extra functions
- Support process optimization at the customer site by introducing the data management system.
- Expand product line-ups in the clinical chemistry category through business alliance.



 $^{*}\mu$ TAS: Micro Total Analysis System acquired from Rohm Co., Ltd. 29

Medica

Entering Large-scale Markets and Focusing on Particular Markets



Expand business in large-scale markets

Business environment

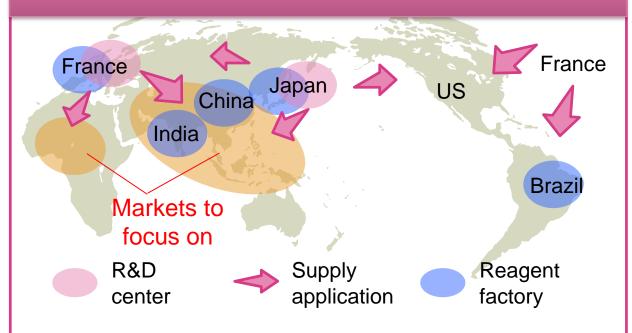
- European market: centralization of testing at large-scale laboratories and productivity improvement
- Emerging markets: increase in testing

HORIBA's strategy

- Expand sales of HELO Solution, the first product for a new large-scale market
- Alliance with Siemens Healthcare Diagnostics Inc. to enter the large-scale market



Strengthen global network/supply chain



R&D: product development in Japan and France Production/sales: enhance local capabilities in the markets to focus

Enhance HORIBA's strength and expand into a new stage.

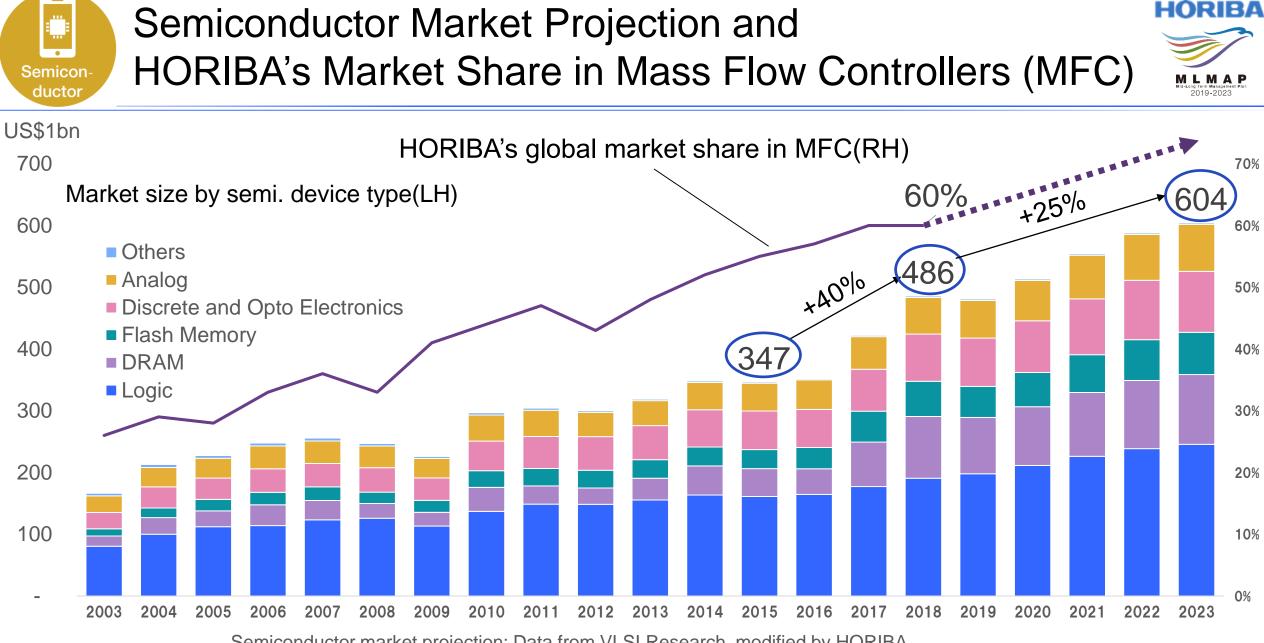
Medical



Vision of MLMAP2023

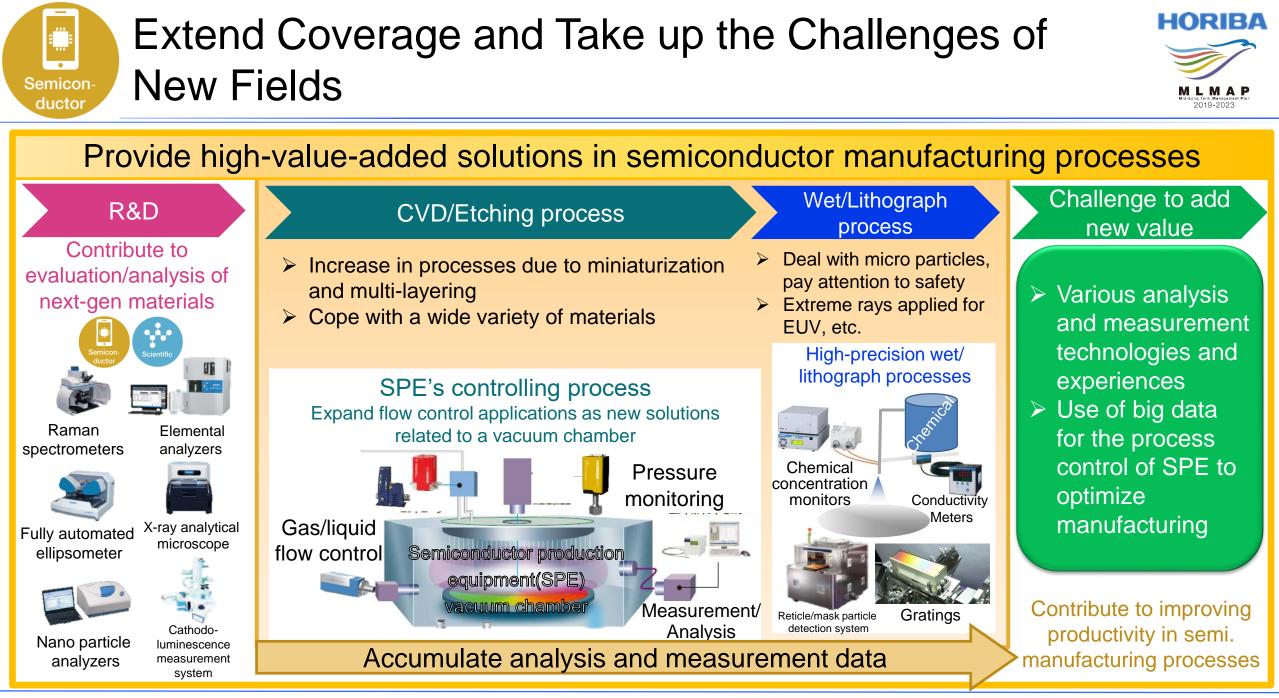


Shape the market, sell the solution Evolve the company into a comprehensive supplier that provides high-value-added solutions in all semiconductor manufacturing processes, from R&D to aftermarket services Device Analysis ≪≫loT Materials Analysis 🏾 🏀 Lithography Ory Process Utility/Wastewater Wet Process Enhance the existing fields Extend coverage Taking up challenges in new fields Establish a robust R&D network and supply chain Target for 2023 Sales of ¥77bn and Operating Income of ¥17.7bn



Semiconductor market projection: Data from VLSI Research, modified by HORIBA

Market share of MFC: HORIBA's estimates (as of August 2019)







Global R&D system

Enhance R&D operations in Kyoto and Fukuchiyama (Japan), and Reno(US)

Reflect customers' needs in R&D Aim to gain higher market share

Advanced Technology Center



Enhance supply capacity

Production system in Japan

Accelerate local engineering in China

Increase production capacity and supply timely

Facility expansion to boost production volume

Aso, K Kyoto: production of high-end models

Kumamoto, Japan China: supply mass flow controllers tailored for local needs







Advanced Materials and Bio Field

Founding technology

[pH meter]



Maximize synergies by effectively using resources from three global bases

HORIBA FRANCE(France)

A leading company in spectroscopic analysis

Increase market shares by more applications in various fields





Boasting a 30% global share^{*} Raman spectrometer (^{*}In-house survey as of August 2019

* Jobin Yvon (Horiba France at present) 200th anniversary in 2019 HORIBA(Japan)

- Utilizing various technologies as a "headquarter of core technology"
 - Flexible product customization →Leading in industrial processes

A wide range of technologies [Water monitoring/Particle-size distribution analysis/ Elemental analysis] nano technology areas

Opened a new base on the East Coast (2018) to strengthen R&D and production capacity

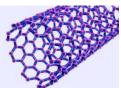
HORIBA INSTRUMENTS (US)

Deploy applications that satisfy

Strengths in bio, healthcare, and

customer needs

Provide innovative solutions that support the technological progress in the world



Advanced materials

- Advanced nano-level spectroscopic analysis technology
- Approach to 2D materials and micro plastics

(Bio)

 Develop applications for analysis of cosmetics, pharmaceuticals, viruses, and vaccines



Energy, Semiconductor, and Water



Collaborate with other segments to realize business expansion by using their sales channels



Raman spectrometer

Scientific



Nanoparticle analyzer



Dissolved organic matter in water Fluorescence measuring device

Energy and automotive industry

 Increase in demand for secondary battery material analysis

Semiconductor

- Growth of Chinese semiconductor manufacturers
 - \rightarrow Increase in demand for analysis and evaluation of semiconductor materials

Water quality measurement

- Efficient water management at water treatment plants
- Seek to contribute to solving environmental issues centered on water

Profit from electrification in China

Increase in demand for battery material analysis

Accelerate industry penetration of spectral analysis technology



Held the raman/fluorescence spectroscopy symposium

Aiming to increase volume by expanding the range from R&D to production processes



One-to-One Customization & Global Engineering

Accelerate product development for customer needs

One to One Customization

Customization & Engineering

Inline/online measurement



Contributing to improving production Thermometer for battery production line

Analysis efficiency enhancement (work efficiency)



Particle size

distribution meter with autosampler

Efficiency through automation

Imaging

Efficiency by visualization of analysis data

Highly-difficult measurement samples

Proposal for analysis using a new method

X-ray equipment for precious metals

Strengthen uniqueness in global engineering

Founding Technology



Global Engineering

- Propose products for customers based on analysis of their needs
- Secure high profitability through diversity in production selectivity



New pH meter (announced in August 2019) Launch of global products, made in Singapore





- 2019

Sharing light and passion 200 years of optical innovation

-

www.horiba.com/en_en/200years

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Sci

Think Big. Grow Bigger.

Strengthen sales and the service network, rooted in the local society Provide high-value-added analysis/measurement technologies

Enhance engineering/facility capability



- Establish local bases to strengthen engineering capability
 - Provide products and technologies that meet local needs

Enhance a supply network to

maintain stable volume and quality

The technical laboratory at Pune, India, opened in July 2019

Enhance supply network

Reagent production/logistics line at Haridwar

Sales of ¥13.0bn 2023 plan 2023 ATS* P&E Medical MLMAP +37%+20%2018 ¥7.5bn Results +26% +15%2015 ***ATS:** Automotive Test System ¥3.2bn Capture demand in clinical testing Results along with population growth

Capture demand in a volume zone and become a driver of future growth

China Current Status and Changes in China Market



China: Rapid growth and changes in the market Growth and technological improvement of local companies

HORIBA: Invest aggressively and realize further growth in China at the time of changing trends in technology

- Strengthen "production capacity" for the Chinese market
- 2. Strengthen "R&D capability" for the Chinese market
 - Establish an application center
 - Collect cutting-edge information



Implement the strategy at "China speed" and drive growth

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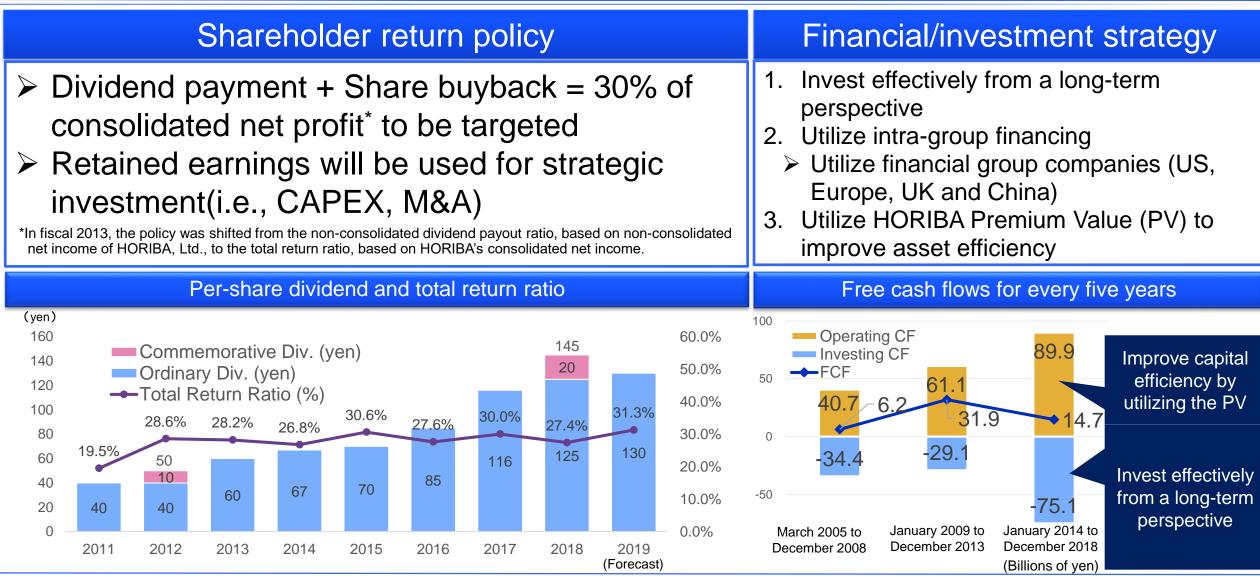
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MLMAP2023

Shareholder Return and Financial/Investment Strategy

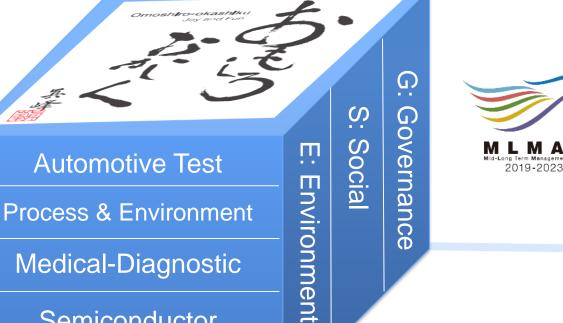




Thoughts on ESG investment and SDGs



HORIBA



[Basic Policy] We contribute to realizing the sustainable society advocated by SDGs* by offering analyze and measurement technologies which lead technology innovation that supports security, safety, and health for people while contributing to global environmental conservation.

HORIBA supports ESG investment and SDGs to be active globally and strives to disclose clear information.

> *SDGs: "Sustainable Development Goals", unanimously adopted by the United Nations General Assembly in 2015

Under the corporate motto "Joy and Fun," all HORIBARIANs understand the nature of ESG/SDGs investment and realize growth of each business.

Semiconductor

Scientific

Symbol for MLMAP2023: Hawk





Mid-Long Term Management Plan 2019-2023

Find the targets from a heightened perspective Accomplish the objectives at the fastest speed

HORIBA

Thank you



References



(Billions of yen)

	2018	2019	MLMAP2020	MLMAP2023		
	Results	Forecast	Plan	Plan	vs.2018	vs.2019
Sales	210.5	213.0	250.0	300.0	+42%	+41%
Operating income	28.8	25.0	30.0	40.0	+39%	+60%
Operating income%	13.7%	11.7%	12.0%	13.3%	-0.4p	+1.6p
Net income	22.3	17.5	20.0	30.0	+34%	+71%
EPS (Yen)	529	414	475	711	+33%	+70%
ROE	14.3%	10.5%	10% or more	10% or more	-	



(Billions of yen)

	Sales					Operating income						
	2018 Results	2019 Forecast	MLMAP2020 Plan	MLMAP2023 Plan	vs. 2018	vs. 2019	2018 Results	2019 Forecast		MLMA P2023 Plan	vs. 2018	vs. 2019
Auto	79.6	85.0	100.0	120.0	+51%	+41%	7.7	8.0	10.0	12.0	+56%	+50%
P&E	19.3	20.0	25.0	28.0	+45%	+40%	2.0	2.0	2.5	2.8	+38%	+40%
Medical	26.0	28.0	40.0	40.0	+54%	+43%	1.8	2.0	4.0	4.0	+119%	+100%
Semi	57.7	50.0	50.0	77.0	+33%	+54%	17.0	12.0	10.0	17.7	+4%	+48%
Scientific	27.7	30.0	35.0	35.0	+26%	+17%	0.2	1.0	3.5	3.5	+1,483%	+250%
Total	210.5	213.0	250.0	300.0	+42%	+41%	28.8	25.0	30.0	40.0	+39%	+60%

Transition of Symbol





