



# **HORIBA** Report 2019-2020

Year ended December 31, 2019

Omoshiro-okashiku  
Joy and Fun

おもしろ  
おかし

# What is *Omoshiro Okashiku* – Joy and Fun?



## Fully drawing out unbounded energy

In 1945, as Japan entered the post-war era, our founder, Masao Horiba, realized the limitations to carrying out research at a university and established HORIBA RADIO LABORATORY to pursue his own research. He went on to found HORIBA, Ltd. in 1953 and was inaugurated as the first president. About 10 years after becoming president, Masao Horiba started studying medical science in hopes of bringing the company into a new field. His studies allowed him to understand that the makeup of the human body cannot be explained with logic. This realization greatly changed Masao Horiba's values. He saw that humans possess capabilities that cannot be fully explained with the power of science, and he wanted to fully draw out those capabilities. Masao Horiba realized that he always got results with creative ideas, when he pursued work with Joy and Fun. Because of this, he embarked on a mission to construct a company that gave its employees the opportunity to work with Joy and Fun.



1950  
HORIBA pioneers the first glass electrode pH meter manufactured in Japan.

## Sticking to principles and ear

What embodied Masao Horiba's corporate philosophy of "Joy measurement system. At the time, although Masao Horiba



1945  
HORIBA RADIO LABORATORY was established.



1953  
HORIBA, Ltd. was established.

1st President (Founder)  
1953-1978

Masao Horiba



■ Sales outside of Japan   ■ Sales in Japan   — Operating income

Results up to 1977 are on a non-consolidated basis and results from 1978 are on a consolidated basis. Sales from 1991 are divided into overseas sales and domestic sales.

1945

1950

1955

1960

1965

## Making “Joy and Fun” the company motto

When HORIBA reached its 25th anniversary in 1978, Masahiro Oura was appointed as the second company president and, at the same time, “Joy and Fun” formally became the company motto. Unchanged since our founding the sentiment that there must be Joy and Fun in work was finally put in writing.

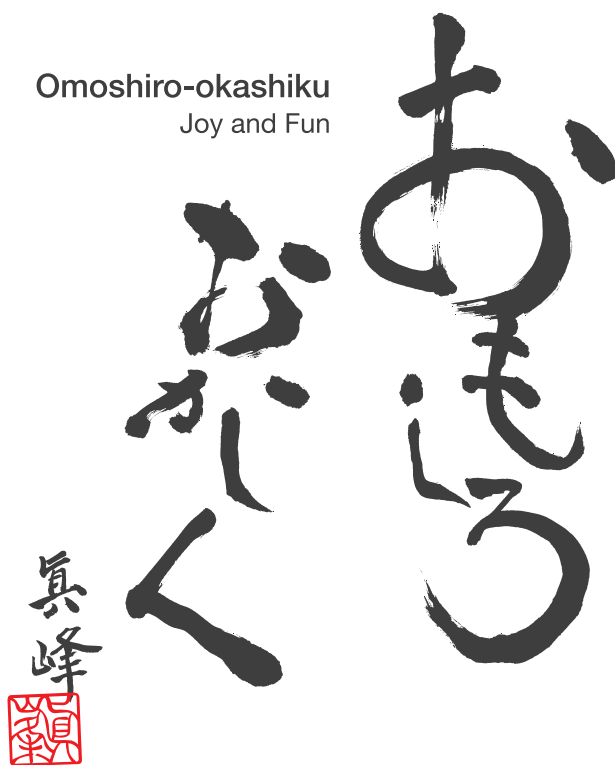
## Employees run an organization by themselves for realizing “Joy and Fun”

At the 25th anniversary celebration, the company announced the founding of an employee welfare company called HORIBA COMMUNITY CORPORATION (HOCOM). Founded as part of efforts to create an environment for employees to joyfully engage in work, HOCOM’s bedrock philosophy is to equitably share the gains created at HORIBA with all employees in a manner that includes them in company management and building rules that they can fully support. Still today, HOCOM is owned and operated by our employees.



HOCOM’s founding in 1978

Omoshiro-okashiku  
Joy and Fun



## Growth by fostering unity

In order to create the technology for a standard gas generator needed for measurement instruments, HORIBA and other companies combined investments to found Standard Technology Inc. (later becoming HORIBA STEC Co., Ltd.), with Masao Horiba as its first president. Initially, there were concerns over corporate culture issues that could arise from having employees seconded from multiple companies, but since all of the new company’s employees faced the same predicament, it engendered a spirit of commonality and committed effort. In 1980, their efforts produced a mass flow controller embodying technology fostered in the manufacturing of a standard gas generator.



1980  
Launch of the first mass flow controller manufactured in Japan.

## ning the joy of self-actualization

and Fun” was the MEXA, launched in 1965, an engine emission had instructed the halt of development on an emission measurement system, Masahiro Oura, who would later become the company’s second president, had covertly continued the project as the head of the Development Division. Shortly after, this came to light, and Oura endured withering rebuke, but he made an ardent appeal to continue development. Being swayed by the earnestness of this appeal, Masao Horiba gave his consent. The result was MEXA, which became a mainstay product contributing to HORIBA’s success.

1965  
Launch of “MEXA,” a global brand for emission measurement systems.

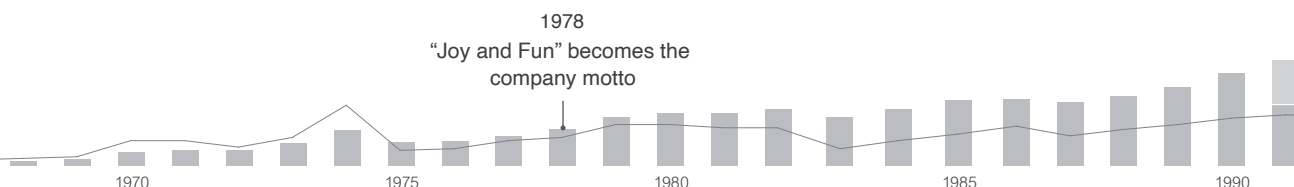


2nd President  
1978-1992

**Masahiro Oura**



1978  
“Joy and Fun” becomes the company motto



## Growth on a global scale

After Atsushi Horiba was appointed as president in 1992, rapid globalization ensued. HORIBA has grown through acquisitions of technologies that we did not possess in house, and their accompanying markets. More important than anything, however, are the people working at the acquisition target. Ensuring that employees work with Joy and Fun, then drawing out their limitless capabilities, is what we make into the driving force of HORIBA. By conveying this philosophy and creating a shared awareness, we can build relationships of close, mutual trust even in overseas locations with entirely different backgrounds and cultures than Japan. As a result, we have succeeded in generating strong synergies.



1996



Acquired ABX S.A. (now HORIBA ABX SAS) in France.

1997



Acquired Jobin Yvon S.A. (now HORIBA France SAS) in France.

2005



Acquired MCT (Mechatronics) business of Carl Schenck AG in Germany.

2015



Acquired MIRA, Ltd. (now HORIBA MIRA Limited.) in the U.K.

2018



Acquired FuelCon AG (now HORIBA FuelCon GmbH) in Germany.



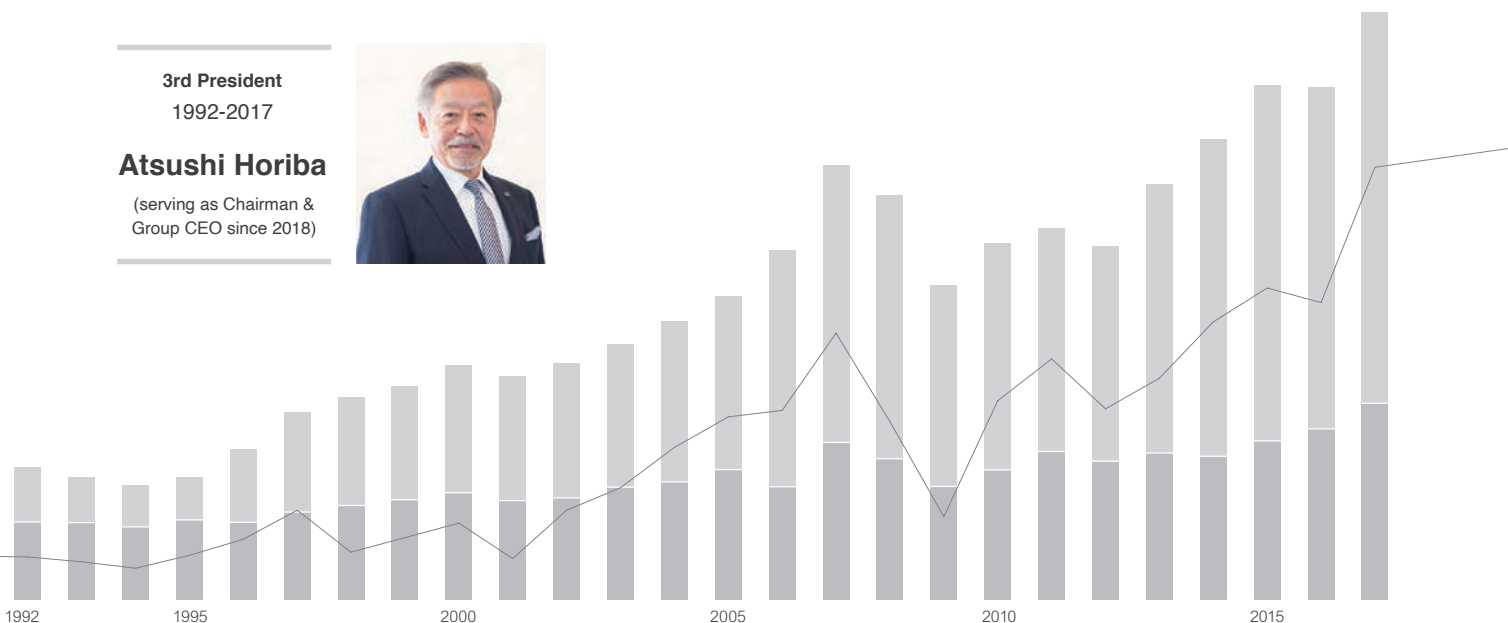
## Engaging in work with an ownership mindset

In 2016, we started operating HORIBA BIWAKO E-HARBOR, Biwako Factory. The true purpose of opening this site was “*sengu*,” or the translocation of technology. The younger generation carries on the long-existing production processes HORIBA has developed in Kyoto over the past 70 years. This process transfers technologies and unspoken knowledge to the next generation, while also having the effect of bringing about new technology from the new ideas of these young professionals. “*Sengu*” of technology instills a mindset of ownership in each and every employee. Stated otherwise, by thinking for oneself and taking action, and they will begin to go forward. Many employees now have a personal understanding of the importance and benefit of engaging in work with an ownership mindset.

3rd President  
1992-2017

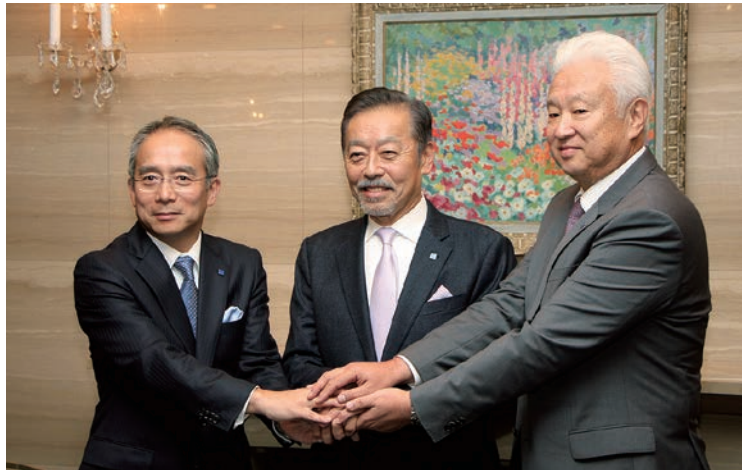
**Atsushi Horiba**

(serving as Chairman & Group CEO since 2018)



## Continuing to challenge ourselves and have a start-up mentality

From 2018, we set course with a new management structure. Masayuki Adachi was appointed as HORIBA, Ltd.'s president. With the start-up mindset the Company has had since it was founded, we will build an R&D framework to allow us to further strengthen HORIBA technology and take on the challenge of creating new products and services.

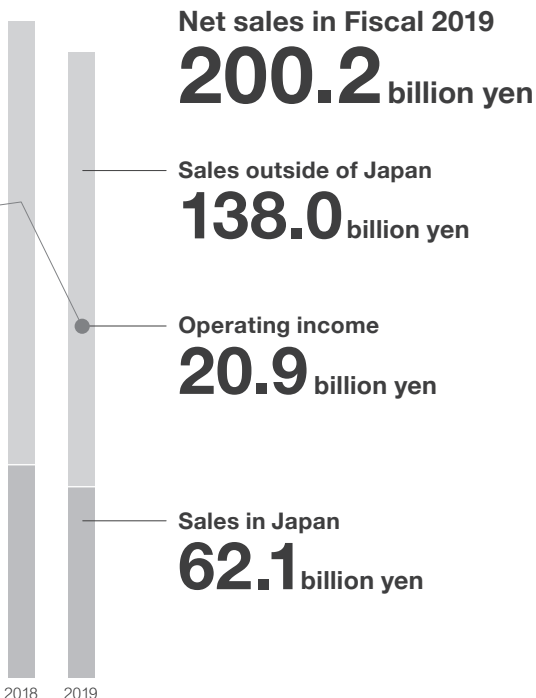
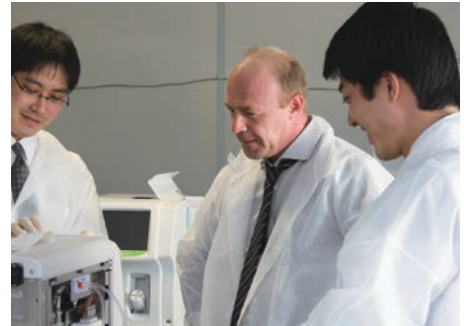


Pictured (from right): Juichi Saito, Executive Vice Chairman & Group COO, Atsushi Horiba, Chairman & Group CEO, Masayuki Adachi, President & COO




## An R&D-focused company founded on technology and human resources

Every year, HORIBA dedicates close to 10% of revenue to research and development. Furthermore, over 200 of our approximately 8,000 employees have doctoral degrees. Relentlessly investing in both technology and human resources while being an R&D-focused company that values specialized skills is the style of business that HORIBA has emphasized to date. By maintaining this style, we believe that we move closer to realizing our company motto of "Joy and Fun."



4th President  
2018-

**Masayuki Adachi**





In 2019, we formulated a new Mid-Long Term Management Plan, MLMAP2023. As HORIBA approached the target it had announced, and the business environment changed drastically, it was necessary for us to formulate a new target.

This was because of a disparity between the arising issues that HORIBA had to tackle and those in the former management plan.

In a dynamically changing world, we will demonstrate the value of HORIBA, by partnering with our customers, to get through difficult times.

# Amid the various changes in society, now is the time for HORIBA's true value, which has been built through measurement technologies, to be demonstrated.

**Atsushi Horiba**  
Chairman & Group CEO



## HORIBA's strengths are unique technologies and human resources with new ideas

Almost 20 years of the 21st century have passed and the world is in turbulence due to climate change, resource and energy issues, rapid economic growth and development in Asia, the arrival of the 5G era, etc. Further, the infectious disease COVID-19 has spread bringing new crisis. Now the world is in an unexperienced storm. The automotive and semiconductor industries, which are HORIBA's core businesses, are significantly affected by these changes, and we need to respond to them.

HORIBA's history shows that we can withstand such turbulence. Our resilience to such turbulence comes from the ability to identify the essence of the changes and our pride in our technologies.

Our original technologies, which we have been earnestly developing since our foundation, are recognized globally. The fact that we have about 50 group companies around the world and about 60% of the group's approximately 8,000 HORIBARIANS\* are non-Japanese prove this. In the process of becoming the current HORIBA, we have focused on developing human resources who have an aesthetic eye for identifying the essence of things, and who continue to take on challenges with new ideas that are not bound by conventional wisdom and precedents. These are significant strengths of HORIBA today.

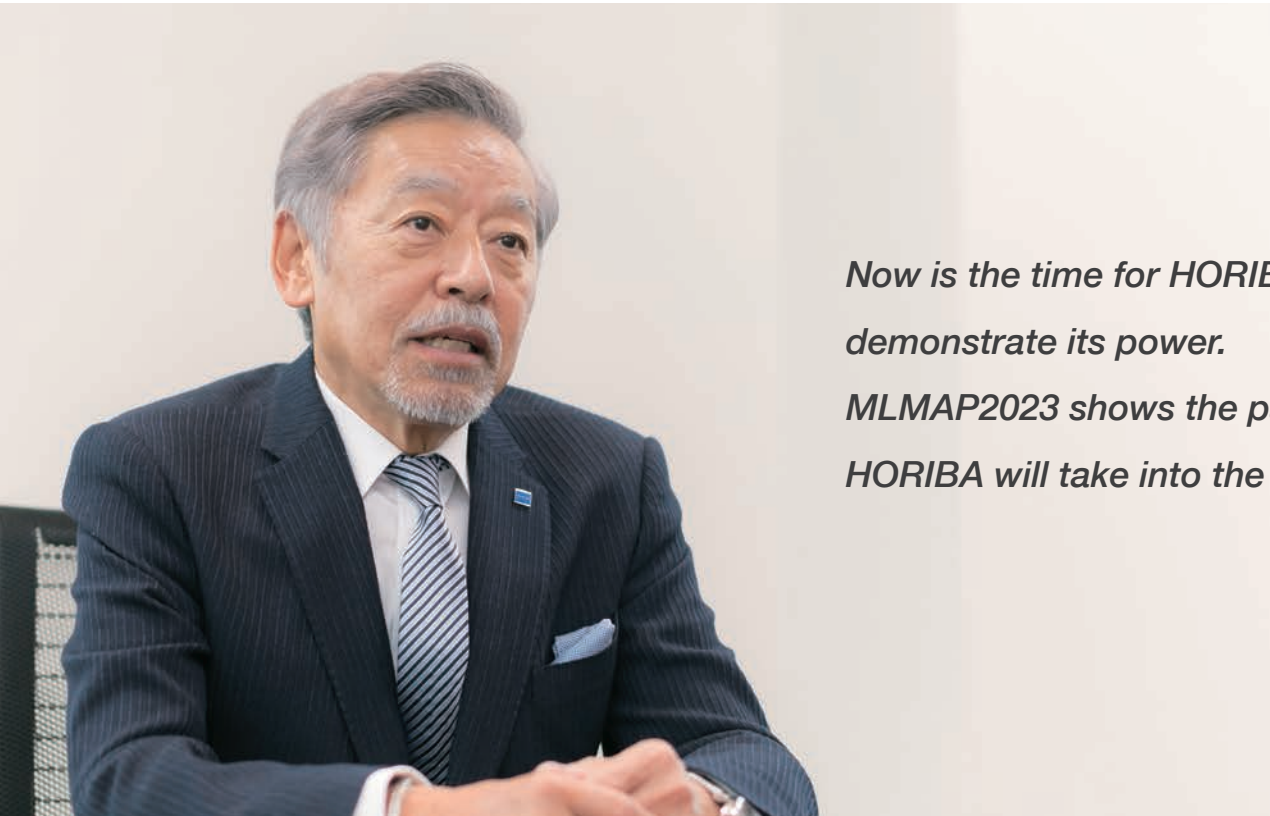
\* HORIBARIANS: All HORIBA workers are regarded as family and called HORIBARIANS.

## From a supplier to a partner, to be closer to customers

For Fiscal 2019, net sales were 200.2 billion yen (down 4.9% year-on-year) and operating income was 20.9 billion yen (down 27.5% year-on-year), down from the record high of fiscal 2018. The impact of the semiconductor market was very large, but we were able to secure an operating income margin of 10% because of HORIBA's balanced management, which has brought about our sustainable growth to date, worked well this time as well.

As noted, in 2019, we formulated our Mid-Long Term Management Plan, MLMAP2023, two years ahead of schedule, and are aiming for sales of 300 billion yen in 2023. We know that our customers face challenges finalizing their future direction because of the great changes in social conditions as mentioned above. Now is the time for HORIBA to demonstrate its power and support.

So far, we have primarily contributed through measurement technologies and products that make use of those technologies. However, with MLMAP2023, we are expanding our business into the area of data management, in which we analyze the data obtained by HORIBA's products and solve customers' issues from a new approach. In other words, HORIBA, which used to be a supplier, will become a partner who joins with customers to get through difficult times. MLMAP2023 shows the path HORIBA will take into the future, and it is our target to make ourselves undergo major change.



*Now is the time for HORIBA to demonstrate its power.*

*MLMAP2023 shows the path HORIBA will take into the future.*



## The key to further globalization is to “win the war of information”

There would be no growth if we focused only on the Japanese market and Japanese human resources. Our global human resources play an active role in HORIBA, and I feel this is possible because of the difference between education in Japan and overseas. Where Japan tends to emphasize memory and the amount or depth of knowledge, Western countries, as well as Asian countries such as China, focus on education that fosters the creative ideas of students. Even if students try something and fail, they properly analyze the reason for the failure to learn from it. I think that this is education that nurtures human resources that are able to try again and again, which HORIBA cherishes.

One of the reasons HORIBA actively acquires overseas companies is to obtain such diversely and highly educated human resources. Within the HORIBA Group, which values new ideas, we can utilize their perceptions and ideas more effectively;

I believe that HORIBA's way of thinking is recognized globally. As a result, we believe that HORIBA and our overseas companies are able to benefit from each other, even though the acquisition of foreign companies by Japanese companies is often said to be difficult. Another thing I think about globalization is that valuable information cannot be obtained merely by staying in Japan. As ICT in society develops, the amount and speed of information transmitted are increasing tremendously. However, the important thing is to know what and where that valuable information is. In order to know this, we must obtain the latest and most accurate information with our own eyes and ears, rather than rely on indirect information; in other words, it is to win the war of information. We believe that we must improve our insight and sensitivity to identify essential information and must look five to ten years ahead.

## Be a company with unique culture!

I feel that companies need unique corporate culture. Companies in Kyoto tend to avoid recycled ideas and attach importance to originality, and HORIBA is no exception. I think that it is something like “company dignity” rather than a mere “brand” for differentiation. When overseas companies ask to join the HORIBA Group, I believe it is because of HORIBA's dignity. I believe that the realization of this dignity is due to none other than the nature and everyday behavior of HORIBARIANS.

People who visit the company often say, “it seems that every employee works so energetically and enjoyably.” At HORIBA, there is no corporate tradition that is tied to length of service in the company or

position, and HORIBARIANS who have been with the company their entire career warmly welcome newly recruited people in mid-career. This is because everyone can truly share the joy of having more colleagues with the necessary abilities for HORIBA.

We have an environment where we can contribute to society and the world, and challenge ourselves. The happiness of being in such an environment, along with individual dreams, combine to brighten the company.

## Refine your sensitivities and create large-scale ideas that are not bound by conventional concepts

HORIBA invests approximately 10% of its sales into R&D. This policy will not change in the future. Again, new ideas are not born if we don't take on challenges without fear of failure. In order to do so, human resources filled with a willingness to take on challenges are essential. I think that, in actuality, R&D expenses are expenses for acquiring and raising people.

The source of HORIBA's value is measurement technologies. This will remain the same. However, products, of course, and the direction and method of sales, in other words, the branches and leaves, will naturally change. These changeable parts require sensitivities rather than precedent or knowledge. Sensitivities will be refined if we work in accordance with HORIBA's corporate motto, Joy and Fun. Generally speaking, things also require "play," such as gaps and looseness. I feel that one of the meanings of Joy and Fun is the scale of such

play; that is, the scale of ideas that are not bound by conventional concepts.

Of course, we cannot ignore the financial performance of the company, such as sales and profits. However, it is not just about increasing the number of sales. It is essential to determine how we can increase the number of customers who choose and need HORIBA. In order to do so, I think a management spirit that greatly cares for customers who understand true value, like that of a long-established Japanese *Kappo*\* restaurant, is necessary. I myself never thought of operating the company only for the purpose of avoiding deficits. That is because it would conflict with the way HORIBA should be, and the long-term perspective would be neglected.

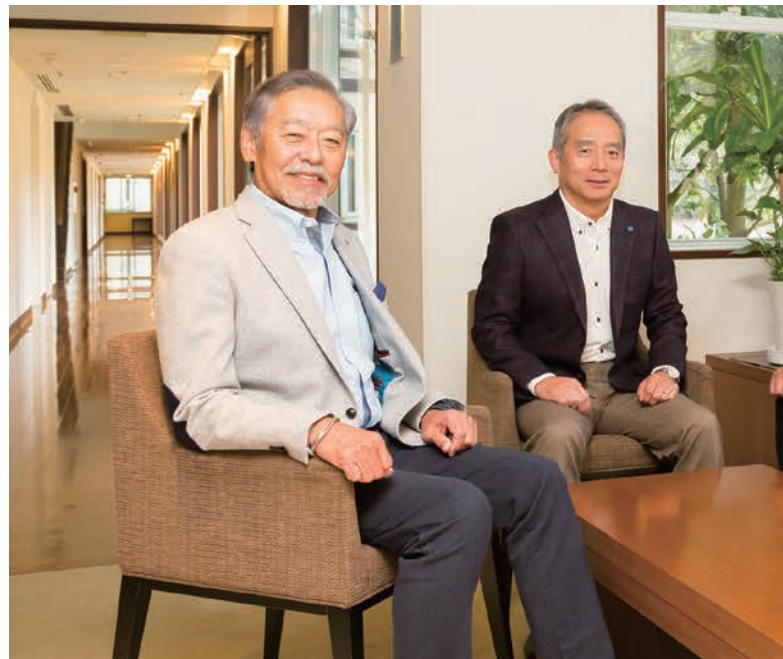
\* Kappo: Kappo is a high-quality, somewhat formal restaurant that serves with the menu determined by the chef, who is able to provide a wide variety of Japanese cuisine using fresh foods of the day and also taking account of conversation over the counter during the meal.

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### My thoughts on Joy and Fun

Joy and Fun is all about "challenge." That is the most interesting. If you attempt something, it often doesn't work. However, sometimes it works. The more things fail, the greater the feeling of fulfillment from success. Failing is no problem. I think it is better to experience various failures when you are young, as long as you don't lose your life.

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From the left:

**Atsushi Horiba**  
Chairman & Group CEO

**Masayuki Adachi**  
(Doctor of Engineering)  
President & COO  
Chairman of the  
Supervisory Board of  
HORIBA FRANCE SAS

## Intellectual curiosity creates dreams

There are various issues to be solved in society, but I think that the root of the solutions to these issues is human resources. In addition to developing human resources at the company, I think that improving education for children, who may join the company in the future, is something that I, as the CEO of the company, should do. Thus, I have worked as the chairman of the *Kyoto Kyoiku-Konwakai*\* (Educational Meeting) since 2008.

At the end of 2019, I gave a lecture to the fifth graders at an elementary school in Kyoto. There was a question and answer session after the lecture, and I received many intuitive and direct questions that approached the core of my lecture.

\* Kyoto Kyoiku-Konwakai: a volunteer group that aims to create a place for gathering, learning, and transmitting information together, for schools, faculty members, students, and even companies gathering there, and even the educational industry such as cram schools, regardless of region or position.

I managed to answer the first question. Then a hand quickly went up again. This was repeated again and again. I was impressed that education that develops intellectual curiosity is also being conducted in Japan, and at the same time, I strongly felt that everyone had a dream.

HORIBA and HORIBARIANS value our dreams. With the goals set by MLMAP2023 in mind, we will envision each dream and work toward its realization. We believe that the repetition will bring good results, and we will renew our feeling to make our best efforts. I ask for your continued understanding and support in 2020.

April 2020

**Atsushi Horiba**

Chairman & Group CEO



In the KUTSUKI Training center "FUN HOUSE"

### Juichi Saito

Executive Vice Chairman & Group COO  
President of HORIBA Europe Holding SASU

### Masao Okawa

Managing Director  
General Manager of the General Administration Division

### Takashi Nagano

Director  
Chairman of HORIBA KOREA Ltd. (South Korea)



From the left:

### Hideyuki Koishi

Senior Corporate Officer  
President of HORIBA STEC Co., Ltd. (Japan)

### Jai Hakhu (Doctor of Engineering)

Executive Corporate Officer  
Chairman & CEO of HORIBA Instruments Incorporated (U.S.)  
President of HORIBA ABX SAS (France)  
Chairman of HORIBA India Private Limited (India)

### George Gillespie (Doctor of Engineering)

Senior Corporate Officer  
Board Leader of GLOBAL ATS BOARD  
Executive Chairman of HORIBA MIRA Limited (U.K.)

Photographs were taken at the Global Budget Meeting (GBM) in December 2019 where executives from overseas gathered to discuss their plans for the coming year. GBM is introduced in the CFO message from page 45.

Since April 2020, Hiroo Chihara (President and CEO, HORIBA Techno Service Co., Ltd.) and Dan Horiba (President and CEO, HORIBA Advanced Techno Co., Ltd.) have newly assumed the position of Corporate Officer.

# HORIBA Report

## 2019-2020

### Publication of the integrated HORIBA Report 2019-2020

We are publishing the HORIBA Report with the hope that institutional investors with a long-term perspective will take an interest in HORIBA and will get a better understanding of our company. Also, we believe that our message to long-term institutional investors will be informative for all of our stakeholders as well.

HORIBA's stakeholders encompass a wide diversity of parties, including institutional investors, customers, business partners, employees, and the regions where each of our Group companies are located.

These diverse stakeholders can also be described as investors in HORIBA who have an ultra-long-term perspective and who can enjoy the profit from HORIBA's growth. As HORIBA users, component suppliers, residents of areas with our business offices, and employees supporting our business, stakeholders invest in us so that we can achieve sustainable, long-term growth.

As a result, it can be argued that their expectations of HORIBA are aligned with those of institutional investors with a long-term perspective. This is the reason why HORIBA will continue publishing the integrated report, HORIBA Report, for such institutional investors.

Also, starting with the current Report, we have changed to a fiscal year notation of two years.

The HORIBA Report is the new title of what we used to call the Annual Report, which was our Securities Report giving an overview of each previous year's business and the title included the fiscal year of closing.

An additional reason for using single-year fiscal year notation in reports was that December 31 is the end of the accounting period for HORIBA, Ltd.

In contrast, the primary objective of the HORIBA Report is to be an integrated report giving an understanding of HORIBA's management philosophy and future strategies to institutional investors with a long-term perspective investing in HORIBA's future corporate value. Starting with this report, we are changing fiscal year notation (in this case, 2019-2020) so that investors can proceed with future-oriented investments by understanding topics for the current year and also our thoughts for the future.

## The HORIBA Philosophy



- 01 Cover Story
- 05 CEO Message
- 11 Editorial Policy
- 13 HORIBA's value creation cycle

#### ■ Regarding our use of the term "owners" (shareholders)

HORIBA fully recognizes the importance of its shareholders and frequently refers to them as "owners."

#### ■ Regarding our use of HORIBA and HORIBA, Ltd.

In this Report, HORIBA is used to refer to the HORIBA Group as a whole, while HORIBA, Ltd. is used to refer to that entity within the Group.

#### ■ Market Share

Market shares stated in this report are HORIBA's estimates as of fiscal 2019.

#### Regarding the importance and comprehensiveness of information in the HORIBA Report 2019-2020

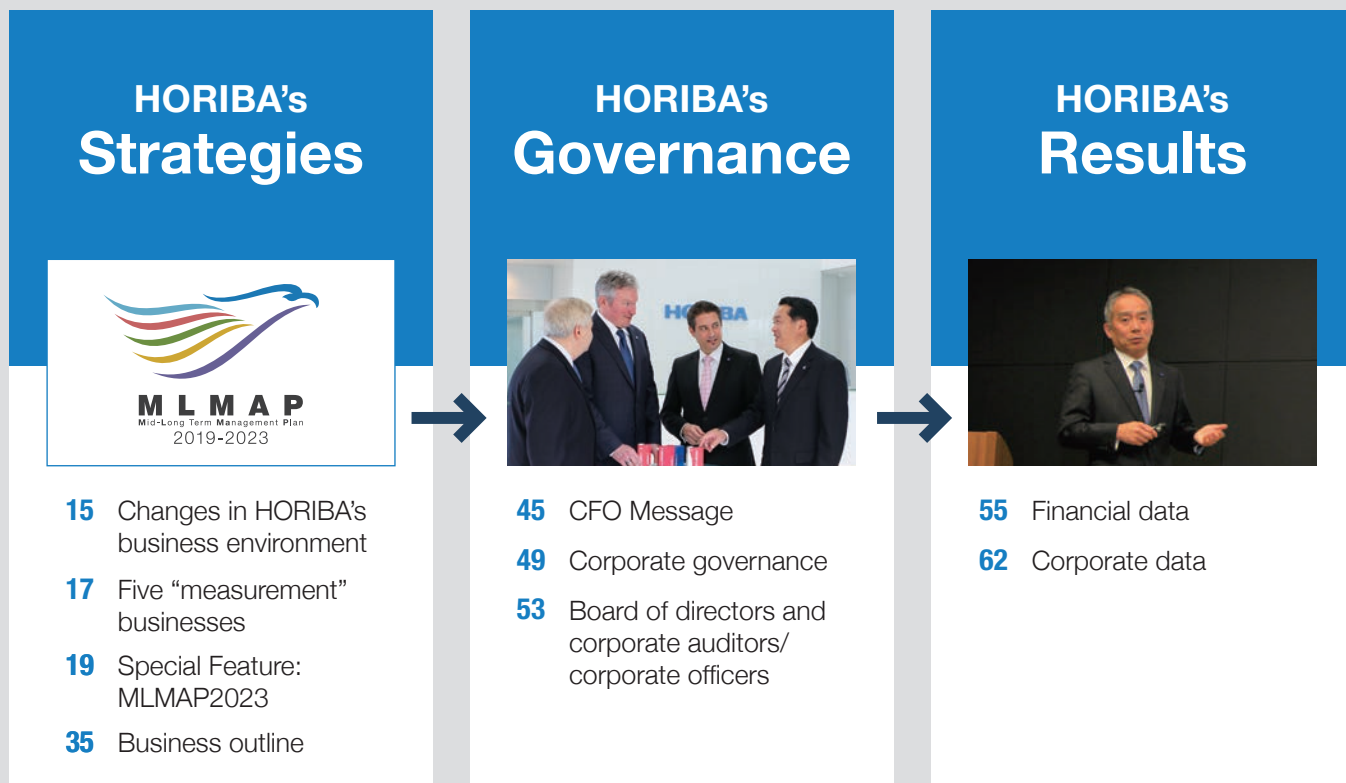
We have selected financial and non-financial information that we believe to be of high importance for inclusion in the HORIBA Report 2019-2020.

For more detailed information, please see our website.

The PDF version of the HORIBA Report 2019-2020 is also available through our website.

HORIBA Report



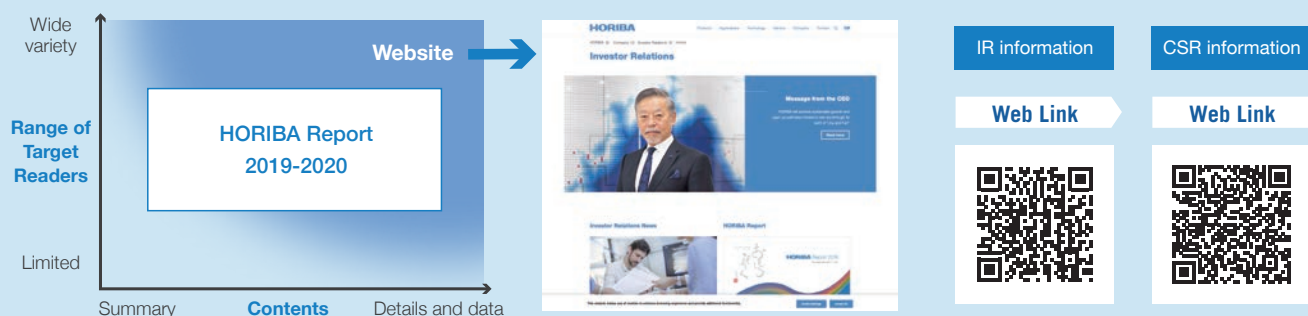


**Change in Revenue Recognition Standard**

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 recognize revenue on 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.

**Disclaimer regarding future plans and forecasts**

This HORIBA Report contains certain statements describing future plans, strategies, and performance forecasts of HORIBA, Ltd. and its affiliated companies. These statements reflect forecasts estimated on management's assumptions and beliefs based on the information available as of April 30, 2020. Actual performance may differ due to unforeseen circumstances in the operating environment and other factors.



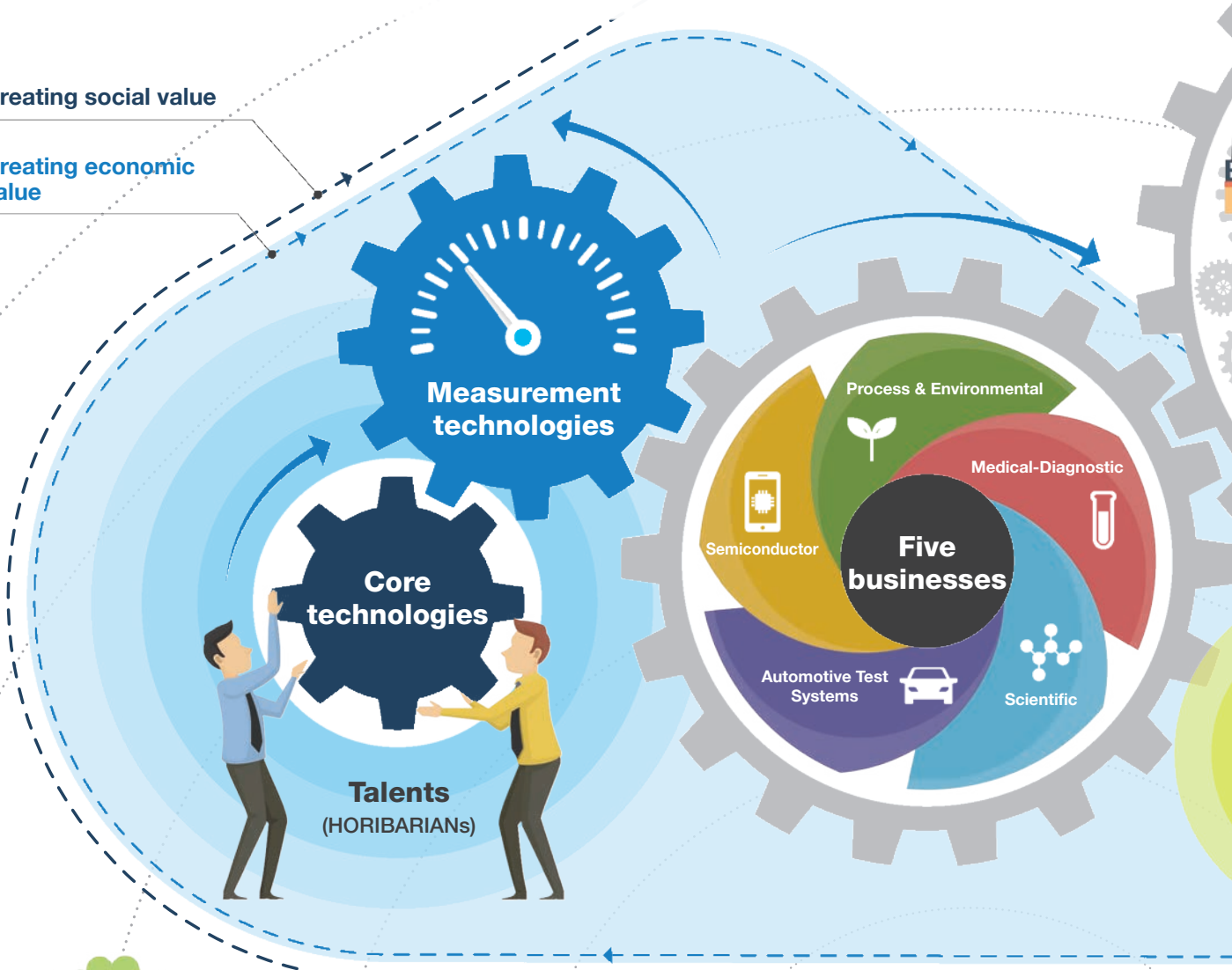
# “Everything begins with measurement”

## HORIBA's technology supports solutions to social issues

HORIBA uses analytical and measurement technologies to supply products that support solutions to social issues. We believe that having customers use HORIBA analytical and measurement solutions while we ourselves grow as a company helps create a sustainable society and fulfill our social responsibility.

Creating social value

Creating economic value



### Invisible values

If we are to achieve on-going corporate growth, we must aim to improve financial metrics such as net sales and profits, while at the same time taking care of our non-financial values, such as talents and technologies. HORIBA considers its brands, organizational structure, talents, technologies, and customers to be invisible values and invests in them continuously.

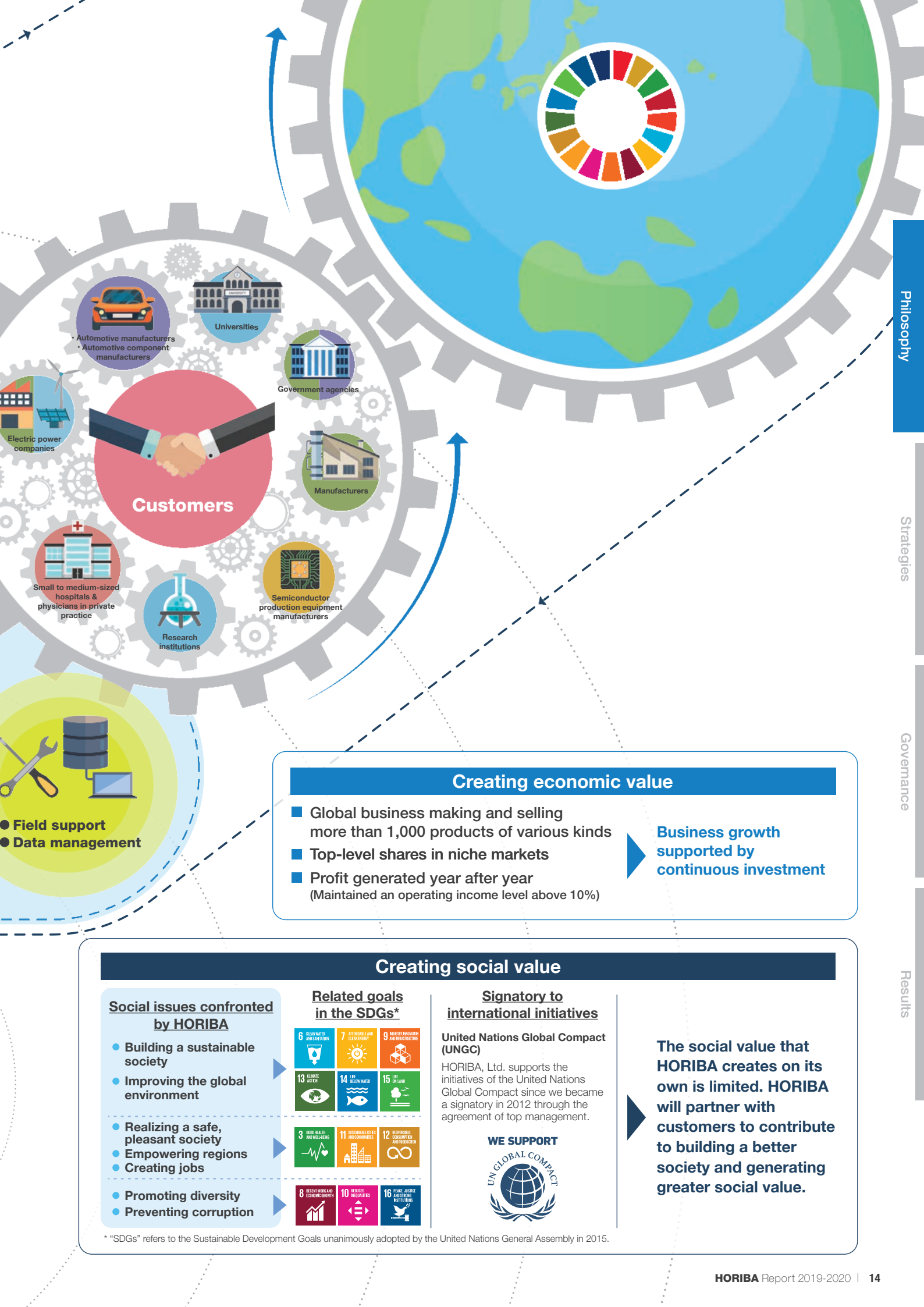
Omoshiro-okashiku  
Joy and Fun



Detailed information regarding HORIBA's CSR activities can be found on our website:

Web Link





### Creating economic value

- Global business making and selling more than 1,000 products of various kinds
- Top-level shares in niche markets
- Profit generated year after year (Maintained an operating income level above 10%)

▶ Business growth supported by continuous investment

### Creating social value

Social issues confronted by HORIBA	Related goals in the SDGs*	Signatory to international initiatives
<ul style="list-style-type: none"> <li>● Building a sustainable society</li> <li>● Improving the global environment</li> </ul>		<p><b>United Nations Global Compact (UNGC)</b></p> <p>HORIBA, Ltd. supports the initiatives of the United Nations Global Compact since we became a signatory in 2012 through the agreement of top management.</p>
<ul style="list-style-type: none"> <li>● Realizing a safe, pleasant society</li> <li>● Empowering regions</li> <li>● Creating jobs</li> </ul>		<p><b>WE SUPPORT</b></p>
<ul style="list-style-type: none"> <li>● Promoting diversity</li> <li>● Preventing corruption</li> </ul>		

\* "SDGs" refers to the Sustainable Development Goals unanimously adopted by the United Nations General Assembly in 2015.

# Environmental changes surrounding HORIBA

Changes in the external environment



The environment surrounding HORIBA is changing with increasing rapidity, such as rising interest in solving social issues, starting with avoiding a pandemic, and also including the acceleration of advanced technology, and structural changes in the automotive industry. Communication and energy networks are experiencing especially substantial impacts from these changes. From a variety of perspectives, HORIBA's measurement technologies are supporting the transformation of communication and energy networks, as well as the development of people and society.



# HORIBA's analytical and measurement technologies contribute to an energy recycling society

By combining various technologies and supplying products and services matching market needs, we will contribute to achieving a sustainable society



## HORIBA Institute for Mobility and Connectivity

In August 2018, we signed an agreement with the University of California, Irvine in the United States to support the establishment of the HORIBA Institute for Mobility and Connectivity. With this Institute playing a central role, we will strive to create businesses that, from the perspective of next-generation energy networks, and specifically the theme of mobility, take on the challenges of social issues and contribute to the energy industry overall.

## Hosting the Masao Horiba Awards

We founded the Masao Horiba Awards in 2003. The 2019 awards, which was the 16th year of the program, had the theme of advanced analytical and measurement technologies for efficient control systems to maximize the performance of electric power and battery usage. Akira Yoshino, winner of the Nobel Prize in Chemistry, served as chair of the selection committee and the award recognized essential research in building an energy-based society. Going forward, we will strengthen collaboration with researchers and academic institutions as we aim to expand businesses focused on electric power and battery usage.



# Five “measurement” businesses



## Automotive Test Systems

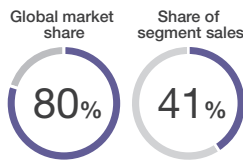


## Process & Environmental Instruments & Systems

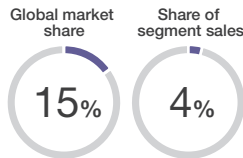
### Major products and market shares

Note: Market shares quoted are HORIBA's estimates.

#### › Emission measurement systems

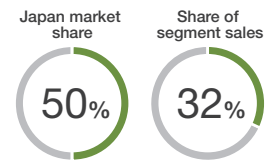


#### › Driveline test systems

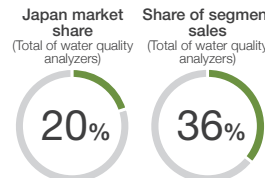


- Automotive emission analyzers
- Onboard emission measurement systems
- Engine test systems
- Brake test systems
- Fuel cell test systems
- Battery test systems
- Vehicle development engineering
- Testing engineering
- Lease and management of R&D facilities

#### › Stack gas analyzers



#### › H-1 series of industrial water quality analyzers



- Water quality analysis and examination systems
- Air pollution analyzers
- Environmental radiation meters
- Process measurement equipment

### Major customers

- Automotive manufacturers
- Automotive component manufacturers
- Government agencies

- Electric power companies
- Government agencies
- Manufacturers

### Product applications

- Development of new gasoline, diesel, and hybrid powertrains
- Certification and quality control of completed vehicles
- Inspection of in-use vehicles

- Measurement of wastewater and gaseous emissions
- Monitoring of environmental pollution

### Major risks and opportunities

- Changes in emission gas regulations
- The automotive industry's capital spending and R&D investments

- Changes in environmental regulations by government agencies
- Developments in energy efficiency improvement at factories and power generation plants



» P.35

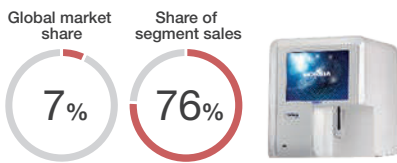


» P.37



## Medical-Diagnostic Instruments & Systems

### › Hematology analyzers



- Hematology and CRP analyzers
- Hematology analyzers
- Immunology analyzers
- Clinical chemistry analyzers
- Blood glucose analyzers

- Medical testing centers
- Small-to medium-sized hospitals
- Physicians in private practice

- Diagnostic testing
- Medical checkup

- Changes in total healthcare expenditures caused by changes in populations and other factors
- Changes in medical insurance systems in different countries

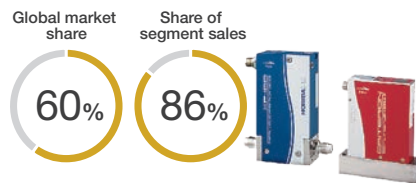


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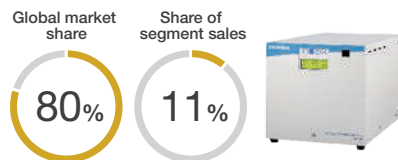


## Semiconductor Instruments & Systems

### › Mass flow controllers



### › Chemical concentration monitors

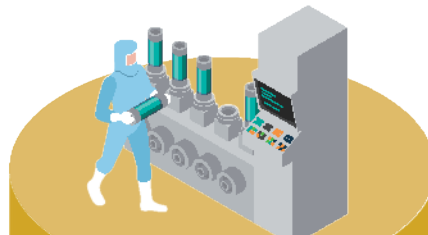


- Reticle/mask particle detection systems
- Residual gas analyzers
- Vaporizers

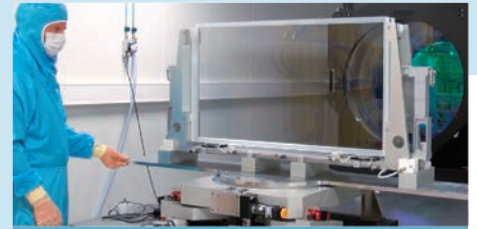
- Semiconductor production equipment manufacturers
- Semiconductor device makers

- Controlling flow of gases and liquids, monitoring of cleaning fluid concentrations in semiconductor manufacturing processes
- Quality control inspections of semiconductors and LCDs

- Capital spending of semiconductor manufacturers and others in association with fluctuating demand for semiconductors
- Production trends of manufacturers of semiconductor production equipment

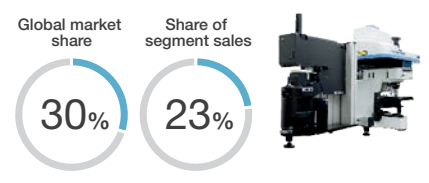


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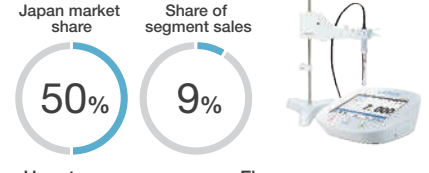


## Scientific Instruments & Systems

### › Raman spectrometers



### › pH meters



- pH meters
- Particle-size distribution analyzers
- X-ray fluorescence analyzers
- Elemental analyzers
- Fluorescence spectroscopy/fluorescence lifetime spectroscopy
- Optical components; spectrometers and detectors
- Gratings

- Manufacturers/Research institutions
- Universities/Government agencies
- Electric power companies

- R&D
- Product quality testing
- Criminal forensics

- Changes in R&D budgets at government agencies, universities, and research institutions
- Changes in the private sector's R&D spending and capital spending for production



›› P.43

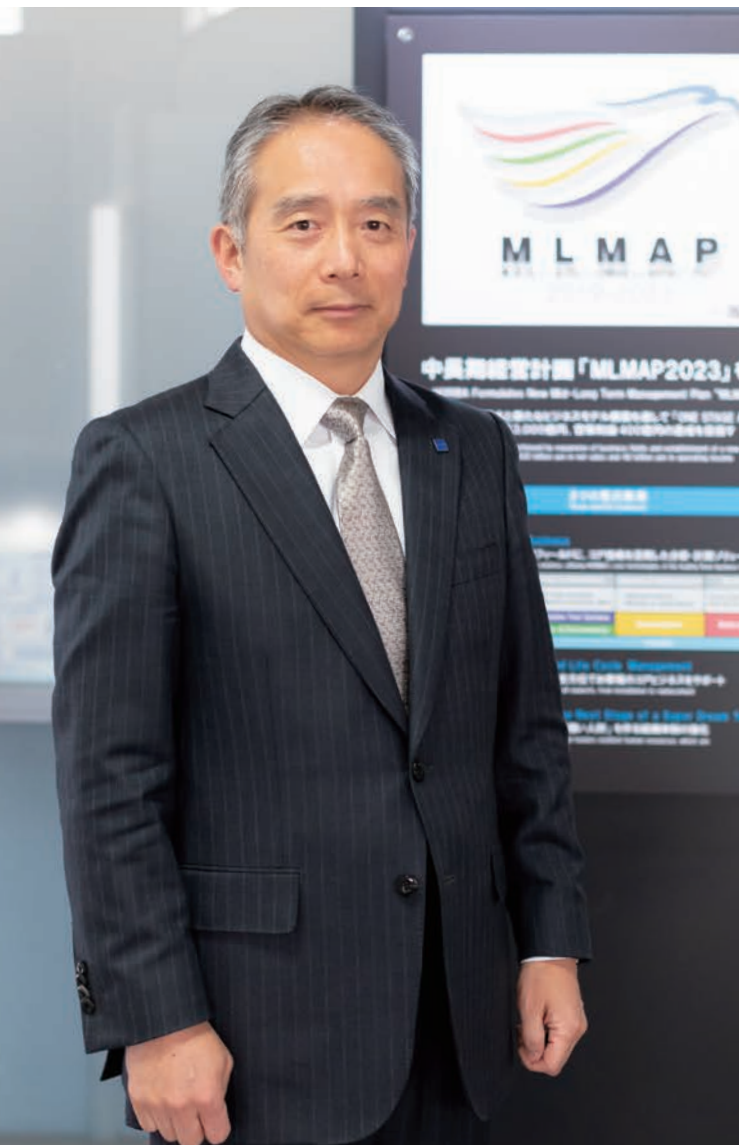


**MLMAP**  
Mid-Long Term Management Plan  
2019-2023

# MLMAP2023

Mid-Long Term Management Plan

# ONE ST



## Masayuki Adachi Ph. D.

President, HORIBA, Ltd.

### My thoughts on “Joy and Fun”

I believe we can recognize Joy and Fun typically after we have overcome difficulties. When I was the president of a group company in the US, the financial crisis occurred. For the company to survive, I confronted crises everyday, while feeling my bad luck. However, once we made it through due to the strong teamwork of local employees, I realized a real delight which has been my treasure. Now we face the crisis of an infectious disease. I feel fighting spirit because I experienced the financial crisis, called a once in a century disaster, as the president of a group company in the US.

## Contribute to the development and transform ourselves

### My ideas on MLMAP2023

HORIBA announced a new Mid-Long Term Management Plan, MLMAP2023, in August 2019. There are two major reasons why we decided to formulate MLMAP2023 two years ahead of schedule. One is that, in 2018, we came close to achieving our 2020 profit target set out in MLMAP2020, which covered the period from 2016 to 2020. We believe that outcome was the result of our investments and balanced management carried out with long term perspective. The other reason is that the business environment surrounding HORIBA is changing rapidly. For example, the structure of the automotive industry is changing and the spread of technologies such as AI and IoT has been advancing. HORIBA aims to capture business opportunities from such tremendous changes. Also, I realized that HORIBA had to change itself drastically in order to go into the next stage. Under the new management structure (more on page 4), we will accumulate our capabilities and take necessary actions, speedily responding to changes in the business environment, so we can open up new era. With those strong intentions and motivations, we launched MLMAP2023 with the slogan of ONE STAGE AHEAD.

### Go forward with three priority measures to achieve the plan

We formulated three priority measures in MLMAP2023. The first measure is Market Oriented Business. We will focus on the leading three business fields of the megatrends: Energy & Environment, Materials & Semiconductor, and Bio & Healthcare. These fields are essential for the development of society and well being.

We will expand our business into those fields with the strong collaboration of our five business segments. The second measure is Solution Provider Beyond Life Cycle Management. HORIBA will strengthen its data management businesses by providing operational data monitoring systems that help customers improve the

# AGE AHEAD

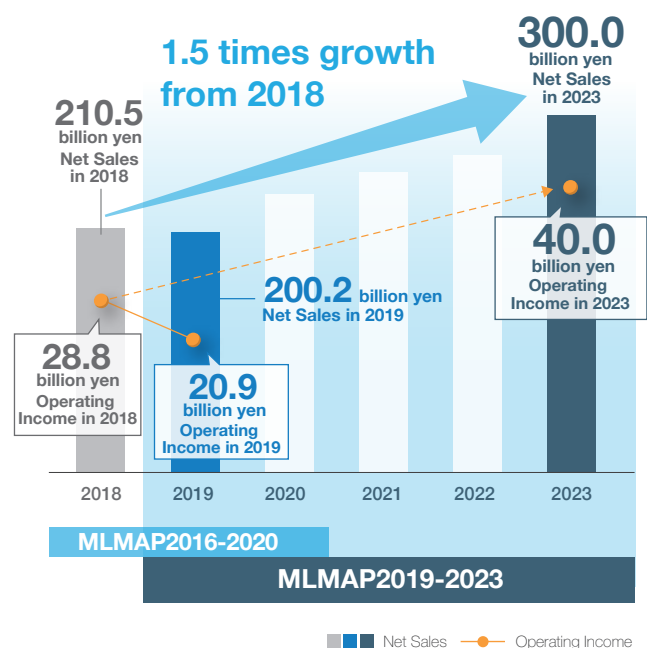
## ent of society with measurement technologies, into a new HORIBA

efficiency of facility operation, and by providing consultations to customers to find solutions via analysis of measurement data. To respond to the needs of automation or outsourcing against the backdrop of the acceleration of the development cycle and reforms in the way of working, we will establish a business model that is always in partnership with the customer.

The third measure is HORIBA Core Values – The Next Stage of a Super Dream Team, which is to develop and enhance the value of human resources. The driving force of business is human resources. We will further promote the BlackJack Project and the Stained Glass Project (more on pages 31-32) on a global basis so as to establish a flat organization that narrows the distance between top management and the frontline. In addition, we will develop a working environment where each and every employee feels motivation for working. On top of that we aim to generate optimal profits and balanced growth while continually investing, using the HORIBA Premium Value as a KPI (more on page 47).

### We can succeed by abandoning complacency and doing our utmost

As the leader of MLMAP2023, I relentlessly push many projects to proceed quickly, in accordance with the spirit of the corporate motto, Joy and Fun. We have no bright futures if we adhere too much to past successful experiences or relax on the highly profitable business just in front of us. I will encourage each and every employee to work with a sense of ownership and venture spirit; however, without being too afraid of making mistakes. Additionally I will push forward our point-added policy, HORIBA's unique personnel evaluation systems (more on page 31). With respect to our businesses, I feel a lot of momentum from 2019 for the future growth of HORIBA, with the launch of "CELL 0," a facility for the evaluation of batteries for electric vehicles, and the start of construction on the new facility in China and a new Headquarters for HORIBA Techno Service Co., Ltd.



It is also necessary to enhance industry-academia collaboration as well as industry-industry collaboration, and HORIBA aims to be a pioneer in introducing new styles of collaboration utilizing the benefits of Kyoto, where we can easily access many high-quality educational institutions and companies with unique cutting-edge technology. We are confident that HORIBA is a measurement technology company customers can rely on, as we can be close to them and offer appropriate solutions when they have problems. We aim to be a company that will resolve social challenges associated with the development of industry, and will contribute to the acceleration of innovation. If, in five years, I look back on society, the company and myself and find that all of them have changed in a good way, our visions will have come true. I will encourage management to accomplish our visions with all my heart and mind.

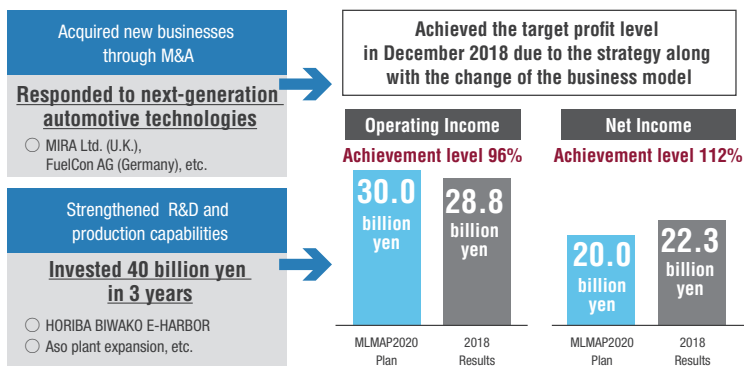
April 2020

# Overview of MLMAP2023

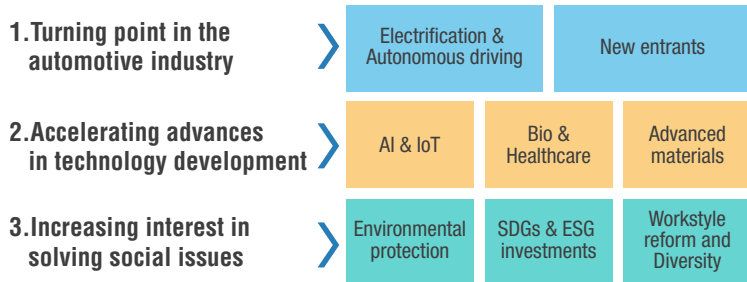
## The background of the transition to MLMAP2023

Achieved the target level of MLMAP2020 (started in 2016)

Invested to expand business scale and areas at a time of drastic changes in the industrial structure



Immediately responded to accelerated business changes.



**MLMA**  
Mid - Long Term

Slogan:

**ONE STAG**

Open up a new era for 70th anniversary, by HORIBA Group under structure sta

- Net Sales
- Operating Inc
- Net Income
- ROE
- Total return r

### Initiatives and achievements from previous MLMAPs

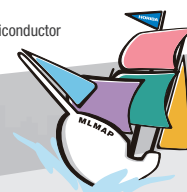
- Promoted "One Company" management (Spread use of the matrix organization and appointed corporate officers from overseas group companies, etc.)
- Growth through balanced management (Increase profit of medical-diagnostic and semiconductor segments)



**MLMAP2010**  
(2006-2010)

- Established "One Company" management and the matrix organization structure (Globalized shared services and the ERP system)
- Accelerated growth by investment in profitable businesses (Automotive test systems and semiconductor instruments & systems)

**MLMAP2015**  
(2011-2015)



# P2023 Management Plan

## GOING AHEAD

From 2023, the company's strategy is unified, reflecting the power of the new management structure implemented in 2018.

**Revenue** 300.0 billion yen  
40.0 billion yen  
30.0 billion yen

**Ratio** 10% or more  
Target 30%

Exchange rate: 110 yen per U.S. dollar/125 yen per euro

### PRIORITY MEASURE 1

## Market-Oriented Business

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

### PRIORITY MEASURE 2

## Solution Provider Beyond Life Cycle Management

To support customers' businesses from all aspects, from installation to replacement

### PRIORITY MEASURE 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 business operations

#### ➤ Segment Strategy

Long term growth strategy in five business segments with well-balanced management

#### ➤ Regional Strategy

Business expansion in emerging markets, China and India

#### ➤ Technological Strategy

Create new value by utilizing unique core technologies

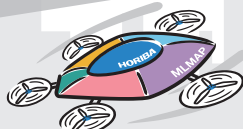
#### ➤ Human Resource Strategy

Develop human resources by believing in people and drawing out their maximum potential

- Acquired new business through M&A and strengthened R&D and production capabilities\*  
\*more on page 21 about achievement of MLMAP2020
- Expanded the water measurement business  
(Integrated resources into HORIBA Advanced Techno Co., Ltd.)
- Enhanced the diversity promotion project  
(Stained Glass Project)

MLMAP2020  
(2016-2020)

MLMAP2023  
(2019-2023)



**Symbol: Hawk**

Find targets from a heightened perspective, accomplish the objectives at the fastest speed

# Priority Measures

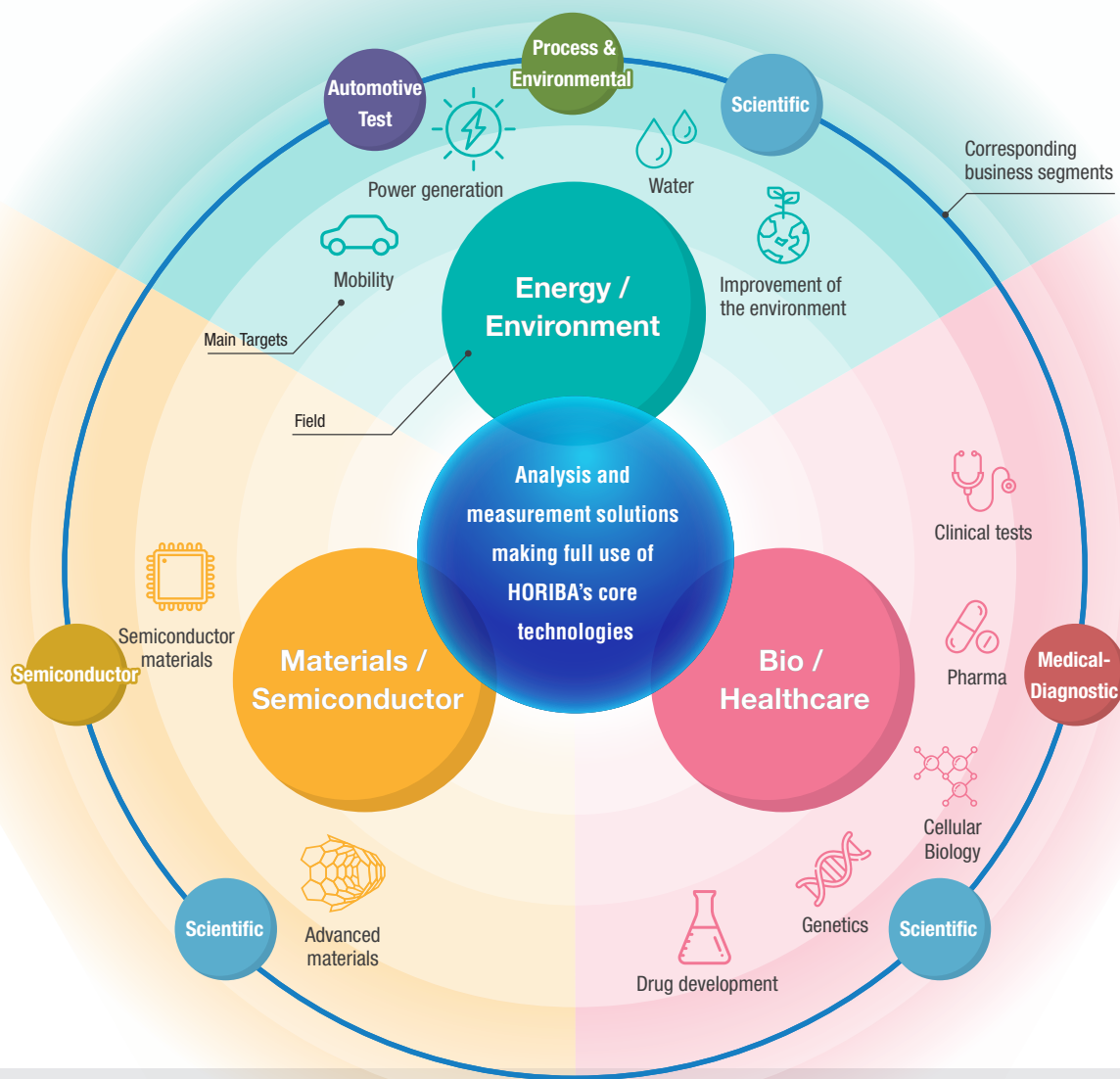
## PRIORITY MEASURE 1

### Market Oriented Business

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

By combining the technologies, sales channels, production facilities, and customer networks that HORIBA's five business segments possess globally, HORIBA intends to provide analysis and measurement solutions that respond to customers' needs.

**HORIBA aims to transform itself into an entity that accelerates innovation in the three leading business fields of the megatrends.**





**PRIORITY MEASURE 2**

# Solution Provider Beyond Life Cycle Management

**To support customers' businesses from all aspects, from installation to replacement**

HORIBA has built a business model that comprehensively supports customers by offering optimal applications chosen from a wide variety of product groups. HORIBA will expand business into the data management field, contributing to solving customers' issues by quantifying information that has been invisible.



**Always with You**  
**HORIBA is always on the customer's side**

**PRIORITY MEASURE 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**

The driving force of all businesses is human resources. HORIBA has undertaken various initiatives in the development of human resources as well. We will enhance those activities and accelerate both the transformation of existing businesses and the creation of new businesses. Also, HORIBA will accelerate activities to optimize asset efficiency and bring about balanced growth of profit and continual investing.

Bringing management closer to the front-line	Promoting diversity	An original HORIBA KPI to indicate asset efficiency
<b>The BlackJack Project</b> (more on pages 31-32)	<b>The Stained Glass Project</b> (more on pages 31-32)	<b>HORIBA Premium Value</b> (more on page 47)



# Segment Strategy

MLMAP2023 Segment Strategy

## Automotive Test Systems

2023  
plan

Sales	120.0 billion yen
Operating income	12.0 billion yen

### Application driven business

Provide the best applications in four business areas. Establish a position as a vital partner in the automotive development field by solving the challenges that customers face.



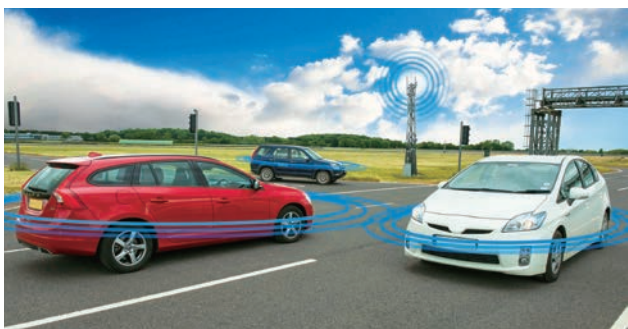
#### 1 Emissions: Engine/exhaust gas

- Strengthen existing areas: Provide a diverse regulation-compliant line-up, and systems that help shorten the development process.
- Enter growth areas: Provide solutions as packages that contribute to the R&D and optimization of combinations of engines, batteries, and motors to go along with the electrification of vehicles.

#### 2 Energy Efficiency: Electrification

- Cell 0: Respond to demand for evaluation and testing of batteries and fuel cells for electric vehicles.
- Test in the Loop™<sup>\*1</sup>: Propose a highly-efficient R&D environment for electric vehicles (more on page 36 about Cell 0 and Test in the Loop™).

<sup>\*1</sup> Test in the Loop is a registered trademark of HORIBA, Ltd.



#### 3 CAV<sup>\*2</sup>: Connected and autonomous driving system

- "Drive/Turn/Stop": Expand business that utilizes multi-purpose tests for autonomous vehicles and test facilities to verify an autonomous parking function (opening in 2021).
- "Protect": Opened the Vehicle Resilience<sup>\*3</sup> Technology Centre, and are expanding a comprehensive approach that combines cyber security and functional safety.

<sup>\*2</sup> CAV: Connected and Autonomous Vehicle

<sup>\*3</sup> Vehicle Resilience: Solutions that eliminate threats associated with advanced vehicle technologies



#### 4 Enterprise Data Management for Development: Overall vehicle-related R&D

- Contributing to front-loading: Provide high-value-added services that reduce man-hours and shorten development processes (front-loading) by combining a core system that integrates and manages analysis and measurement data, and HORIBA MIRA Ltd.'s knowledge in engineering and testing.

MLMAP2023 Segment Strategy

**Process & Environmental Instruments & Systems**

2023 plan	Sales	28.0 billion yen
	Operating income	2.8 billion yen

**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. Aim to grow into an organization that is required for measurements related to the earth's environment.



**1 Expand business in emerging countries: approaches to environmental regulation**

- Enhance localization of production and engineering that flexibly respond to local needs.
- Bring business models successfully expanded with regional partners to other countries.

**2 Open up markets in developed countries: improve industrial processes**

- Respond to demands for improving the environment and efficiency of power generation plants, semiconductor manufacturing factories, and others.
- Contribute to reduction of costs and manpower in factories by enhancing the data management business.

**3 Grow globally in the water monitoring business**

- Expand market share in Asia.
- Develop a new business model with "HAKARU Express," which combines technologies and services.

Please see our website for more on "HAKARU EXPRESS" (in Japanese only)

[Web Link](#)



MLMAP2023 Segment Strategy

**Medical-Diagnostic Instruments & Systems**

2023 plan	Sales	40.0 billion yen
	Operating income	4.0 billion yen

**To be a Preferred Partner**

Expand the product portfolio from small-scale analyzers to include large-scale analyzers, and accelerate global business expansion. Realize further business expansion in the field of In-Vitro-Diagnostics.



**1 Sales development in the small- and medium-sized market**

- Enhance the line-up of products that use the  $\mu$ TAS\* technologies acquired from Rohm Co., Ltd.
- Expand business in the clinical chemistry category through business alliances.

\* Micro Total Analysis System

**2 Entering the large-sized market**

- Expand sales of mid-to-large-size hematology instruments.
- Enter the large-sized market through a long term alliance with Siemens Healthcare Diagnostics Inc. (U.S.)

**3 Capturing emerging markets (India and China)**

- Develop products which respond to local needs, and expand global sales network and supply chain.
- Strengthen local production capability and the reagent supply structure.

## Segment Strategy

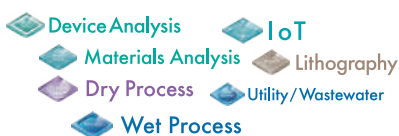
MLMAP2023 Segment Strategy

### Semiconductor Instruments & Systems

2023 plan	Sales	77.0 billion yen
	Operating income	17.7 billion yen

Shape the market, sell the solution

Evolve the company into a comprehensive supplier that provides high-value-added solutions for all semiconductor manufacturing processes, from R&D to aftermarket services.



#### 1 Enhance existing fields

- Enhance R&D operations and the supply chain in Japan, the U.S., and Asia.
- Proactively launch new products and further expand the market share of mainstream products such as Mass flow controllers and chemical concentration monitors.

#### 2 Extend coverage

- Develop applications which increase the efficiency of the process control of semiconductor production equipment (SPE).
- Expand the product line-up in the particle detection area which supports the development of EUV\* technology.

\*Next generation lithography technology that exposes with extreme ultra violet rays

#### 3 Take up challenges in new fields

- HORIBA's measurement and control equipment is installed on the periphery of SPE and generates data. Provide an environment that enables the use of this data and contribute to improving semiconductor manufacturing processes.

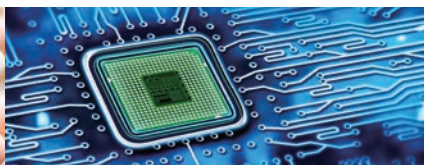
MLMAP2023 Segment Strategy

### Scientific Instruments & Systems

2023 plan	Sales	35.0 billion yen
	Operating income	3.5 billion yen

Core Technology Provider

Apply the core technology cultivated as a founding business in the megatrend market. Maximize synergy while leading "HORIBA as a provider of technology" in cooperation with each segment.



#### 1 Advanced materials and Bio

- Maximize synergies by effectively using resources from three global bases (i.e. Japan, France, and the U.S.) and provide innovative solutions (advance nano-level spectroscopic analysis technology, develop applications for analysis of pharmaceuticals and in drug discovery, etc.).

#### 2 Energy, Semiconductor, and Water

- Expand business by using the sales channels of other business segments (develop secondary batteries, evaluate and analyze next-generation materials for semiconductors, increase efficiency of water management at water treatment plants, etc.).

#### 3 One-to-One Customization and Global Engineerin

- Accelerate customization to contribute to optimization of production processes and monitoring of quality (automated measurement, visualization of analytical data, etc.).
- Global engineering to develop products responding to customer needs (developed the new pH meter in Singapore).

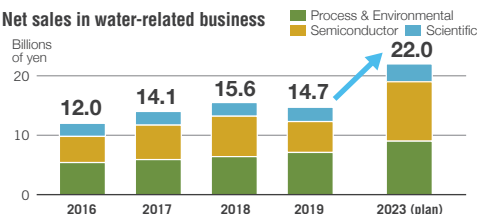
### TOPICS

#### Expand the water measurement business

HORIBA Advanced Techno Co., Ltd., in which we integrated the water measurement businesses, is expanding business with the analytical technologies and sales channels of three segments: Process & Environment, Semiconductor, and Scientific. We accelerate business globally since demand for water measurement is expected to expand in the future.



Net sales in water-related business



# Regional Strategy

## MLMAP2023 Regional Strategy

### China

2023 plan

Sales

47.0 billion yen

**Realize further growth by responding to sea changes in technology**

Invest aggressively at a higher level than ever before. Realize high growth through strategic action based on the keywords Speed, Integration, and Evolution.

#### Started construction of a new facility in China



#### Automotive testing labs

- Install battery and fuel cell test systems, chassis dynamos, and driveline test systems
- Enable tests that combine vehicles, real machines, and simulation

#### Scientific analysis application center

- Profit from being based in the area of China where new energy is being developed, and collaborate with academia and companies in development of applications
- Provide material analysis, testing support, and training in analysis

#### 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
- Train service engineers who belong to HORIBA and distributors

## MLMAP2023 Regional Strategy

### India

2023 plan

Sales

13.0 billion yen

**Think Big. Grow Bigger.**

Strengthen the sales and service networks rooted in the local society. Provide high-value-added analysis and measurement technologies.

#### Enhance engineering and facility capability

##### Automotive Test



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

The technical laboratory, opened in July 2019

##### Process & Environmental

#### Enhance the supply network

##### Medical-Diagnostic



- Capture growing demand for clinical testing that is due to population growth.
- Enhance the supply network to maintain stable volume and quality.

Reagent production and logistics line at Haridwar

### TOPICS

#### To Change to a Solution-proposal Style Business

- Enhance ability to gather and transmit information by integrating functions
- Expand the analysis lab, the maintenance facility, and the training space

MLMAP 2023



Maintenance services using operating data

Consulting using measurement data

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

Start of construction of a new HQ for HORIBA Techno Service Co., Ltd.



Opening in 2020  
Total cost: approx. 3.8 billion yen

# Technology Strategies

HORIBA's technology has grown while we remain focused on how we can be of use to people and the planet. Starting with the first glass electrode pH meter made in Japan, and moving into mass flow controllers and emission measurement systems (both of which have large market shares), we have continued to roll out products and applications necessary to society. Like the branches of a tree, these core technologies for analytical and measurement instruments have spread and multiplied. Going forward, we will strengthen synergies from the resources of our five businesses as we pursue acquisitions focused on technologies and human resources. At the same time, we will leverage industry-academia-government collaboration and inter-industry collaboration as we strive for corporate transformation that accelerates innovation through measurement technologies.

## Focus initiatives for achieving MLMAP2023

### Faster-paced development in union with customers

In order to further strengthen our forte, which is our framework for craftsmanship in partnership with customers, we are carrying out organizational restructuring that deepens the ties between our R&D Departments and Sales Departments. We engage in fast-paced product and application development under a framework where we review specifications with customers and move forward while taking their feedback into account.

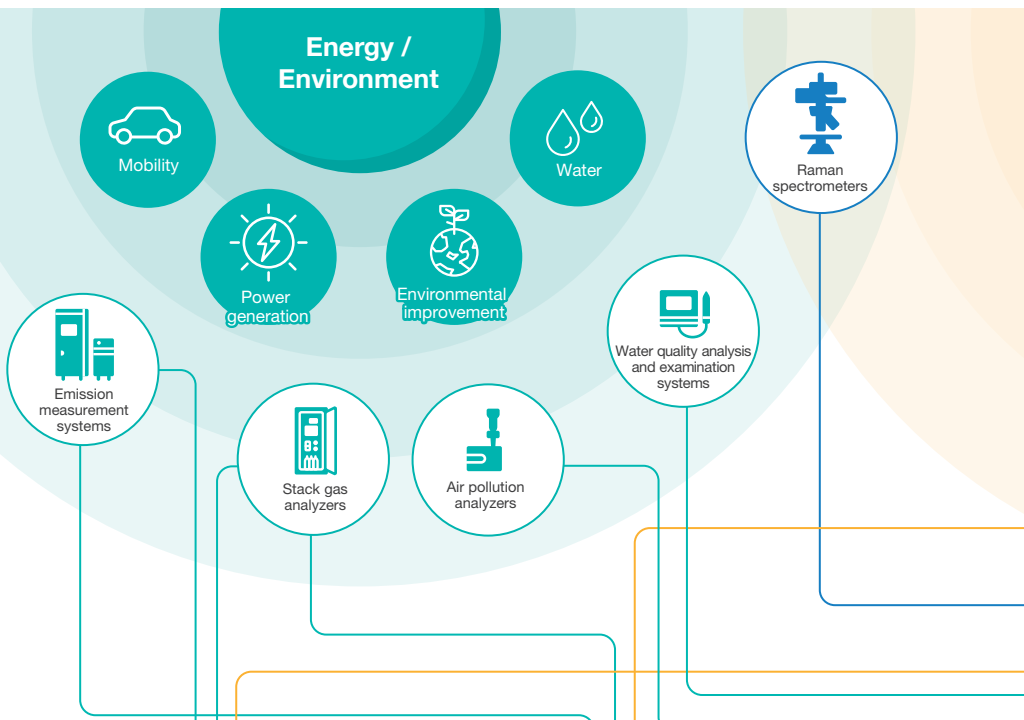
### Strengthening technology in the data management field

We are targeting business expansion by leveraging the strength of high-quality data generated during analysis and measurement. We are undertaking development projects that include expanding our lineup of applications that offer efficient data management and usage, as well as software for ensuring data integrity, which is an area exhibiting increasing needs as analytical and measurement instruments become incorporated in the IoT.

HORIBA's core technologies and signature products being put into MLMAP2023's three focus fields

#### The three focus fields of MLMAP2023

(More on page 23)



HORIBA's core technologies (selected based on their size of sales)

### Infrared measurement

Technology to analyze components in gas in real time

- Automotive Test Systems
- Process & Environmental
- Scientific

### Gas flow control

Technology to measure and instantly control the flow of fluids

- Automotive Test Systems
- Process & Environmental
- Semiconductor

# Attempting to create new value with innovative core technologies

Philosophy

Strategies

Governance

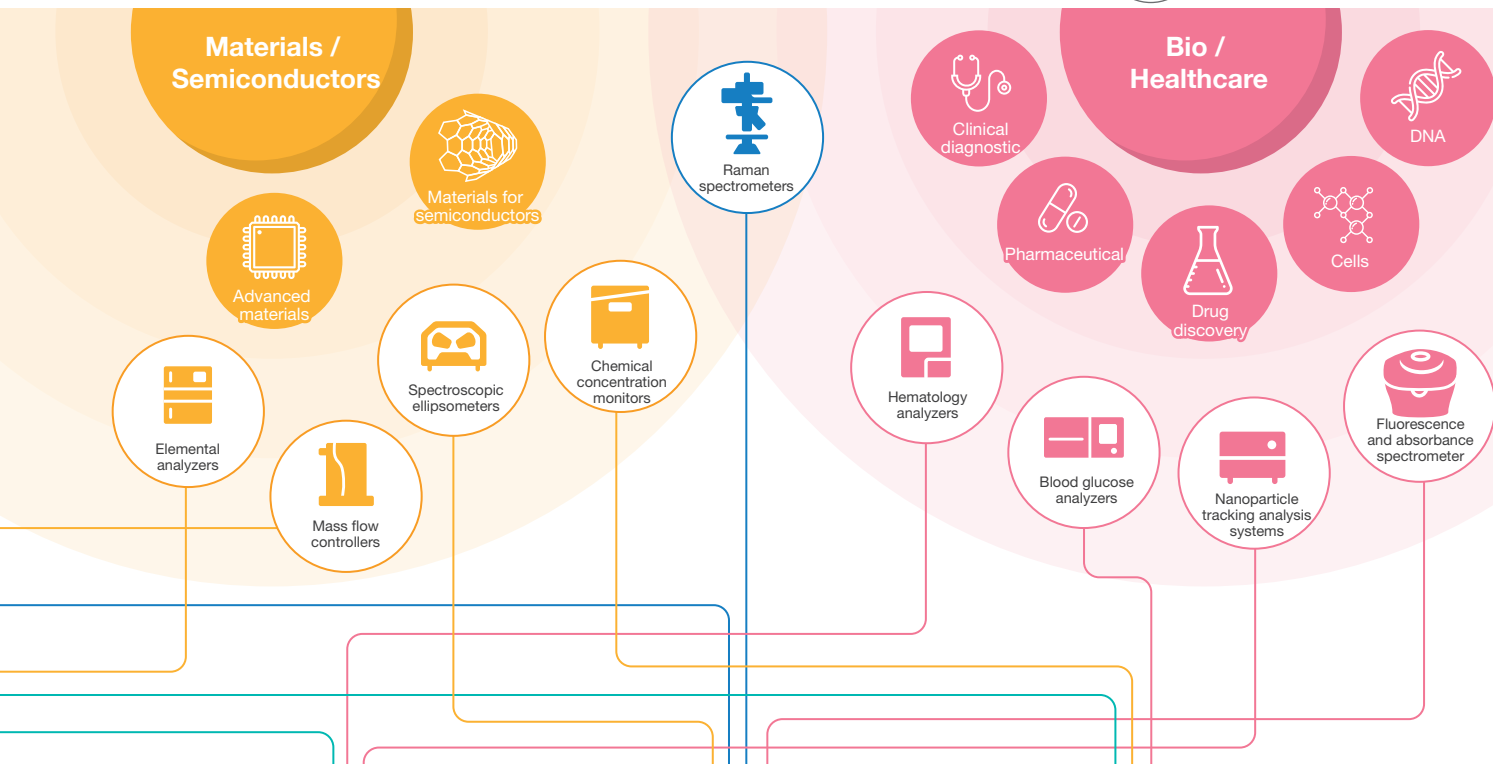
Results

## Creating new technologies and businesses through stronger industry-academia and inter-industry collaboration

Since our founding, HORIBA has launched a large number of products through collaboration with universities and research institutions. We founded the Masao Horiba Awards in 2003 as part of our desire to give back to the analytical and measurement industry that has buttressed our growth to date. By supporting young researchers and engineers inside and outside Japan, while also deepening industry-academia collaboration, we are contributing to the acceleration of innovation and promoting research projects with an eye toward long-term growth. At the awards ceremony each year, award recipients and HORIBA development team members are able to build new relationships and enjoy face-to-face interaction with experts in each field. In this way, the event functions as a venue for open innovation. Going forward, we will strive to advance our initiatives through joint development and technological tie-ups with other companies as we pursue inter-industry collaboration. In doing so, we will create new technologies and businesses with unprecedented speed.

### Recent themes for the Masao Horiba Awards

- 2018** **Materials / Semiconductor**  
Advanced Analytical and Measurement Technology in the Semiconductor Manufacturing Process
- 2019** **Energy / Environment**  
Advanced Analytical and Measurement Technologies for an Efficient Control System to Maximize the Performance of Electric Power and Battery Usage
- Next award focus** **Bio / Healthcare**  
Optical/Spectroscopic Measurement Technologies for Life Science



### Particle analysis

Technology to measure particles (diameter, number, weight, and components)

Automotive Test Systems	Process & Environmental
Medical-Diagnostic	Semiconductor
Scientific	

### Spectroscopic analysis

Technology to analyze materials by using ultraviolet light, visible light, and near-infrared light

Semiconductor	Scientific
---------------	------------

### Liquid analysis

Technology to measure components in, or characteristics of, liquids, such as pH, sodium, acids, alkalis, and glucose

Process & Environmental	Medical-Diagnostic
Semiconductor	Scientific

# ▶ Human Resources Strategies

The strength of people is the driving force for achieving business growth. At HORIBA, we use the phrase “talents” to convey that our employees are our most important assets. As evidenced to date by our BlackJack Project and Stained Glass Project, we have continuously striven to maximize the individuality and skills of our employees. Going forward, through unique HORIBA human resource strategies, we are committed to putting our company motto of “Joy and Fun” into concrete practice, while also building structures that allow each and every employee to shine.



## Basic human resources policies

When HORIBA was founded, it was a forerunner of today's student start-up companies, so we are committed to fostering human resources imbued with the spirit of entrepreneurship.

### Open and Fair

We ensure that important information and rules are shared openly so that there is free communication within the company.  
We provide fair opportunities for uniquely individual and diverse human resources to challenge themselves.

### Point-added policy

HORIBA's point-added policy doesn't confer any points, even if there is no failure, unless an employee takes on challenges. Points are conferred for taking on challenges. If successful, further points are conferred. This system supports and recognizes ambitious human resources, while valuing the start-up mindset.

### Two-way communication

Information is not conveyed, but rather it is shared. In order to remove the barriers of executives and organizations, and achieve true reciprocal communication in the process, we employ various systems, such as global gatherings where ideas are directly voiced to management, as well as birthday gatherings for employees.

### HORIBA's five pillars of "omoi"

- For each and every employee to personally attain our company motto of “Joy and Fun,” we firmly hold and implement five *omoi*:
- To be a part of a collaborative community, at the forefront of new ideas and creations.
  - To achieve goals and make life memorable by fostering the highest intellectual potential.
  - To reach across the globe to expand learning that captures key business developments, wherever they occur.
  - To be proud of sharing what I do and what HORIBA delivers.
  - To be helpful to the world and its people.

\* Here, the Japanese word “omoi” is used to engender shared values among global employees.



# Fully drawing out the unbounded energy of people

Philosophy

Strategies

Governance

Results

## Measures to foster human resources Fostering “*omoi*” and have it flower globally

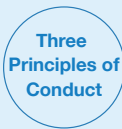
With programs such as our long-standing overseas recruitment and dispatching efforts (since the 1980s), we have been working from an early stage to foster global leaders desiring challenges. Additionally, we actively promote employee exchanges among Group companies inside and outside Japan. Through mutual stimulation and by broadening perspectives, we are accelerating the pace of growth for our human resources.

Wilson Chan, who spearheaded business expansion in the ASEAN region at HORIBA Instruments (Singapore) Pte Ltd., was appointed, in 2020, Head of the Science/Semiconductor Segment Strategy Department at HORIBA, Ltd. He is honing his skills as a global leader and building up further broad-based management experience.



## The Stained Glass Project —Helping diverse personalities and abilities shine

In the Stained Glass Project, which serves to promote diversity, we have stipulated Three Principles of Conduct, and, through more active exchange of human resources among Group companies, are strengthening activities on a global level. Furthermore, we are working to further promote our Good Place Work System, a telework/remote working program that is helping us achieve work-life balance alongside productivity improvements and adopted at all Group companies inside Japan in January 2019. At the same time, we are working to establish work styles that flexibly adapt to changes in the external environment.



- 1 Transcend unconscious partitions and maximize individual abilities
- 2 Leverage two-way communication to maximize team capabilities through mutual understanding
- 3 Pursue job satisfaction with a challenging spirit

## The BlackJack Project —Supporting robust organizational strength

The BlackJack Project, which is a unique HORIBA activity for improving one's work, functions by sharing frontline information with management, and has become firmly established in HORIBA's corporate culture. Going forward, we will strengthen activities in rapidly growing regions within Asia, while also further spreading the project throughout the Group, and promote activities that bring management objectives to the frontlines of business.



Every year, we hold a World Cup competition that selects the best thematic idea among the representative themes from each country. In 2019, as in the previous year, the gold medal was given to an overseas Group company project. Looking beyond the top prize winner, there is evidence of thorough support for the project globally due to three of the top four awardees being overseas Group members.



## External evaluation

For two years in a row, 2019 and 2020, HORIBA has been selected as part of the Health and Productivity Stock Selection Program and the Nadeshiko Brand, which are jointly judged by the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange.



### Health and Productivity Stock Selection Program

In 2012, HORIBA's top management issued its Physical and Mental Health Promotion Declaration. Inclusion in the 2020 Health and Productivity Stock Selection Program was granted out of recognition for various initiatives conducted in pursuit of this declaration's goals.



### Nadeshiko Brand

Our inclusion in the Nadeshiko Brand 2020 was awarded out of recognition for our initiatives promoting diversity, primarily our Stained Glass Project.

The Executive Vice Chairman & Group COO's approach to the development of human resources.

## Enhance the development of HORIBARIANs globally for sustainable growth



**Juichi Saito** Executive Vice Chairman & Group COO

### Focus on human resource development to achieve MLMAP2023

The management plan is something that needs to be updated according to the trends of the times. To do that, we need to correctly grasp the changes of the external environment and business circumstances. In this respect, I feel great significance and response to the fact that we formulated MLMAP2023 two years earlier. To achieve MLMAP2023, my mission is to support President Adachi, the leader of this plan, and devote myself to the development of human resources who are the driving force of the business. Broad experiences can cultivate a good sense of balance and leadership in business. HORIBARIANs who have potential to be leaders will be given a certain career path which provides management experience outside

of own country. We can find a variety of specialists who have very deep insight into specific markets or technologies and so on. While enhancing their strengths, we, management, will instill the HORIBA way of management by sharing our management policy, company history, and unique corporate culture. In this way, we will enhance the development of resilient human resources by extending each leaders' strengths and uniqueness.

## What actions need to be taken for the next generation of human resources, which I notice through talking with people

As management, what I consider most important is face-to-face communication. I visit various offices, when I can, and make good use of talking directly with the younger generation of employees at corporate events. What I learn from these discussions is change in the way of working and setting priorities. What is important to the younger generation is not only income and position, but also how much their work is contributing to society. They may have been affected by the deep concern about global environmental issues, and big changes in society.

“I want to do good things for the world and the earth.” Having such motivation, many people who have a great desire to work globally and are brimming with vitality, join our company. This is also the uniqueness of HORIBA. To cherish and extend their value, we let the younger generation make presentations at global conferences, and give those who raise their hand an opportunity to be assigned to overseas offices at an early stage. As such, we have set up many “stages” where the next generation can shine even more.

## Support bold projects and light the future of HORIBA

To achieve sustainable growth, many more kinds of actions need to be taken than ever before. As an R&D-oriented company that opens up new markets with high technological capability, we may face situations where we need to make bold investments. At the same time, HORIBA does not stop a project easily once we decide to invest, because HORIBA's policy is to invest with a long-term perspective. That is why we need to be committed when we start. Supporting such bold first steps is my role. In my career, I have experienced all five of HORIBA's segments. Making use of that experience and thorough discussion, I will strongly guide the establishment of a

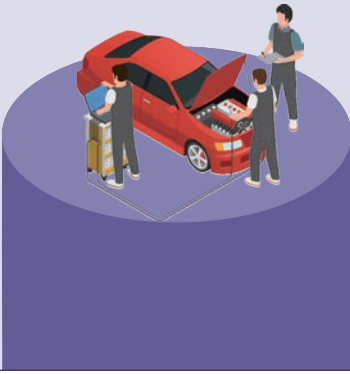
better business plan. Some projects may not be approved or may result in failure. However, both HORIBA and I have also reached success and grown after overcoming many failures. I also expect the next generation of management to establish a resilient HORIBA through such experiences. To achieve MLMAP2023, and eternal growth beyond that, I will execute my mission throughly.

April 2020

### My thoughts on

### “Joy and Fun”

Aggressively trying challenging work that I could never do by myself. Sometimes, it was not successful. However, such experiences are now assets for me. I expect the young generation to tackle challenges and face them without fear of failure. Our role as management is to support such attempts and lead to ensure no serious damage, even if it results in failure.



# Mobility x Measurement

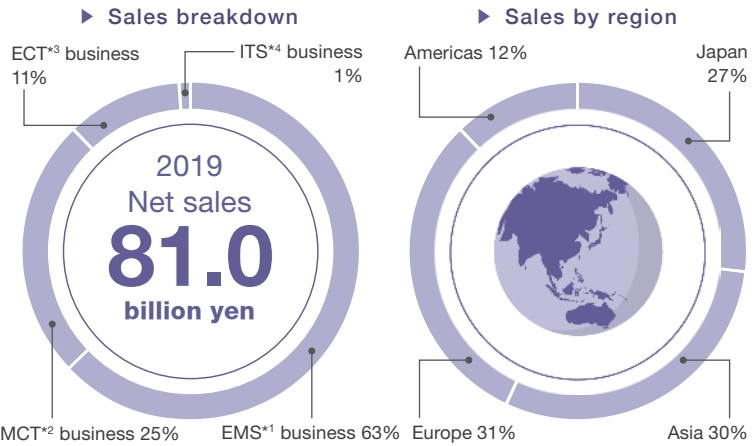


# Automotive Test Systems

## 2019 results

- Expansion of sales in Asia ahead of the introduction of new emission regulations
- Increase in demand for fuel cell test systems

Amid robust sales of emission measurement systems, sales expanded in the MCT business. Profit declined due to an increase in R&D expenses and a decline in profit margin, caused by factors including changes in the geographical sales mix. In 2019, we opened the CELL 0 evaluation and testing facility for electrified vehicle batteries and fuel cells within HORIBA BIWAKO E-HARBOR, Biwako Factory, and worked to expand our electrification-related business.

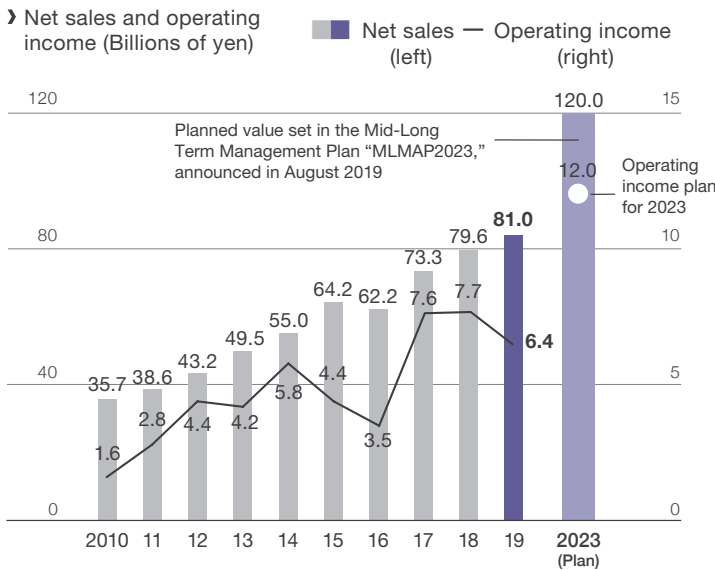


\*1 Emission Measurement Systems \*2 Mechatronics (MCT); measuring instruments for vehicles  
\*3 Engineering Consultancy & Testing \*4 Intelligent Transport Systems

## Outlook

## Medium-term market trends

As a background of globally tightening environmental regulations, the automotive industry is moving ahead with development of next-generation mobility that will lead to cleaner cars and the transformation of society. The measuring instrument market is expected to continue growing to meet technological requirements for exhaust gas reduction, electrification, and connected and autonomous driving. Moreover, in response to the increasing burden placed on automotive-related manufacturers by increasingly complex development processes, demand is expected to remain strong for high-precision analytical and measurement equipment and for measurement solutions that offer development efficiency and verification process improvement.



### Aiming for growth in the electrification field through proactive investment



In November 2019, we made the decision to construct a new building for HORIBA FuelCon GmbH (Germany), which develops, manufactures, and sells battery and fuel cell evaluation and test systems. As electrified vehicle demand rises worldwide, the market for evaluation and test systems for batteries and fuel cells is expected to grow. Through this enhancement of production capacity, we seek to leverage HORIBA's global network to expand our business.

# Providing powerful support for the efficiency of vehicle testing and acceleration in automotive development

HORIBA's automotive Emission Measurement Systems (EMS) are used by national certification bodies throughout the world and hold a global market share of 80%\*. HORIBA provides complete test and measurement solutions to the world's leading automotive manufacturers, including test systems for engines, chassis, powertrains, brakes, and catalysts. We are also able to respond to wide-ranging demand in the Engineering Consultancy & Testing (ECT) business, offering a wide variety of products and services ranging from the development of batteries for electric vehicles to autonomous driving technology, in addition to providing vehicle performance testing and R&D expertise.

\* HORIBA's estimates

## BUSINESS TREND

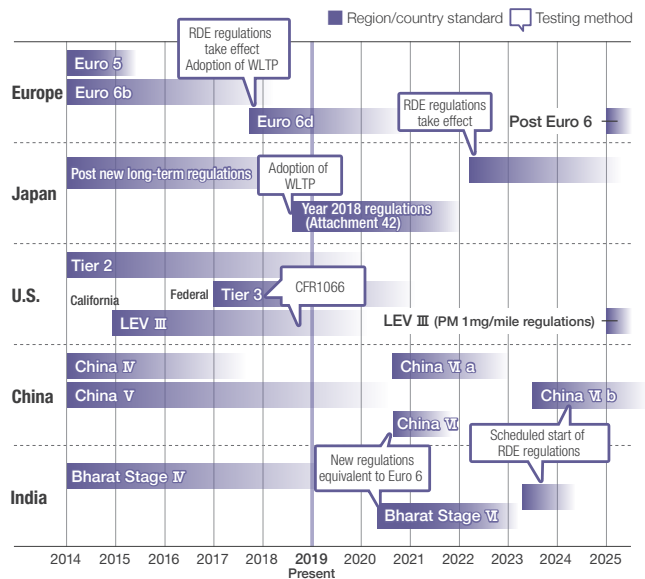
### 01 Inauguration of CELL 0, an evaluation and testing facility for electric vehicle batteries and fuel cells



#### Our approach to next-generation mobility development: Test in the Loop™

At the CELL 0 facility established within HORIBA BIWAKO E-HARBOR, Biwako Factory, we are able to evaluate and test batteries and fuel cells, as well as flexibly connect test systems to electric motors, powertrains, engines, and actual vehicles and models in the adjacent test cell. This enables system optimization and highly accurate performance verification of components and systems at the stages of automotive development and design in an environment replicating that of actual use, to support efficient development of electrified vehicles.

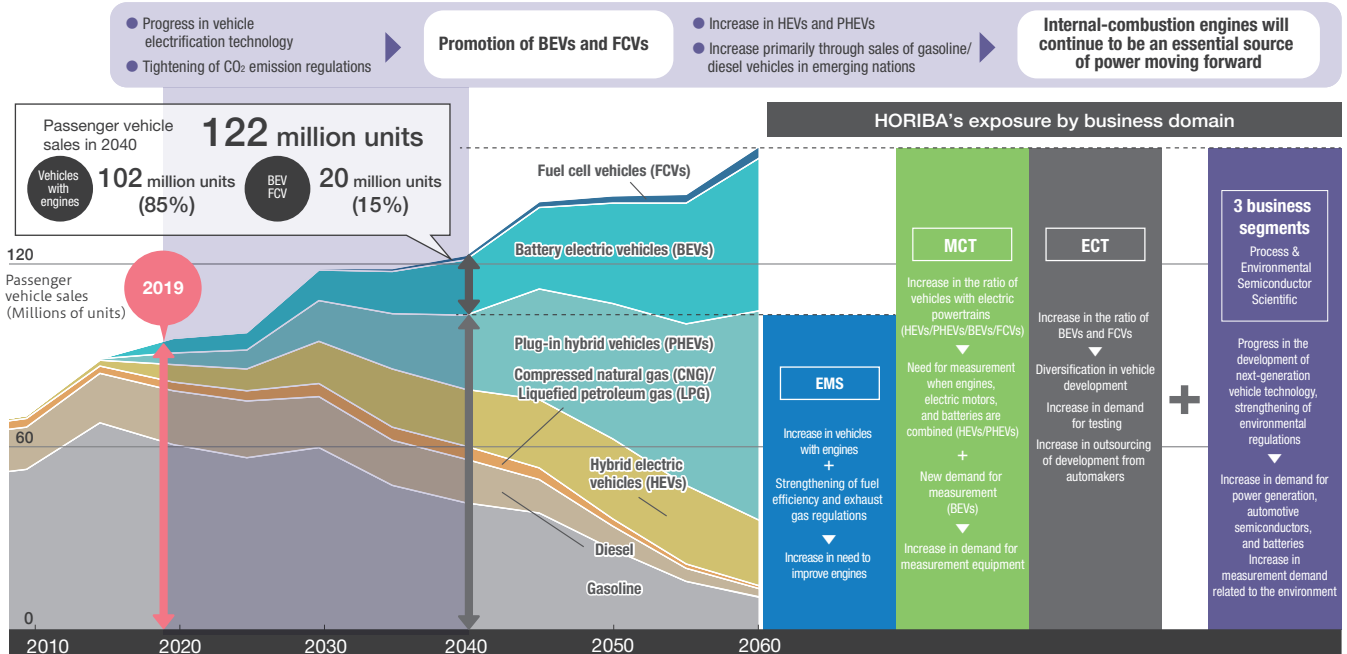
### 02 Progression of emission standards by region/country



Sources: Graph by HORIBA based on materials of the Ministry of Economy, Trade and Industry; Ministry of Land, Infrastructure, Transport and Tourism; Japan Automotive Manufacturers Association Inc.; and others

### 03 Market forecasts of vehicles, by power source\*

\* Modified by HORIBA based on IEA data from Energy Technology Perspectives 2017 © OECD/IEA 2017. License: www.iea.org/t&c. It provides a long-term global scenario to limit the rise in global temperature to well below two degrees Celsius (2°C), as set out in the Paris Agreement.





# Global Environment x Measurement



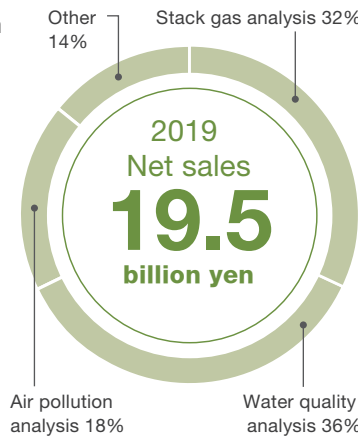
## Process & Environmental Instruments & Systems

### 2019 results

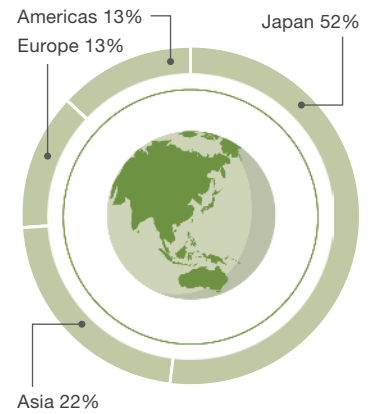
- Increase in sales of water quality analyzers in Japan
- Decrease in operating income due to increase in R&D expenses, etc.

Increased sales of water quality analyzers in Japan and air pollution analyzers in Europe, among other factors, led to increased sales. Operating income declined due to factors including an increase in R&D expenses. In 2019, in response to the strengthening of environmental regulations targeting ships, we began sales of water quality monitors for ship exhaust emissions scrubbers and worked to capture new markets.

#### ► Sales breakdown



#### ► Sales by region



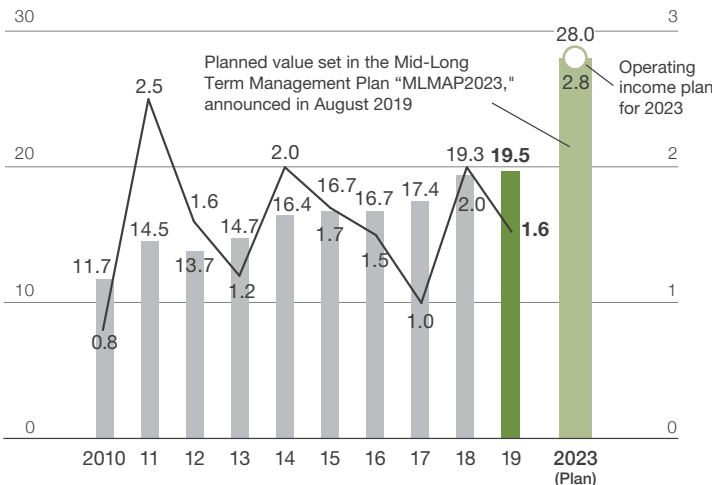
### Outlook

### Medium-term market trends

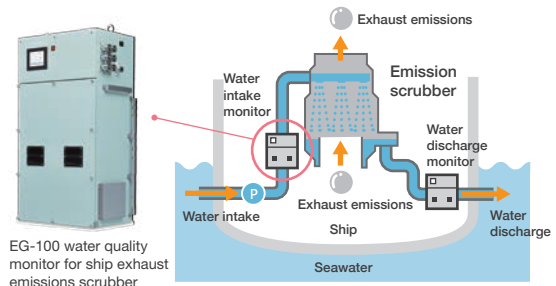
The Paris Agreement on controlling climate change and the Sustainable Development Goals (SDGs) were adopted in 2015. Awareness of environmental conservation is growing on a global scale. Emerging countries are facing requirements to comply with regulations and environmental improvement, and strong demand is anticipated. In developed countries that have mature environmental regulations, there is potential for product replacement demand as well as for growth in the field of manufacturing and production process improvements aimed at improvement of quality and economic efficiency. HORIBA will meet the diverse demand brought about by changes in the growth phases of society.

#### ► Net sales and operating income (Billions of yen)

■ Net sales — Operating income (left) — Operating income plan for 2023



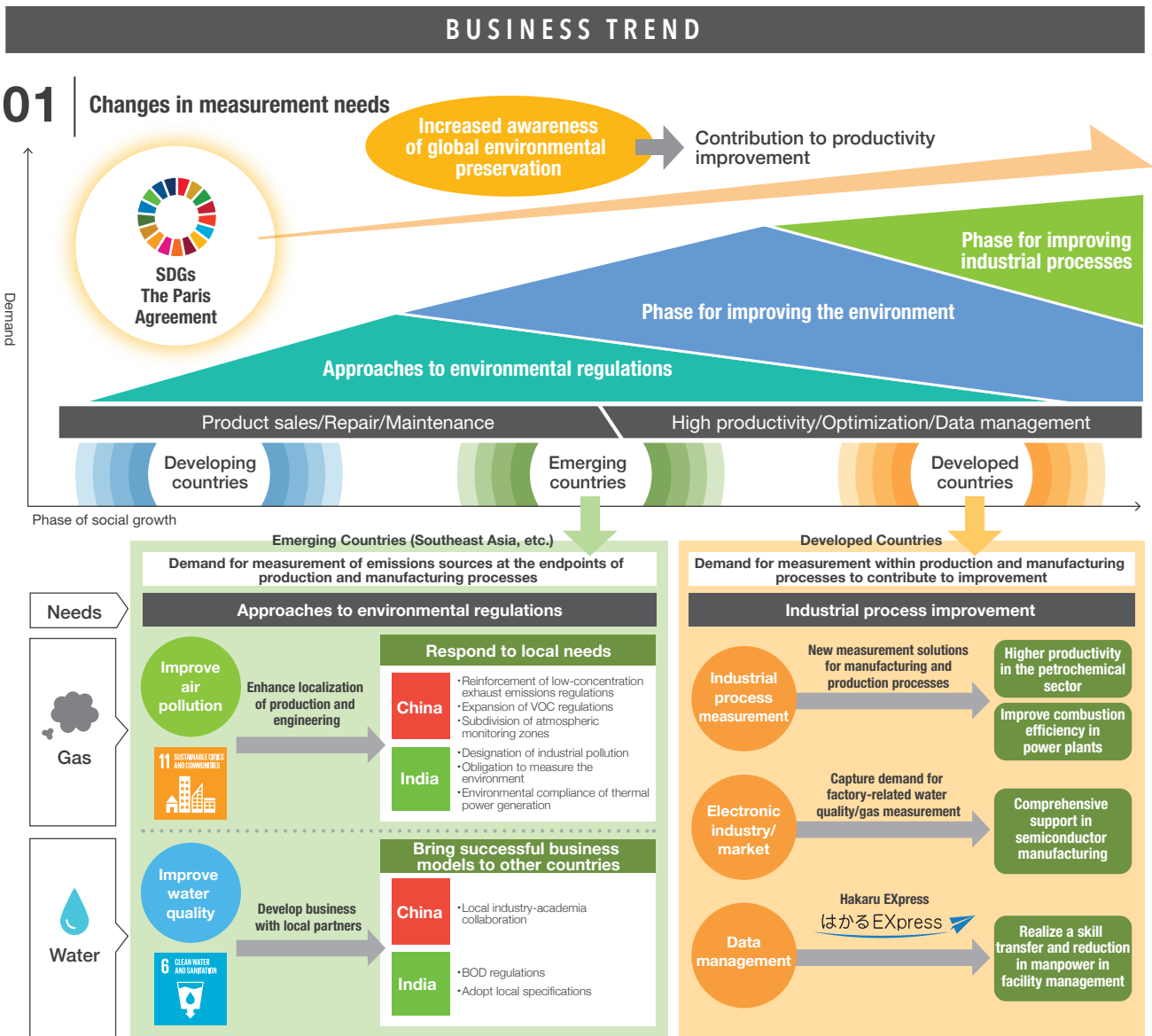
#### Water quality monitor to meet ship exhaust emissions regulations



Exhaust emissions-related regulations have been extended to oceangoing vessels, and environmental regulations concerning sulfur concentration in ship fuel oil are being tightened. Scrubbers used to clean exhaust emissions are increasingly being retrofitted to existing engines. HORIBA offers water quality monitors that measure water intake and discharge in scrubbers. We will continue contributing to society through measurement technologies that protect the global environment.

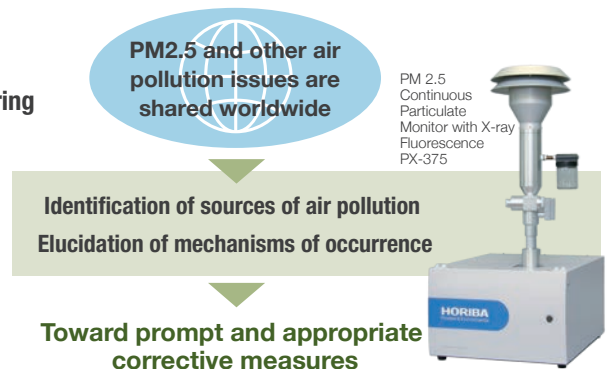
# HORIBA helps develop measurement technology for global environmental preservation, and production and quality management processes

We supply a broad range of analysis and measurement instruments for analyzing air pollution, water quality, and soil quality. We play an important role in gas measurement and monitoring of industrial wastewater in the energy and heavy industries such as electric power, steel, and chemical industries; purified water management for medical and semiconductor use; and water quality monitoring and control for food, as well as cosmetics fields. In essence, HORIBA's analytical and measurement technology contributes to leading technological innovation, which supports public safety, security, and health in addition to global environmental preservation. This also means that we help achieve sustainable development, as advocated by the Sustainable Development Goals (SDGs).



## 02 Gas measurement: complying with globally-expanding environmental regulations through air pollution monitoring

Enacting fundamental measures to deal with air pollution problems, such as the globally widespread issue of fine particulate matter (PM2.5), is possible only by clarifying the mechanisms of occurrence. Our PX-375 Continuous Particulate Monitor with X-ray Fluorescence is able to simultaneously analyze constituent elements and measure the mass concentration of PM2.5. It is used in air pollution monitoring in both emerging and developing countries.





# Health x Measurement



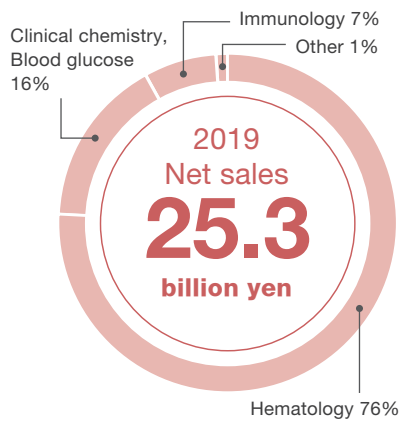
## Medical-Diagnostic Instruments & Systems

### 2019 results

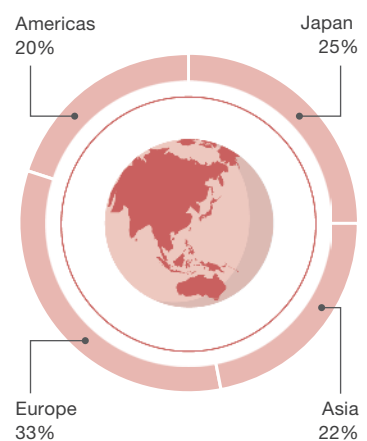
#### Robust sales in the private practitioner market in Japan

Although sales grew in the private practitioner market in Japan, sales declined overall due to weakening of the yen which led to a decline in yen-denominated net sales. Operating income declined due to factors including an increase in R&D expenses. In 2019, we worked to expand our product lineup in the domestic private practitioner market and to build a sales promotion structure for the hospital market.

#### Sales breakdown



#### Sales by region



2019 Net sales **25.3** billion yen

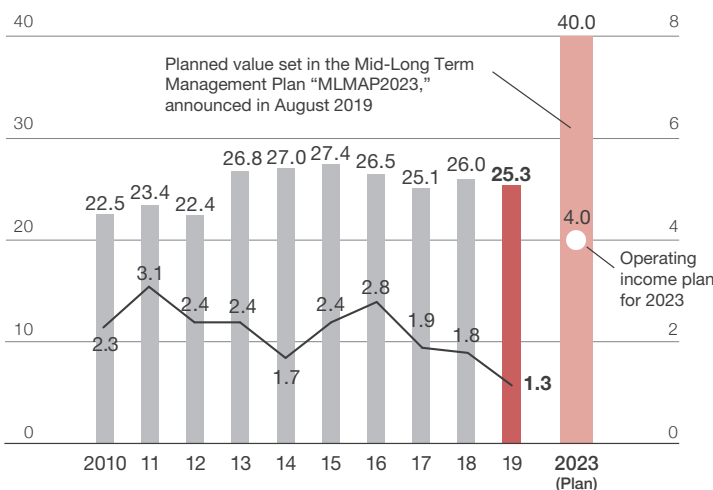
### Outlook

### Medium-term market trends

Global population is rising mainly in emerging countries and healthcare costs are generally on a rise. In developed countries, there is an increasing demand for high-precision, efficient medical devices, so as to realize more efficient medical services. Moreover, in Japan and other developed countries, medical cost control and preventive medicine initiatives are moving forward in response to the aging of society. There is a centralization of medical treatment at specialized hospitals and at testing centers that collect large numbers of test specimens, as well as decentralization occurring through regional medical treatment. Needs are increasing in each of these directions, and a bipolar division of testing is expected to advance.

#### Net sales and operating income (Billions of yen)

■ Net sales (left) — Operating income (right)



#### Contributing to the improvement of efficiency at sites for medical care through the use of IT

##### For small- and medium-sized hematology analyzers (private practitioners)

##### Stable operation of equipment

- Predictive maintenance support
- Maintenance



##### For large-sized hematology analyzers

##### Business streamlining

- Electronic medical records
- Data linkage



##### Improvement of testing efficiency

- Measurement data management
- Automation of result verification



At medical treatment sites, efficiency improvements are moving forward in terms of both testing, which measures physical capabilities, and diagnostics, which determines the state of health and state of a disease. HORIBA offers domestic private practitioners an electronic medical record collaboration system and a maintenance management system for predictive maintenance that avoids stoppages in equipment usage. In addition, for hospitals introducing large-sized hematology analyzers, we provide applications that support data management, including business process improvement and testing quality. These contribute to efficiency in both testing and diagnostics.



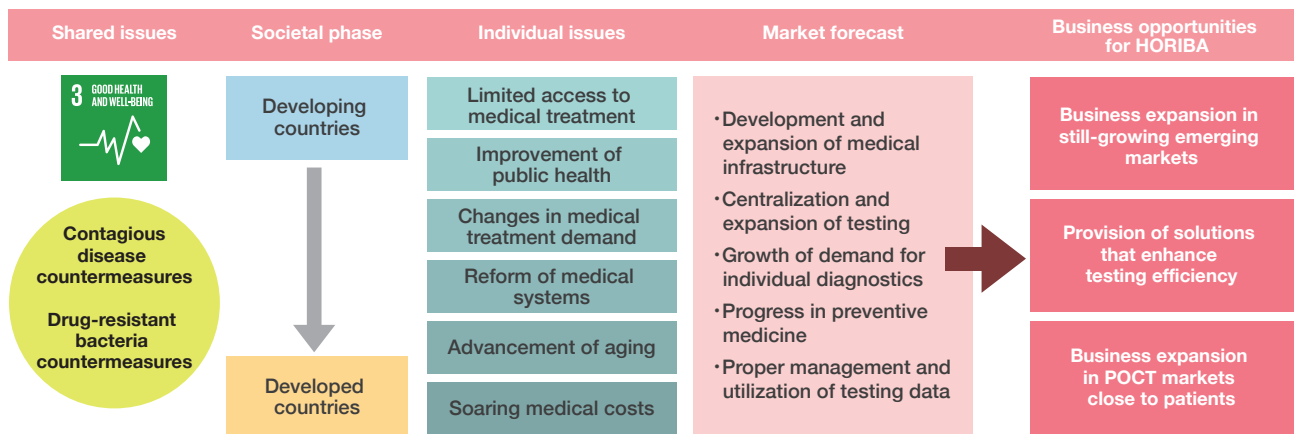
# Contributing to a healthy life through in-vitro diagnostic systems

In the global market of in-vitro diagnostic systems; HORIBA provides instruments and reagents for blood sample testing throughout the world. The segment's business model is based on recurring revenues generated from sales of reagents. We aim to ensure stable earnings by expanding our installed base of medical diagnostic instruments. In particular, HORIBA's strength is in small and medium-sized hematology analyzers for point of care testing (POCT)\* in clinics and satellites in hospitals such as operating rooms, as well as small-to medium-sized hospitals and commercial laboratories.

\* Point of Care Testing (POCT): A general term for testing performed at locations close to patients, such as private practitioner offices, diagnostic clinics, hospital wings, and outpatient clinics.

## BUSINESS TREND

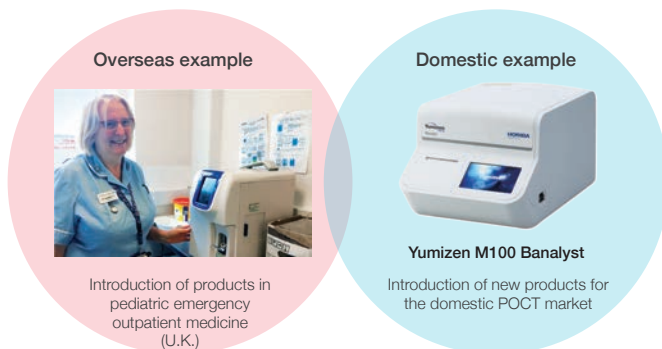
### 01 Societal issues and business opportunities in the in-vitro diagnostic systems market



Medical infrastructure will expand and change in line with the development of society. In emerging countries, first, new medical infrastructure will be introduced, and it will gradually expand. In developed countries, the testing market is undergoing a bipolar division, with the centralization of testing for greater per-unit efficiency advancing against a backdrop of medical cost reductions occurring at the same time as decentralization and localization of testing for rapid diagnostics and routine handling of chronic illnesses. Patients' needs are diversifying as well, and the provision of medical care tailored to individual patients is expected to progress.

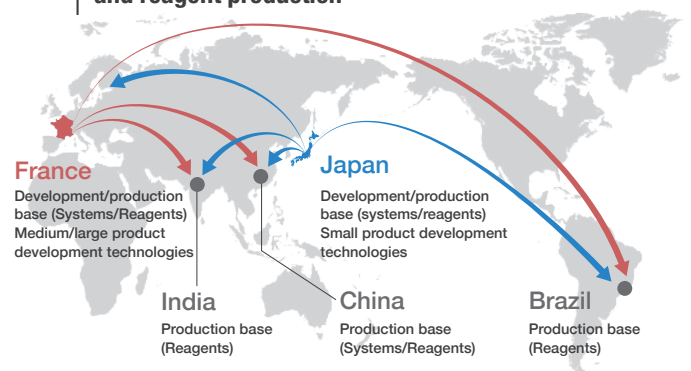
HORIBA boasts strengths in private practitioner-oriented testing equipment used close to patients, while also providing solutions for improving efficiency with large-sized hematology analyzers. We will continue to offer products and services that help resolve issues in society.

### 02 Provision of highly reliable rapid diagnostics

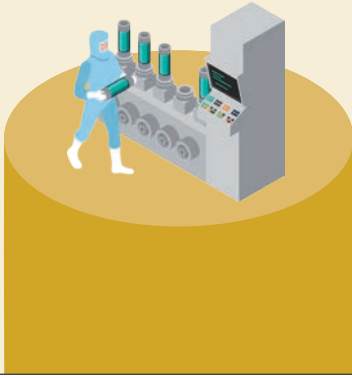


The speed and reliability of testing are both important in improving POCT diagnostic efficiency. HORIBA sells systems that can simultaneously measure both blood cell count and C-Reactive Protein (CRP), a protein produced by the body in response to internal inflammation, thereby achieving more rapid and reliable diagnostics. We will continue to offer unique technologies to bring about a society in which people enjoy healthy lives.

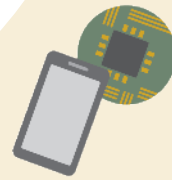
### 03 A global network for product development and reagent production



With development bases in both France and Japan, HORIBA supplies products globally. We have built a reagent production system that allows us to stably supply test reagents, which are consumables, in regions of large-volume use. We will accelerate new product development to meet market needs and, leveraging our global network, will expand our business in emerging countries and their growing markets.



# Semiconductor Industry x Measurement



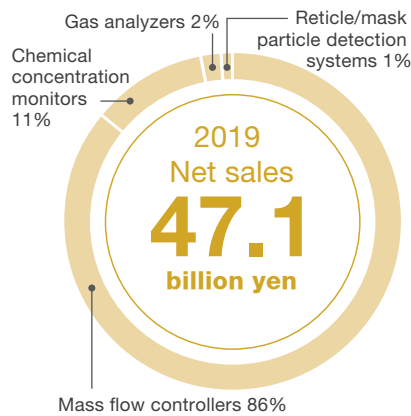
## Semiconductor Instruments & Systems

### 2019 results

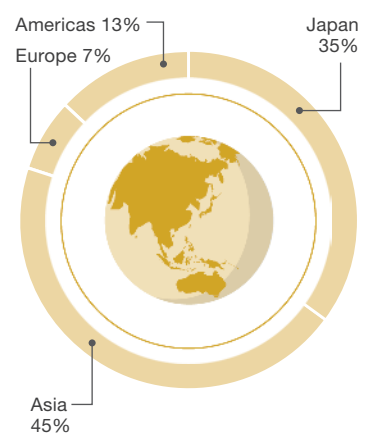
#### ■ Modest recovery from the end of the year despite semiconductor manufacturers' continued investment adjustment

Capital spending by semiconductor manufacturers on advanced processes for logic IC manufacturing remained robust. However, capital spending related to memory IC continued in an adjustment phase. While sales to manufacturers of semiconductor manufacturing equipment recovered slightly over the end of the year, sales and operating income declined for the full year. In 2019, we undertook improvements in factory production processes, such as automation of some processes and production line improvement aimed at the market coming back, and addressed materials costs through finding new suppliers.

#### ▶ Sales breakdown



#### ▶ Sales by region



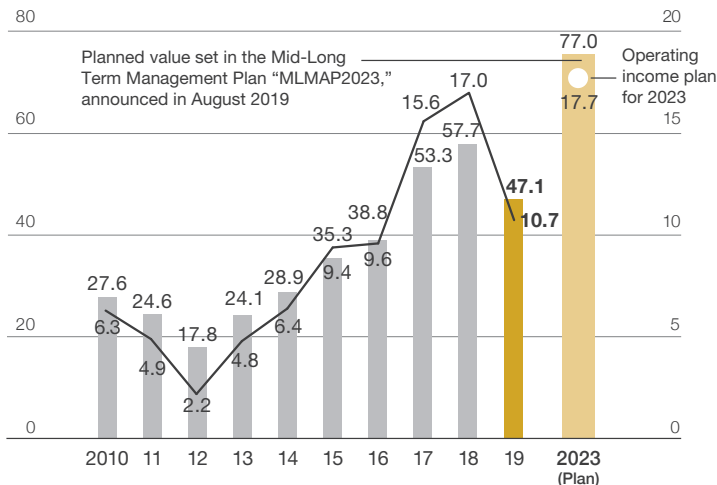
### Outlook

### Medium-term market trends

An increase in processing volume at data centers and penetration of Artificial Intelligence (AI) and the Internet of Things (IoT) have significantly boosted demand for semiconductors and the range of their use. In addition, advances in technology and production process, such as miniaturization and 3D-integration semiconductor production processes, have significantly impacted demand for semiconductor production equipment. The latest semiconductor manufacturing processes require advanced gas flow control, and demand for highly precise flow control is expected to continue.

#### ▶ Net sales and operating income (Billions of yen)

■ Net sales (left) — Operating income (right)



#### Mass flow controller applications



Semiconductor manufacturing processes

- Dry etching
- CVD/ALD
- Sputtering

In the semiconductor manufacturing process, mass flow controllers regulate gas and liquid supply lines with great precision. These devices are used as components in semiconductor manufacturing equipment, in processes such as deposition, etching, and heat treatment. As etchers become more numerous on manufacturing lines due to increasing 3D-integration and miniaturization in memory ICs and logic ICs, we have expanded sales in response to demand for space-saving mass flow controllers with accurate and fast responsiveness. We will continue supplying state-of-the-art key components and making contributions to the semiconductor industry.

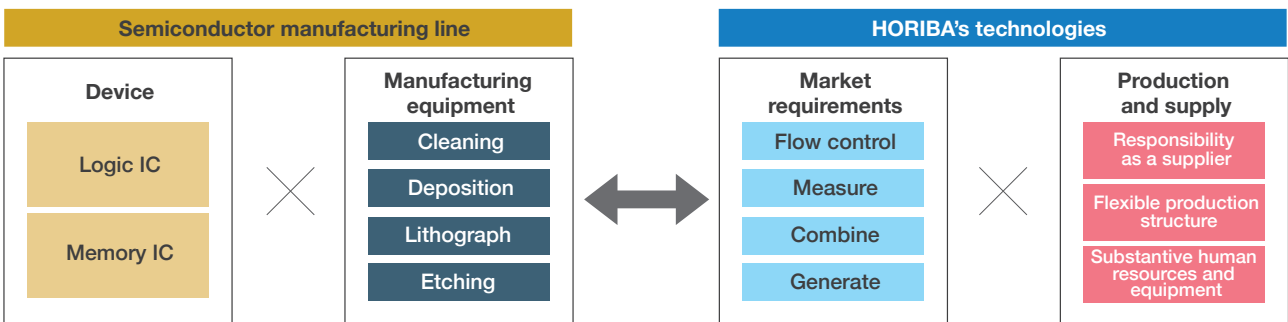
# Contributing to yield enhancement and technology innovation in semiconductor manufacturing processes with HORIBA's flow control and measurement technologies

Mass flow controllers, used in the manufacturing process (front-end) of devices such as semiconductors, are a major product of the Semiconductor Instruments & Systems segment. We have a leading global market share\*, largely on the strength of our flow control technology that enables yield enhancement and miniaturization in the semiconductor manufacturing process. We will provide solutions for responding to technological advances in the semiconductor manufacturing process, in addition to measuring equipment such as chemical concentration monitors, and establish an important position in the growing semiconductor industry.

\* HORIBA's estimates

## BUSINESS TREND

### 01 Matrix of the semiconductor manufacturing process market and HORIBA's technologies

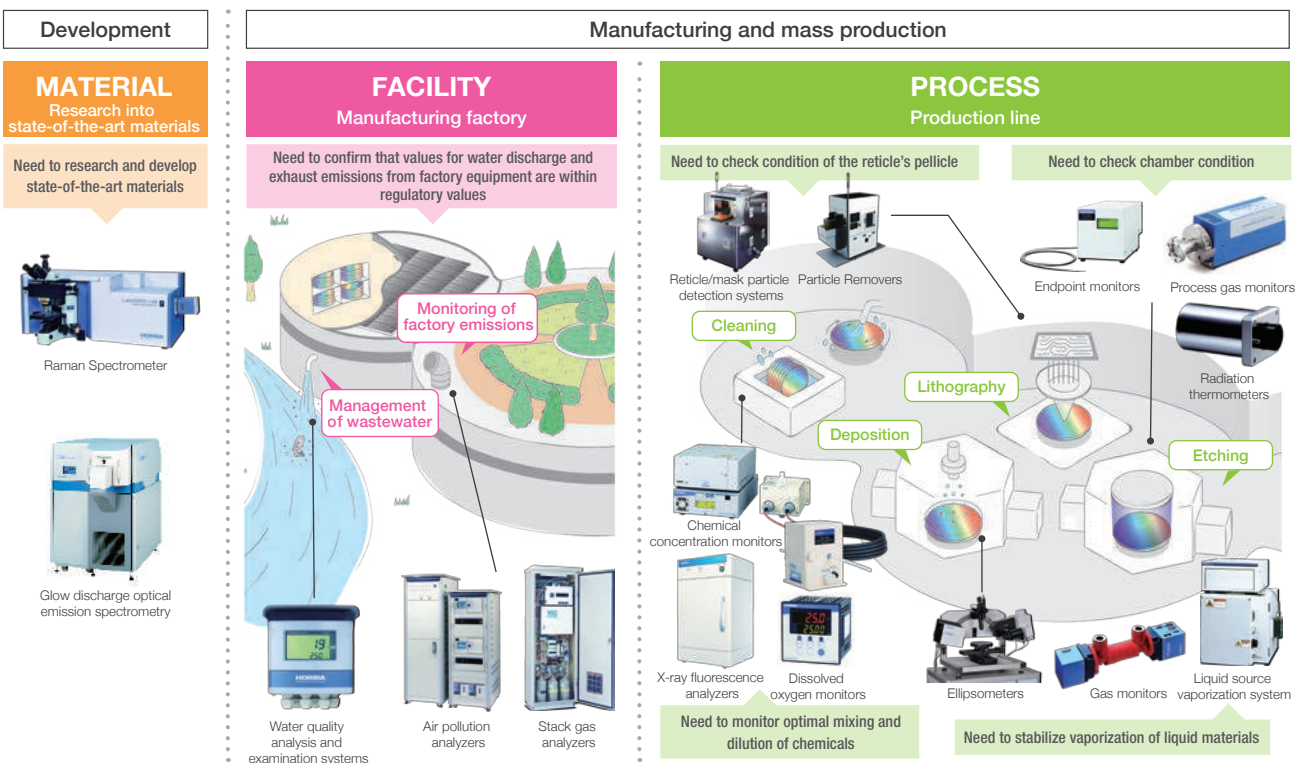


The growing use of telecommunications by individuals and the spread of the IoT have generated enormous volumes of data, dramatically increasing the demand for information storage and the need for analysis such as machine learning. Against the backdrop of this robust final demand, production volume of the logic ICs needed for information processing and the memory ICs needed for information storage has grown, and the semiconductor manufacturing equipment market continues to expand.

As a supplier of key components for semiconductor manufacturing equipment, HORIBA believes that our mission is to hone our technologies and provide stable supply, while responding to technological advances in semiconductor manufacturing processes such as miniaturization and 3D-integration.

In addition, as a data generator that provides analytical and measurement equipment, we believe that we can contribute to more efficient failure prediction in manufacturing processes by creating the data needed for machine learning.

### 02 The demand environment in the semiconductor industry





# R&D x Measurement



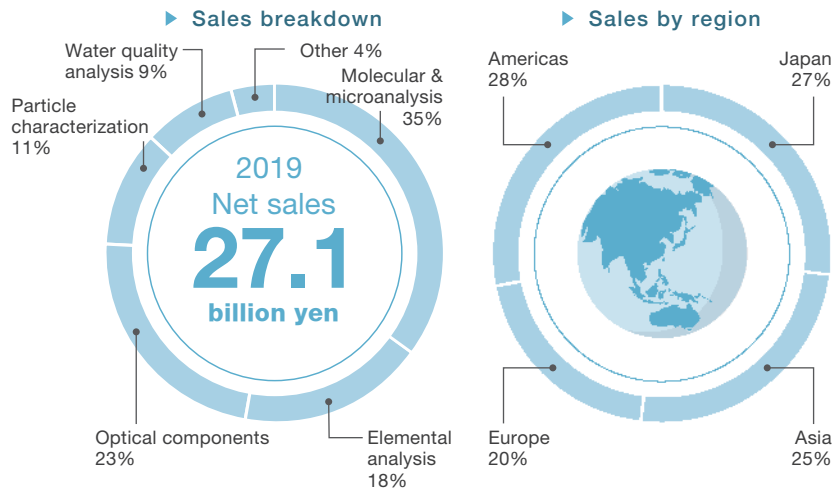
## Scientific Instruments & Systems

### 2019 results

- Decline in sales in Asia
- Increase in sales of high value-added products tailored to customers

While sales of new products increased in the Americas, sales to Asia and Japan declined, resulting in an overall decline in sales. Operating income increased due to an increase in sales of high value-added products tailored to customers' needs.

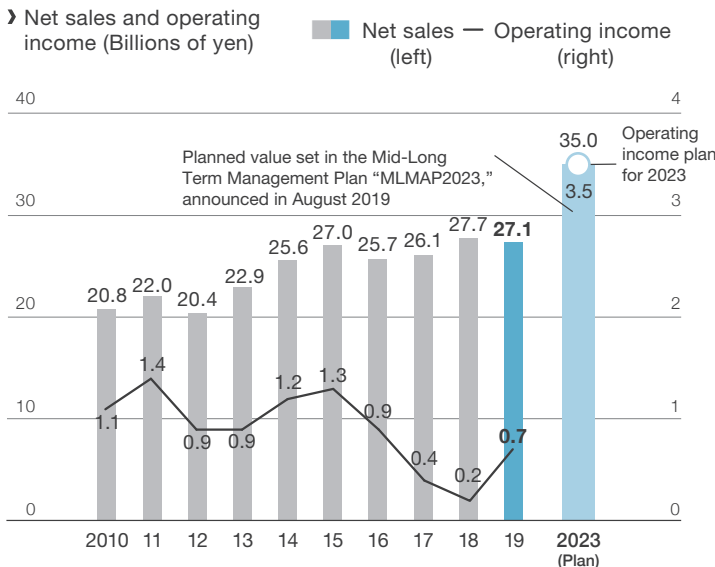
In 2019, as Jobin Yvon SAS (now HORIBA FRANCE SAS) celebrated the 200th anniversary of its founding, we worked on promotions to make further inroads with this historic brand.



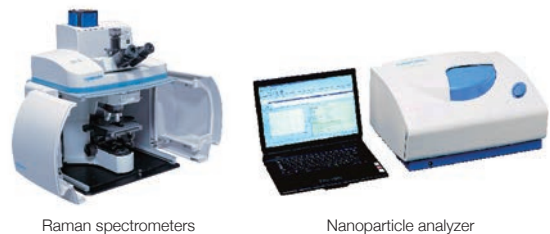
### Outlook

### Medium-term market trends

Amid global demand for solutions to societal issues, expectations are growing for state-of-the-art technological R&D in fields such as advanced materials, biotechnology, energy, semiconductors, and water. As IoT and machine learning evolve, it is expected that demand will grow for more accurate and precise measurement and analytical data to improve efficiency in data-dependent industrial processes. State-of-the-art R&D is progressing through collaboration across organizations, and the open innovation movement is accelerating within industry, academia, and government. We expect that measurement and analytical equipment manufacturers will play an ever-growing role in this.



### Analysis of new and other materials



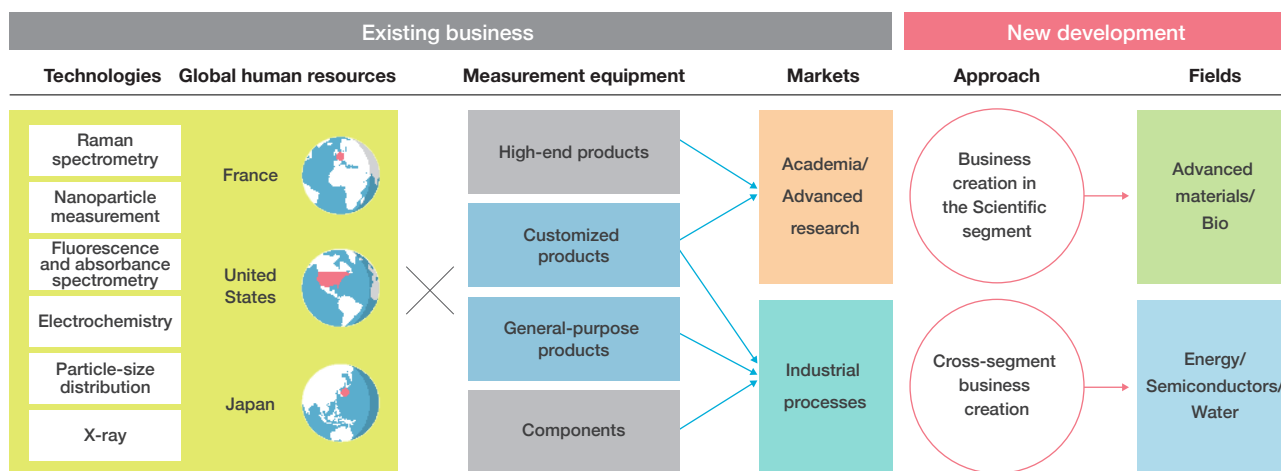
Technological changes in the fields of energy and mobility, along with trends such as higher performance in semiconductors, are increasing the need for measurement and analysis, such as the analysis and evaluation of materials, including new materials. Our Scientific segment will collaborate with other segments to bring its measurement and analysis technologies to markets.

## Supporting HORIBA's core technology and generating the leading edge of scientific technology

HORIBA began its history with the R&D leading to Japan's first glass electrode pH meter. HORIBA's analyzers contribute to R&D activities at the frontline of scientific technology exploring the unknown frontier of science by analyzing gases with infrared light, elements with x-rays, and conducting Raman spectroscopy and fluorescent spectroscopy with spectrographic technology. Also, HORIBA's analyzers are widely used in fields such as basic research, forensic science, archaeological surveys, foreign object examination and defect analysis for pharmaceuticals, foods, and electronic components. Additionally, the Scientific Instruments & Systems segment develops basic analytical methods and core measurement technologies, which play key roles in providing new technologies to the four other business segments of HORIBA.

### BUSINESS TREND

## 01 | The Scientific Instruments & Systems business model



### > Analyzers for life sciences

Transmission Raman Spectrometer	Micro-laser Raman Spectrometer	Nanoparticle Tracking Analysis System	Fluorescence and Absorbance Spectrometer
<ul style="list-style-type: none"> <li>Encapsulated drug component quantity analysis</li> </ul>	<ul style="list-style-type: none"> <li>Label-free analysis of cell state</li> </ul>	<ul style="list-style-type: none"> <li>Exosome* particle diameter distribution analysis</li> </ul>	<ul style="list-style-type: none"> <li>Intermolecular interaction analysis</li> <li>Simultaneous measurement of absorbance and fluorescence</li> </ul>
Parkinson's disease drug analysis	Evaluation of differentiation state of ES cells, IPS cells, etc.	Evaluation of cohesive quality of vaccine/antibody drugs	Effective in quality control of vaccines

\*Exosome: A granular substance of 50-150nm in diameter, secreted by various cells

## 02 | Optical equipment manufacturer Jobin Yvon SAS (now HORIBA FRANCE SAS), which joined the HORIBA group in 1997, celebrated its 200th anniversary in 2019.



Sharing Light and Passion  
200 Years of Optical Innovation



New Product: LabRAM Soleil™, the first multimodal Raman microscope designed for UV-VIS-NIR imaging



The commemorative ceremony was held in November 2019, with 465 participants. Professor Gérard Mourou, recipient of the 2018 Nobel Prize in Physics, delivered the keynote speech.

# HORIBA is maximizing corporate value through investments with long term perspective and asset efficiency improvement initiatives

## Masao Okawa

Managing Director and General Manager of General Administration Division

### Profile

He joined HORIBA, Ltd. in 2017. He had worked for the Bank of Japan since 1988 and accumulated global experience serving in a variety of positions, including at Harvard Law School (LL.M.'94) and at the Bank for International Settlements in Basel, Switzerland, as well as Chief Representative of the office in Frankfurt, Germany and Branch Manager of the Kyoto Branch of the Bank of Japan. Taking advantage of insights on finance, governance, and global experience at the Bank of Japan, he is currently engaged in forming a global financial strategy and enhancing compliance and corporate governance as HORIBA's General Manager of General Administration Division.



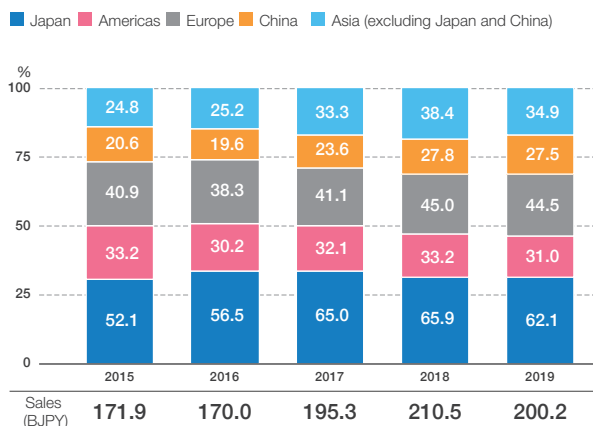
## Results of HORIBA Group – Looking back on the year ended December 31, 2019

In fiscal 2019, net sales decreased 10.3 billion yen to 200.2 billion yen (down 4.9% year-on-year). Sales decreased in Japan and Asia, mainly due to semiconductor manufacturers' capital expenditure adjustments. On the profit side, operating profit decreased 7.9 billion yen to 20.9 billion yen (down 27.5% year-on-year), due to a decrease of sales and a change in the geographical sales mix in the Automotive Test Systems segment and an increase in R&D expenses in new fields. In accordance with these results, we declared a dividend of 130 yen per share as shareholder returns for the fiscal year ended December 31, 2019. HORIBA has adopted a policy of setting its total shareholder return ratio, which includes dividends and share buybacks, to about 30% of consolidated net income attributable to owners of parent. Moving forward, we intend to raise corporate value through business growth and continuously provide returns to all of our owners (shareholders).

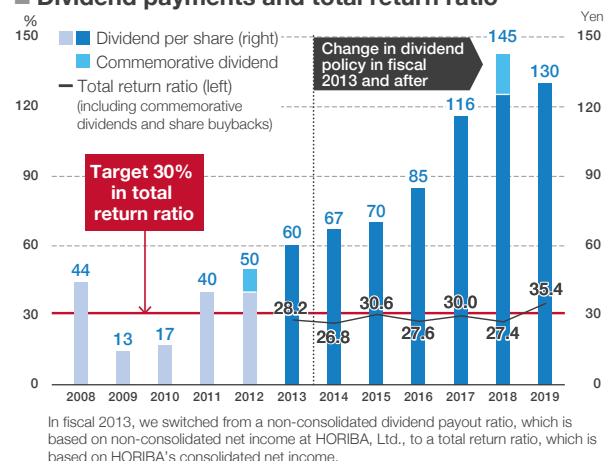
## HORIBA's growth cycle

HORIBA was established as an R&D-oriented start-up company and has grown by improving its technological capabilities and providing products that meet the needs of society. We make good use of the wide variety of technologies we have, promote balanced management under a portfolio with our five business segments, and generate profits by continuing to sell high-value-added products. Profits which are gained from business activities are returned to our owners (shareholders), and, at the same time, they are used for R&D investment to generate seeds for future growth. My role is to provide support in such a way that the cycle of growing the business, which consists of generating profits from business activities, turning those profits into investments, and controlling cash flows, turns appropriately.

### Geographical sales mix



### Dividend payments and total return ratio



## The role of the our finance function in MLMAP2023

The social environment has changed drastically, and accordingly the role that the market expects HORIBA to play has been changing. Under the Mid-Long Term Management Plan, MLMAP2023, we promote the entry into new business areas and transform our business structures by managing business resources properly. At the same time, our finance function, which supports business activities, needs new challenges.

The first challenge is to improve asset efficiency. We promote management that emphasizes asset efficiency by using HORIBA Premium Value (more on page 47), in order to invest aggressively to achieve strategic growth.

The second challenge is to strengthen our global finance structure. Business globalization has advanced, particularly in emerging countries. We strengthen the finance structure that supports stable business activities even in drastically changing business environments. Also, we minimize financial risks in emerging countries by creating organizations rooted in the field.

The third challenge is to support a change of the business model. The data business which we will expand, goes hand in hand with the product life cycle, and it will be a different field from our existing business of providing high value-added hardware, such as analysis and measurement equipment. We support the establishment of a business model that is accepted by society and enables sustainable growth.

### Basic approach to the financial strategy

#### Point 1

#### Maintain high ROE

As stated in our MLMAP2023, HORIBA aims to achieve ROE at 10% or more in 2023. ROE is one of our most important management metrics.

#### Point 2

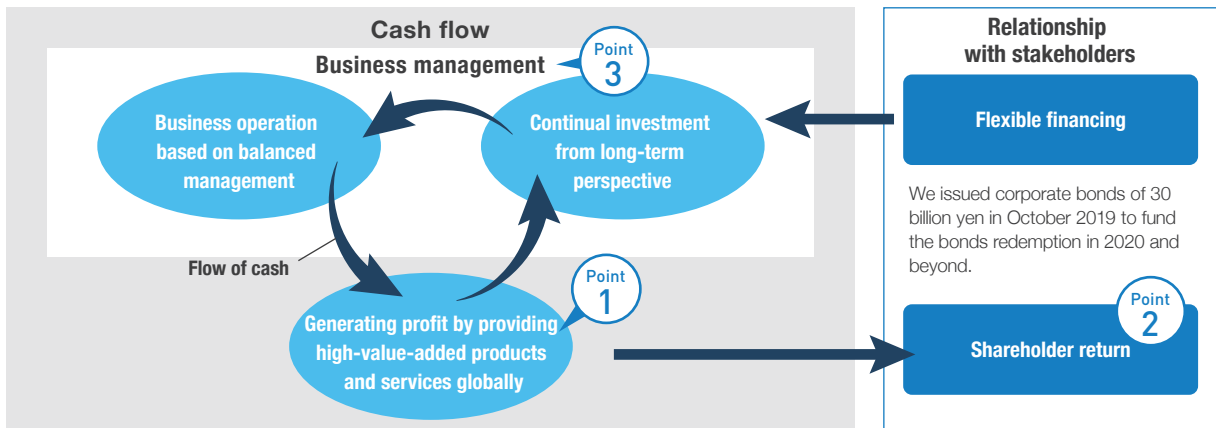
#### Link shareholder returns to earnings growth

We set total returns (the combination of dividend payments and share buybacks) to shareholders as approximately 30% of consolidated net income. This payout ratio reflects due consideration given to ensuring stable management and retaining earnings as capital for aggressive business development.

#### Point 3

#### Improve capital efficiency to maximize corporate value

We conduct proactive investment, which is expected to result in creating future corporate value. Additionally, each group company and each business segment sets and manages its own capital efficiency targets to maximize HORIBA's corporate value.



### Approach to continual investing

#### Investment in R&D

We invest approximately 10% of sales in R&D, and continue this policy even in recessions, when many companies reduce their investment. This has allowed us to increase market share when demand recovered. We believe that continuous R&D investment is the source of our competitiveness.

#### Capital expenditure

Regardless of short-term declines in asset efficiency, we invest for the future from a medium-term perspective. While high-level investment has continued in order to respond to changes in the market environment, we aim to maximize return on investment in several years, taking into account the asset turnover ratio and cash flow for each investment project.

#### Approach to M&A

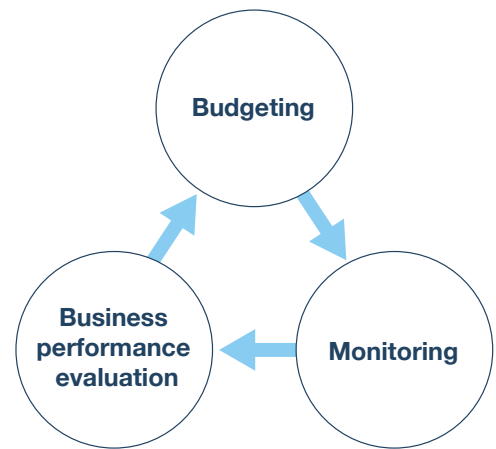
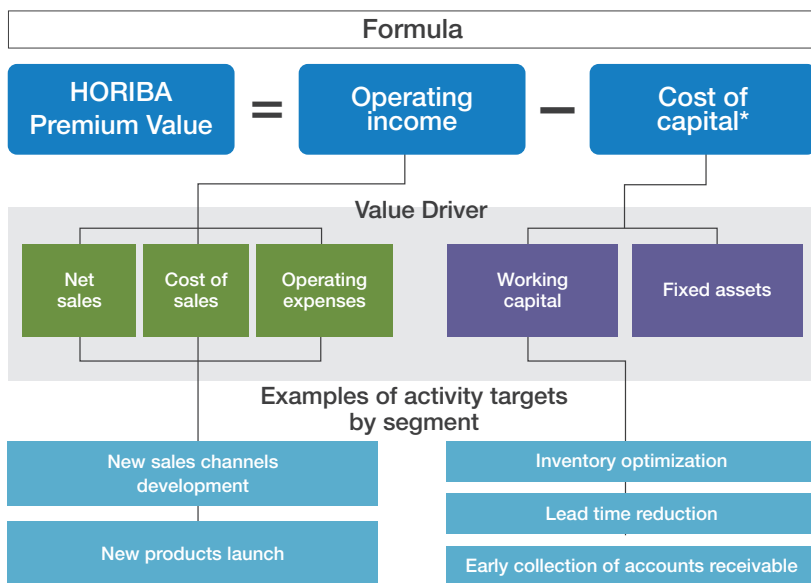
From a long-term perspective, we have made friendly acquisitions of corporations that have unique technologies that complement or have potential synergies with HORIBA's technology portfolio. Our legal, intellectual property, and finance departments have been actively involved in the due diligence process or so.

## HORIBA Premium Value

It has been three years since the introduction of HORIBA Premium Value, an original KPI used in improving asset efficiency. This HORIBA Premium Value has been incorporated into KPI processes such as budgeting, monitoring, and evaluating business performance, and has been proactively supported by employees through personnel training. The PDCA cycle at each business level has been steadily implemented, with concrete cases of improvement resulting. HORIBA will accelerate these processes.

On the other hand, we are ready to invest so as to respond to the drastic changes in the external environment. Even if the HORIBA Premium Value decreases in the short term, we aim to increase HORIBA Premium Value in the long-term. We put priority on long-term sustainable developments and, as such, the introduction of HORIBA Premium Value will not hamper investment.

### Tree of indices of asset efficiency



\* Invested capital × In-house rate of cost of capital. We apply an original benchmark that is based on HORIBA's WACC and comparable with operating income in connection with our cost of a capital target. Currently, evaluation is conducted by applying the same rate to all regions and businesses and monitoring degrees of improvement.

### CASE: Raising awareness through HORIBA Premium Value

HORIBA has promoted business improvement activities through the BlackJack Project (more on page 32). While the concept of HORIBA Premium Value has penetrated into employee perspective, activities that consider the financial statement's balance sheet have been increasing.

For example, by thoroughly monitoring material levels and reviewing proper inventory levels with statistical methods, we successfully shortened inventory turnover days at HORIBA Ltd. Furthermore in manufacturing activities, there have been cases of shortened lead times and reduced costs through process improvements.

We will apply these successes to group companies and aim to improve profitability and optimize inventories.



Instill HORIBA Premium Value in employees through the in-house financial education

### My thoughts on "Joy and Fun"

I enjoy watching professional American football games. The game is exciting to watch; creative strategies are used, while tactics are selected from various options, and these strategies and tactics are executed as one team. At the same time, each member of the team responds and adjusts flexibly to the opponent's strategies and tactics. At HORIBA, every employee contributes with motivation, and I always work with passion and flexibility as a member of HORIBA. I would be happy to look back at these things with "Joy and Fun."





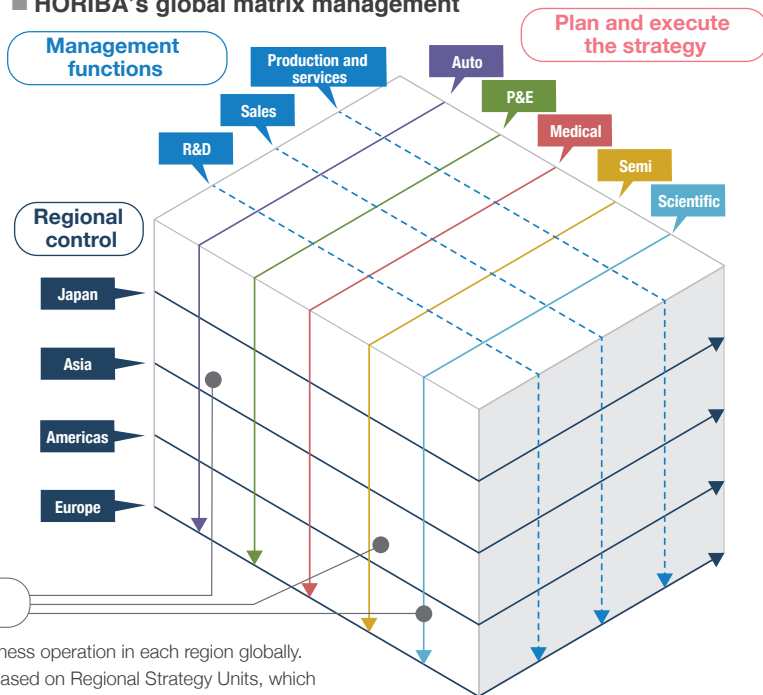
## Unique global operation

HORIBA expands its five business segments globally, and the front lines of these organizations operate as small units. Therefore, we develop organizations that can operate independently, by building organizations rooted in the field. On the other hand, we also need a system in the headquarters that gathers on-site information and provides feedback. HORIBA holds global meetings (Global Strategy Meeting/Global Budget Meeting) where the management teams of group companies come together once every six months. Through these meetings, we have succeeded in creating one company spirit as a group, while respecting local autonomy. HORIBA has developed through M&A. HORIBA's finance group, which also expands globally, takes a hands-on approach. There are approximately 220 people in finance around the world, and all CFOs of the group are hired from local human resources. The finance group holds an International Controllers' Meeting (ICM), which is like the top management meeting, a global meeting for managers of finance to come together. At the 2019 ICM, we discussed measures to improve investment efficiency. We steadily share group policies by enhancing face-to-face communication while building an organization that benefits from various local contributions. In order to achieve MLMAP2023, which supports the transformation of the business model, we will make best efforts to strengthen corporate structure, to enable finance to support the business, and to further enhance corporate value.



**International Controllers' Meeting:**  
The CFOs of each group company get together to discuss financial issues and share necessary and updated information.

### ■ HORIBA's global matrix management



**Promote global operation**

HORIBA has promoted autonomy in business operation in each region globally. We plan and execute business strategy based on Regional Strategy Units, which are subdivisions of business segments and regions. Global meetings at both the management level and the functional level are held to create one company spirit.

## Emphasize cash flow

“Cash is King. Cash Flow is Queen!” This is the phrase that you often hear when facing a crisis. The global expansion of COVID-19 and the accompanying recession have turned the world economy to crisis mode. Fortunately, HORIBA issued corporate bonds for the first time in six years in 2019, and has secured cash liquidity. However, cash flow is necessary, not only to respond to this economic crisis, but also to continue investment during and after it. The global finance group has been responding to issues flexibly by using communication opportunities such as the ICM, which was held online this year, and supports medium-term business growth by putting priority on cash flow.

# Corporate governance

## Basic Policy on Corporate Governance

Based on the corporate philosophy of “Open and Fair,” HORIBA has pledged to (1) establish an organizational structure that promptly responds to changes in the business environment, (2) improve its managerial monitoring of performance, and (3) enhance compliance-related arrangements. These objectives have the aim of establishing a world-class governance structure. At the same time, we are committed to establishing good relationships with all stakeholders, including owners (shareholders), customers, employees, and local communities. In addition to proper information disclosure, we seek to promote constructive dialogue with our owners, contributing to our sustainable growth and medium- to long-term improvement in corporate value.

Corporate governance structure diagram

**Point 1**  
Choose to be a Corporation with Audit and Supervisory Board

**Point 2**  
We have appointed outside directors since the establishment of the company in 1953.

General Meeting of Shareholders

Appoint/Dismiss

Supervise/Monitor

Internal control

Board of Directors  
Directors: 8

Number who are outside & independent directors: 3 (1 female)

Select/Dismiss Business Execution Instructions

Report

Report

Discuss/Report

Supervise

Representative director

Report

Outside directors

Percentage of outside directors on the Board of Directors



## Evaluation of the Board of Directors' effectiveness

From December 2019 to January 2020, we distributed to all eight directors a questionnaire concerning the Board of Directors' effectiveness and received a response from each of them. The questionnaire had questions regarding the three roles and responsibilities of the Board according to Basic Rule 4 of the Corporate Governance Code, the composition of the Board (number of members, diversity, knowledge, experience, ability, etc.), the number of meetings, the hours of discussion, the items discussed, and the content of discussion. Responses were received from all members of the Board. The result was that the Board judged itself to be effective in its current state. In addition, various opinions were shared concerning the contents of discussions held by the Board of Directors, such as calling for the enhancement of qualitative reporting on business execution and that pre-briefings and opportunities for explaining the background to resolutions to outside directors are ample as well as very effective.

Strengths of HORIBA's Board of Directors

Leadership



Management strategies



Industry knowledge



Global business



Sales and marketing



Technology and R&D



Governance

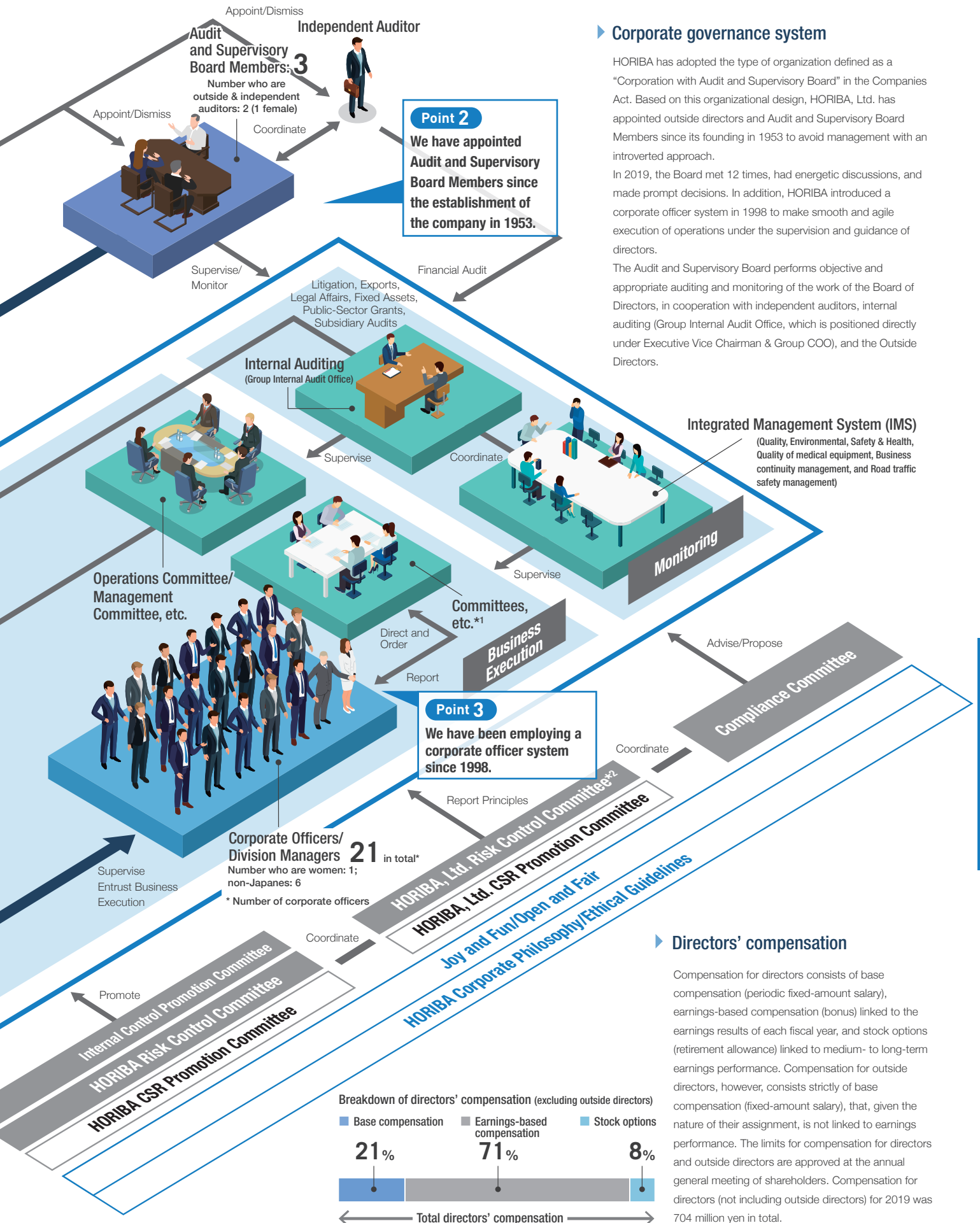


Legal affairs



Finance and accounting





### Corporate governance system

HORIBA has adopted the type of organization defined as a "Corporation with Audit and Supervisory Board" in the Companies Act. Based on this organizational design, HORIBA, Ltd. has appointed outside directors and Audit and Supervisory Board Members since its founding in 1953 to avoid management with an introverted approach.

In 2019, the Board met 12 times, had energetic discussions, and made prompt decisions. In addition, HORIBA introduced a corporate officer system in 1998 to make smooth and agile execution of operations under the supervision and guidance of directors.

The Audit and Supervisory Board performs objective and appropriate auditing and monitoring of the work of the Board of Directors, in cooperation with independent auditors, internal auditing (Group Internal Audit Office, which is positioned directly under Executive Vice Chairman & Group COO), and the Outside Directors.

**Integrated Management System (IMS)**  
(Quality, Environmental, Safety & Health, Quality of medical equipment, Business continuity management, and Road traffic safety management)

**Monitoring**

**Business Execution**  
Direct and Order, Report

**Compliance Committee**  
Advise/Propose

### Directors' compensation

Compensation for directors consists of base compensation (periodic fixed-amount salary), earnings-based compensation (bonus) linked to the earnings results of each fiscal year, and stock options (retirement allowance) linked to medium- to long-term earnings performance. Compensation for outside directors, however, consists strictly of base compensation (fixed-amount salary), that, given the nature of their assignment, is not linked to earnings performance. The limits for compensation for directors and outside directors are approved at the annual general meeting of shareholders. Compensation for directors (not including outside directors) for 2019 was 704 million yen in total.

\*1 Committees, etc.: Refers to conferences and committees established and registered based on the "Regulations Concerning Conferences and Committees," such as the Group Promotion Committee for Management of Public Subsidies, and the Safety and Health Committee.  
\*2 HORIBA, Ltd. Risk Control Committee: Deliberates on issues related to risk management and approves relevant measures.

## ▶ Relationships with owners (shareholders) and investors

### Open general meeting of shareholders

Since its initial stock listing in the second section of the Osaka Securities Exchange in 1971, HORIBA has held the annual general meeting of shareholders on a Saturday so that a large number of owners are able to attend the gathering. An informal gathering event is held afterwards to enable shareholders to talk directly with management. (Due to the impact of the spread of COVID-19, however, this was not possible after the 2020 general meeting of shareholders.)

### The philosophy behind the shares we hold for strategic purposes other than pure investment

HORIBA holds shares from companies that it believes are essential for raising its medium- to long-term corporate value and considers various factors when determining which shares to hold, including the strengthening of business strategies and relationships with business partners and the maintenance of relationships with local communities.

Each year, our Board of Directors comprehensively considers elements associated with share retention, including return and investment amounts, and makes judgments concerning the advisability of continued investment in the same companies. We have established policies for situations in which we determine that a company's shares are inappropriate for retention, employing response measures such as share curtailment, etc.

### Anti-takeover measures

HORIBA has not adopted anti-takeover measures. We reviewed the "Basic policy on the persons to control decision making over the financial and business policies of HORIBA," which was announced in our Corporate Governance Report.

Please see our website for more details regarding our Corporate Governance Report. (in Japanese only)



### Constructive dialogue

HORIBA abides by the "Basic Policy for Constructive Dialogue with Shareholders" as announced on our website (see below). We make efforts to explain our corporate policy, financial condition, and corporate culture to our owners based on the perspective of "fair disclosure," and ask for their understanding and continued support.

Please see our website for more details regarding our "Basic Policy for Constructive Dialogue with Shareholders." (in Japanese only)



### Status of IR-related activities

#### For analysts and institutional investors

- **Financial results briefing**  
Held four times per year  
(Briefings for the first and third financial quarters are held online and via telephone)
- **Visitations and individual interviews (within Japan)**  
About 250 times
- **Visitations and individual interviews (overseas)**  
About 80 times

#### For individual investors

- **Information sessions, etc.**  
Held about four times per year

## ▶ Risk management and compliance

HORIBA has established Group Risk Management Regulations, in order to strengthen its risk management framework, and broadly classifies risks into categories, including operation risks, risks related to development and manufacturing, sales risks, and financial risks. A management system for addressing these risks and a responsibility system that will manage crisis situations whenever they occur are stipulated in the Regulations. The HORIBA Risk Control Committee has taken on the responsibility of responding to risk management issues and approving and approving possible countermeasures. This committee includes members from primary group companies within Japan and aims to strengthen frameworks related to risk management and compliance.

Compliance Committees, which promote awareness of compliance issues and deliberate regarding related matters, were launched at primary group companies within Japan quite some time ago. These committees also review details included in internal reports, conduct hearings, compile their own reports, and provide advice concerning the rectification of any confirmed issues.

HORIBA has established its Corporate Philosophy, Compliance Management Provisions, and Code of Ethics to enhance its compliance framework and to prevent illegal acts. To facilitate early detection and correction of illegal acts, we also established an internal reporting system that includes a lawyer consultation service, as well as an internal e-mail reporting system. Through this system, we will continue to raise employee awareness and enforce observance of laws and regulations. In addition, we will hold seminars on compliance for employees in management positions and request participants to provide guidance to their staff.

## ▶ Appointment of Audit and Supervisory Board Members

Three new corporate auditors were appointed at the March 2020 General Meeting of Shareholders.



Pictured, from left

### Atsushi Nakamine (Audit & Supervisory Board Member (Standing Auditor))

#### Reasons for appointment

He has accumulated experience in the Accounting Division of the Company, while likewise excelling in overseas management assignments at the Company's subsidiaries in France and serving as a substitute Audit & Supervisory Board Member from 2018. These factors support the judgment of his ability to fulfill the supervision assignment and to be appointed to this position.

### Tomoko Tanabe (Audit & Supervisory Board Member (Outside & Independent Auditor))

#### Reasons for appointment

She was appointed in order to utilize her advanced expertise and knowledge in medicine as a physician, as well as to benefit from her superior insight for corporate management for the management of the Company.

### Keiji Yamada (Audit & Supervisory Board Member (Outside & Independent Auditor))

#### Reasons for appointment

He was appointed in order for the Company's management to benefit from his wide spectrum of knowledge amassed in a career with abundant experience in regional government administration.

## Outside Directors' Perspective on HORIBA

April 2020



**Masahiro Sugita**  
Outside Director

### Leapfrogging conventional boundaries

If you look at the Automotive Test Systems segment, HORIBA's transformation in recent years shows a change from a business strategy centering on emission measurement systems to a position in a strategic niche as automotive technology changes to that with the keyword of CASE (Connected, Autonomous, Shared, Electric).

By aggressively carrying out global M&A on a platform of excellent technology, one could argue that HORIBA has enabled itself to leapfrog conventional technological boundaries. Successful M&A efforts expand the perspective of HORIBA as a whole, and I am thrilled to see HORIBA is leaping to the next stage of business by taking measure of circumstances appropriately. I recognize my duty as an outside director to contribute comprehensive judgment and recommendations on the Board of Directors by leveraging broad-based experience and knowledge spanning technology, business, and economics overall while learning from the expertise that other directors have in specific fields.



**Jiko Higashifushimi**  
Outside Director

### Treasures are right beside us

Going into my fifth year in this position, I have worked to seize every opportunity to understand HORIBA. The impetus for this was my belief that I cannot contribute to the management decisions we face unless I have a firm grasp of HORIBA's intrinsic nature. The Mid-Long Term Management Plan (MLMAP 2023) formulated in 2019 (my fourth year in this position) is a strategy for business growth of 1.5 times over five years. In order to achieve this, I strongly believe that each business segment will require profound transformation, that this growth cannot be achieved by an extension of each segment's current business. Although we have acquired HORIBA MIRA Limited in the U.K. and have executed various other measures to address the trend of diversification in automotive development, most notably electrification, we are still very much in the midst of efforts to expand concrete business in new fields. I implore all employees, and especially experienced managers and young employees on the frontlines, to have a strong sense of urgency, transcend the divisions and boundaries of each business, and tackle the challenges that exist. We must religiously ask, "what does the customer want?" and act based on that. I think that we have treasures lying right beside us.



**Sawako Takeuchi**  
Outside Director  
Doctor of Engineering  
Doctor of Economics

### Enhancing human resource capability is our investment for the future

In the last few years, HORIBA has expanded their scope from measurement operations to a solution-oriented business with maximum use of measurement data. Although protecting our body and natural environment from negative impacts remain our priority, our challenges lies in developing systems to identify social problems and to seek better solutions, through providing high-performance, and high-function analytical measurement systems. In this context, we need a new type of engineers who can understand cross-sector demand and set up R&D strategies put forward for its social application. For example, we are trying to apply one of our core technologies, such as Raman Spectroscopy to life science area. To cope with these complex needs, we need to open up customer network to reach cross-industrial areas and to establish a corporate structure to be fit with these diversified human skills. The Board of Directors must take an initiative to move forward this type of human resource strategy by integrating this issue among top management discussion. This will lead to our long-term corporate governance style by creating a bridge between past experiences and new scientific knowledge.

## Board of Directors and Audit &amp; Supervisory Board member (As of April 1, 2020)

Chairman &amp; Group CEO

**Atsushi Horiba**

1971 Joined OLSON-HORIBA Incorporated (U.S.)  
 1972 Joined HORIBA, Ltd.  
 1977 General Manager of Overseas Technology Department of HORIBA, Ltd.  
 1981 General Manager of Overseas Headquarters of HORIBA, Ltd.  
 1982 Appointed as Director of HORIBA, Ltd.  
 1988 Appointed as Senior Managing Director of HORIBA, Ltd.  
 1992 Appointed as President of HORIBA, Ltd.  
 1995 Appointed as President of STEC Co., Ltd. (present HORIBA STEC, Co., Ltd.)  
 2002 Appointed as Chairman of HORIBA INSTRUMENTS (SHANGHAI) Co., Ltd.  
 2005 Appointed as Chairman, President & CEO of HORIBA, Ltd.  
 2016 Appointed as Chairman of HORIBA STEC, Co., Ltd. (to present)  
 2018 Appointed as Chairman & Group CEO of HORIBA, Ltd. (to present)

**Reason for Appointment as Corporate Director Positions**

He served as President & CEO of HORIBA, Ltd. over the 26-year period from 1992 to the end of 2017 and as Chairman & Group CEO of HORIBA, Ltd. from 2018, during which he played a pivotal role in spearheading the global growth of the overall HORIBA Group while otherwise accumulating rich management experience. In view of this solid background and further strengthening the Group solidarity and global development, he is considered highly qualified to remain in the capacity of Director.

Director (Outside), Independent Director

**Masahiro Sugita**

1967 Joined Bank of Japan  
 1989 General Manager of Matsumoto Branch, Bank of Japan  
 1996 Director-General of International Department, Bank of Japan  
 1998 Director of Overseas Investment Research Institute, the Export-Import Bank of Japan  
 1999 Appointed as Auditor of Bank of Japan  
 2003 Appointed as Outside Corporate Auditor (full-time) of Banyu Pharmaceutical Co., Ltd.  
 2006 Appointed as Director of HORIBA, Ltd. (to present)  
 2007 Appointed as Outside Corporate Auditor of the 77 Bank, Ltd.  
 2009 Appointed as Outside Corporate Auditor of Banyu Pharmaceutical Co., Ltd.  
 2010 Appointed as Auditor of MSD K.K.  
 2013 Appointed as Outside Director of the 77 Bank Ltd. (to present)

**Reason for Appointment as Outside Director Positions**

He has plentiful experience in international economic and financial matters, penetrating knowledge and insights cultivated as a director and corporate auditor at other companies and other assets are being put to valuable use in HORIBA, Ltd.'s management. In consideration of these outstanding benefits, he was appointed to the post of Outside Director.

Executive Vice Chairman &amp; Group COO

**Juichi Saito**

1982 Joined HORIBA, Ltd.  
 1997 General Manager of the Engine Measurement Planning & Development Department of HORIBA, Ltd.  
 2002 Appointed as President of HORIBA Instruments Incorporated  
 Appointed as Corporate Officer of HORIBA, Ltd.  
 2004 Appointed as Director of STEC, Co., Ltd. (present HORIBA STEC Co., Ltd.)  
 2005 Appointed as Director of HORIBA, Ltd. (to present)  
 Managing Director of HORIBA STEC Co., Ltd.  
 2008 Appointed as Executive Vice President of HORIBA STEC, Co., Ltd.  
 2012 General Manager of Corporate & Segment Strategy Division of HORIBA, Ltd.  
 2013 Appointed as Executive Vice President of HORIBA, Ltd.  
 2016 Appointed as Executive Vice President and Representative Director of HORIBA, Ltd.  
 2018 Appointed as Executive Vice Chairman & Group COO of HORIBA, Ltd. (to present)  
 Appointed as President of HORIBA Europe Holding SASU (to present)

**Reason for Appointment as Corporate Director Positions**

As General Manager of the Corporate & Segment Strategy Division, he has attained extensive experience in promoting operations with the key focus on business strategies, corporate acquisition and other sectors. He has likewise built up an impressive overseas track record through engaging in management duties of HORIBA, Ltd.'s U.S. subsidiary and other assignments, further supporting the view that he is fully capable of unifying the overall Group in promoting programs of renewed global development as the Group COO from 2018. In view of this, he was appointed to the post of Director is desired.

Director (Outside), Independent Director

**Jiko Higashifushimi**

1966 Joined Saitama Bank (present Resona Bank)  
 1988 Higashi-Kurume Branch Manager, Saitama Bank  
 1993 Entered Shorenin Religious Corporation (Kyoto City)  
 1994 Appointed as Head Deacon, Shorenin Religious Corporation  
 2003 Appointed as Representative Presiding Director and Head Priest, Shorenin Religious Corporation (to present)  
 2016 Appointed as Director of HORIBA, Ltd. (to present)  
 2019 Appointed as Outside Auditor of Kataoka Corporation (to present)

**Reason for Appointment as Outside Director Positions**

He is renowned for his penetrating insight nurtured as Head Priest of Shorenin Religious Corporation. The counsel based upon this background, together with his work experience at a financial institution and other valuable personal assets have been effectively utilized in HORIBA, Ltd.'s management operations to date. Taking these contributions into consideration, he was appointed as an Outside Director.

President &amp; COO

**Masayuki Adachi**  
Doctor of Engineering

1985 Joined HORIBA, Ltd.  
 1999 General Manager of Emission Analysis R&D Department of HORIBA, Ltd.  
 2003 General Manager of Engine Measurement Systems Division of HORIBA, Ltd.  
 2005 General Manager of Automotive Test Systems Division of HORIBA, Ltd.  
 2006 Appointed as Corporate Officer of HORIBA, Ltd.  
 2007 Appointed as President of HORIBA International Corporation (present HORIBA Instruments Incorporated)  
 2010 Appointed as Senior Corporate Officer of HORIBA, Ltd.  
 2011 General Manager of Research & Development Division & R & D Steering Committee of HORIBA, Ltd.  
 2014 Appointed as Director of HORIBA, Ltd. President of HORIBA Jobin Yvon SAS. (present HORIBA FRANCE SAS)  
 2016 Appointed as Chairman of Supervisory Board of HORIBA Jobin Yvon SAS. (present HORIBA FRANCE SAS) (to present)  
 Appointed as Senior Managing Director of HORIBA, Ltd.  
 2018 Appointed as President & COO of HORIBA, Ltd. (to present)

**Reason for Appointment as Corporate Director Positions**

He has achieved far-reaching experience in the R&D Division of HORIBA, Ltd., while likewise excelling in overseas management assignments at HORIBA, Ltd.'s subsidiaries in the United States and France and engaging in management duties of HORIBA, Ltd. as President & COO of HORIBA, Ltd. from 2018. These and other factors support the judgment of his ability to further enhance HORIBA, Ltd.'s technical prowess and propel the HORIBA Group to even greater successes, resulting in his appointment to the position of Director.

Director (Outside), Independent Director

**Sawako Takeuchi**

Doctor of Engineering, Doctor of Economics

1984 Visiting Researcher, Institute of Applied Mathematical and Economic Sciences, France  
 1988 Deputy Director, Master of International Business (MIB) Graduate Program, Ecole Nationale des Ponts et Chaussées (France)  
 1994 Chief Researcher, Long-Term Credit Bank of Japan Research Institute  
 1998 Associate Professor, School of Engineering, University of Tokyo Graduate School  
 2002 Professor, Faculty of Economics, Toyo University  
 2004 Urban Development Sector (Economist / Analyst), Asia-Pacific Division, World Bank  
 2005 Special Assistant to the Ministry of Foreign Affairs  
 Visiting Professor, Graduate School of Engineering, Kyoto University  
 2011 President, Japan Cultural Institute in Paris (Japan Foundation)  
 2016 Appointed as Director of HORIBA, Ltd. (to present)  
 Advisor to the Ministry of Education, Culture, Sports, Science, and Technology  
 2017 Specially Appointed Professor, Yamagata University Faculty of Engineering  
 2018 Invited Professor, Tokyo College of Music (to present)  
 Invited Professor, Yamagata University Faculty of Engineering (to present)  
 2019 Appointed as Outside Director of SAXA Holdings, Inc. (to present)

**Reason for Appointment as Outside Director Positions**

She has knowledge and wisdom as an engineering PhD, her experience in France (an important base for HORIBA business operations) and other overseas assignments and additional achievements have been fruitfully utilized in HORIBA, Ltd.'s management platform up to this time. To continue to benefit from this background and expertise, she was appointed to an Outside Director is respectfully requested.

## Corporate officers (As of April 1, 2020)

**Executive Corporate Officer**

**Jai Hakhu** (Doctor of Engineering) Chairman of HORIBA Instruments Incorporated (U.S.)  
 President of HORIBA ABX SAS (France)  
 Chairman of HORIBA India Private Limited (India)

**Senior Corporate Officers**

**Hideyuki Koishi** President of HORIBA STEC Co., Ltd. (Japan)  
**George Gillespie** (Doctor of Engineering) Executive Chairman of HORIBA MIRA Limited. (U.K.)  
 GLOBAL ATS BOARD LEADER  
**Hiroo Chihara** President of HORIBA Techno Service Co., Ltd. (Japan)  
**Dan Horiba** President of HORIBA Advanced Techno Co., Ltd. (Japan)

**Corporate Officers**

**Ken Mitera** Executive Vice President of HORIBA Instruments Incorporated (U.S.)  
**Tadao Nakamura** Chief Director & President of HORIBA Instruments (Shanghai) Co., Ltd.  
 Chief Director & President of HORIBA (China) Trading Co., Ltd.  
 Chief Director & President of HORIBA Technology (Suzhou) Co., LTD.  
**Toshiya Higashino** President & COO of HORIBA Instruments Incorporated (U.S.)  
**Yasuo Yamashita** Deputy General Manager of General Administration Division  
**Hiroshi Nakamura** (Doctor of Engineering) President of HORIBA Europe GmbH (Germany)

Managing Director,

## Masao Okawa

1988 Joined Bank of Japan  
 2003 Chief Representative in Frankfurt, Bank of Japan  
 2013 General Manager of Takamatsu Branch, Bank of Japan  
 2015 General Manager of Kyoto Branch, Bank of Japan  
 2017 Joined HORIBA, Ltd.  
 Appointed as Senior Corporate Officer of HORIBA, Ltd.  
 General Manager of General Administration Division & Tokyo Branch Manager of HORIBA, Ltd. (to present)  
 2018 Appointed as Managing Director of HORIBA, Ltd. (to present)

Director

## Takashi Nagano

1985 Joined HORIBA, Ltd.  
 1999 General Manager of the Engine Measurement Planning & Development Department of HORIBA, Ltd.  
 2001 General Manager of Engine Measurement Systems Division of HORIBA, Ltd.  
 2003 Appointed as President of HORIBA Europe GmbH  
 2005 Appointed as Corporate Officer of HORIBA, Ltd.  
 2006 Appointed as Senior Corporate Officer of HORIBA, Ltd.  
 2011 General Manager of Sales Division of HORIBA, Ltd.  
 Appointed as President & CEO of HORIBA Europe GmbH  
 2013 Appointed as CEO of HORIBA Europe GmbH  
 2014 Appointed as President of HORIBA KOREA Ltd.  
 2016 Appointed as Director of HORIBA, Ltd. (to present)  
 Appointed as Chairman of HORIBA KOREA Ltd. (to present)  
 2018 Board Leader of GLOBAL ATS BOARD of HORIBA, Ltd.

### Reason for Appointment as Corporate Director Positions

In view of his global experience compiled during his previous service at a topflight financial institution, it is the belief that he is uniquely qualified to formulate global financial strategies and function in strengthening HORIBA compliance and corporate governance. For these and other reasons, he was appointed to Director.

### Reason for Appointment as Corporate Director Positions

The candidate has extensive experience at the Automotive Test System Division and Sales Division, while holding management positions at HORIBA German and South Korean subsidiaries and cultivating other pivotal knowledge through HORIBA, Ltd.'s overseas operations. This background supports the assessment of his credentials to expertly deal with the tumultuous changes that currently characterize the automobile industry, leading to his appointment to the position of Director.

Audit & Supervisory Board Member (Standing Auditor)

## Atsushi Nakamine

1978 Joined HORIBA, Ltd.  
 2001 Appointed as Executive Vice President & COO of ABX S.A. (present HORIBA ABX SAS)  
 2002 Appointed as Corporate Officer of HORIBA, Ltd.  
 2005 Appointed as President & CEO of HORIBA ABX SAS  
 Appointed as Senior Corporate Officer of HORIBA, Ltd.  
 2008 Appointed as President of HORIBA Europe Holding SASU  
 2011 Appointed as Corporate Officer of HORIBA, Ltd. (to present)  
 2013 General Manager of Group Production Management Office of HORIBA, Ltd.  
 2014 Division Manager of IT & BPR Center of HORIBA, Ltd.  
 2018 Deputy General Manager of Global Business Division of HORIBA, Ltd.  
 Substitute Corporate Auditor of HORIBA, Ltd.  
 2020 Appointed as Audit & Supervisory Board Member (Standing Auditor) of HORIBA, Ltd. (to present)

Audit & Supervisory Board Member (Outside & Independent Auditor)

## Keiji Yamada

1977 Joined Ministry of Home Affairs (present Ministry of Internal Affairs and Communications)  
 1992 Director of Cabinet Legislation Bureau  
 1999 Director of Kyoto Prefecture General Affairs Department  
 2001 Vice Governor of Kyoto Prefecture  
 2002 Governor of Kyoto Prefecture (1st term)  
 2006 Governor of Kyoto Prefecture (2nd term)  
 2010 Governor of Kyoto Prefecture (3rd term)  
 2011 President of National Governors' Association (1st term)  
 2013 President of National Governors' Association (2nd term)  
 2014 Governor of Kyoto Prefecture (4th term)  
 2015 President of National Governors' Association (3rd term)  
 2017 President of National Governors' Association (4th term)  
 2018 Advisor to the President of Kyoto Sangyo University, Department of Policy Studies Professor (to present)  
 President of Kyoto Culture Foundation (to present)  
 2019 Appointed as Outside Director of Kawasaki Kisen Kaisha, Ltd. (to present)  
 2020 Appointed as Audit & Supervisory Board Member of HORIBA, Ltd. (to present)

Audit & Supervisory Board Member (Outside & Independent Auditor)

## Tomoko Tanabe

1996 Internal Medicine I Resident of Kyoto Prefectural University of Medicine  
 1998 Internal Medicine Resident of Beth Israel Medical Center  
 2001 Chief Medical Resident of the said Medical Center  
 2002 General Internal Medicine (GIM) Fellowship of The university of Pennsylvania  
 2004 Associate Professor of Medicine University of California, San Diego Veterans Affairs Medical Center Medical Service Internal Medicine  
 2005 Associate Clerkship Director of University of California, San Diego  
 2008 Assistant Director of Sakazaki Clinic (present Oike Clinic, Chiinkai Medical Corporation) Nakanoshima Clinic, Chiinkai Medical Corporation  
 2009 Oike Clinic, Chiinkai Medical Corporation Head of Lady's Dock (to present)  
 2010 Director of Shinyukai Holdings Co., Ltd. (to present)  
 Committee Member of Gender Equality Promotion Center, Kyoto Prefectural University of Medicine (to present)  
 2017 Appointed as Executive Vice President and Representative Director of Kyoto Medical Club Co., Ltd.  
 2018 Appointed as President of the said Company (to present)  
 2020 Appointed as Audit & Supervisory Board Member of HORIBA, Ltd. (to present)

\* More on page 51 for reasons for appointment of Audit & Supervisory Board Member

Akio Kinoshita (Doctor of Engineering)	Deputy General Manager (Electrification Business) of Global Business Division Deputy General Manager (Mobility Technology) of Research & Development Division
Arnaud Pradel	General Manager of HORIBA ABX SAS (France)
Dale Poole	Executive Vice President of HORIBA Instruments Incorporated (U.S.)
Rajeev Gautam (Doctor of Bio-Technology)	President of HORIBA India Private Limited (India)

### Junior Corporate Officers

Narihiro Oku	Quality General Manager of Medical Business Division
Hitoshi Motokawa	General Manager of Sales Division
Hiroyuki Urabe	President of HORIBA KOREA Ltd. (South Korea)
Hideyuki Nishibun	General Manager of Global Business Strategy Division of HORIBA Techno Service Co., Ltd. (Japan)
Haruko Nozaki	Principal of HORIBA COLLEGE, CSR
Masashi Nishimura	Deputy General Manager (China Strategy) of Global Business Division
Tsukasa Satake	Deputy General Manager of Research & Development Division, Tokyo based

# Financial data

## Eleven-year summary

	2009.12	2010.12	2011.12	2012.12	2013.12	2014.12	
<b>► For the year</b>							
Net sales	¥104,538	¥118,556	¥123,456	¥117,609	¥138,136	¥153,065	
Operating costs and expenses	99,394	106,256	108,549	105,857	124,402	135,851	
Operating income	5,144	12,299	14,906	11,751	13,733	17,214	
Net income attributable to owners of parent	3,161	7,927	8,664	7,396	8,999	10,589	
Capital expenditures	4,534	4,033	4,670	7,882	7,680	11,001	
Depreciation and amortization	4,573	4,523	4,146	3,743	4,279	4,905	
Research and development expenses	9,831	9,480	10,060	10,092	10,774	11,986	
<b>► At year-end</b>							
Total assets	¥129,580	¥137,290	¥144,649	¥153,836	¥189,269	¥207,335	
Cash and cash equivalents	27,590	34,459	35,767	38,858	49,246	51,109	
Trade notes and accounts receivable	Affiliated companies	6	1	126	4	25	149
	Other	34,505	36,425	39,249	37,516	47,386	52,097
Inventories	23,363	24,843	26,288	28,101	33,085	34,838	
Property, plant, and equipment, net	23,602	22,516	22,924	28,179	33,326	39,441	
Trade notes and accounts payable	Affiliated companies	52	60	0	-	-	20
	Other	10,515	13,423	13,196	11,829	16,409	15,385
Liabilities with interest	18,348	17,128	18,358	18,083	24,577	28,412	
Shareholders' equity	79,906	84,019	90,232	99,248	114,209	123,924	
Share price at end of fiscal period (Yen)	2,250	2,303	2,320	2,489	3,590	4,015	
Number of employees (consolidated)	5,133	5,202	5,448	5,530	5,787	5,965	
<b>► Per Share Information</b>							
Net income—basic	¥74.77	¥187.46	¥204.88	¥174.87	¥212.76	¥250.28	
Net income—diluted	74.68	187.11	204.41	174.37	212.01	249.28	
Net assets	1,889.58	1,986.77	2,133.44	2,346.45	2,699.88	2,928.82	
Cash dividends	13.00	17.00	40.00	50.00	60.00	67.00	
<b>► Financial Ratios</b>							
Operating income to net sales (%)	4.9	10.4	12.1	10.0	9.9	11.2	
Return on assets (%)	2.4	5.9	6.1	5.0	5.2	5.3	
Return on equity (%)	4.0	9.7	9.9	7.8	8.4	8.9	
Shareholders' equity ratio (%)	61.7	61.2	62.4	64.5	60.3	59.8	
Consolidated dividend payout ratio (%)	17.4	9.1	19.5	28.6	28.2	26.8	
Nonconsolidated dividend payout ratio (%)	30.0	30.3	30.5	37.5	48.9	38.5	

Notes: The stated amounts are rounded down to the nearest million yen from the year ended December 31, 2009, but are rounded (up or down) to the nearest million yen prior to that year.

1. The U.S. dollar amounts are provided solely for convenience at the rate of 109.56 yen to 1.00 U.S. dollar, the rate prevailing on December 31, 2019, on the Tokyo foreign exchange market.

2. 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 its revenue recognition method to recognize revenue on a completion date of installation basis or a delivery date basis under the terms and conditions of the relevant contracts. The amounts in or before the fiscal 2015 are not retrospectively revised.

3. As of beginning of the fiscal year 2019, HORIBA, Ltd. and its consolidated subsidiaries apply the Partial Amendments to Accounting Standards for Tax Effect Accounting (ASBJ Statement No. 28, February 16, 2018). These accounting standards applied retroactively for figures prior to the fiscal year 2018. The amounts in or before the fiscal year 2017 are not retrospectively revised.



2015.12	2016.12	2017.12	2018.12	2019.12	2019.12
				Millions of yen	Thousands of U.S. dollars
¥170,898	¥170,093	¥195,399	¥210,570	¥200,241	<b>\$1,827,683</b>
151,526	151,593	168,565	181,731	179,325	<b>1,636,774</b>
19,372	18,499	26,834	28,838	20,916	<b>190,909</b>
12,882	12,962	16,281	22,313	15,481	<b>141,301</b>
16,309	13,796	11,639	10,239	12,834	<b>117,141</b>
6,110	6,816	7,534	7,240	8,794	<b>80,266</b>
12,341	12,933	13,911	15,183	16,254	<b>148,357</b>
				Millions of yen	Thousands of U.S. dollars
¥231,032	¥239,657	¥265,920	¥277,368	¥315,133	<b>\$2,876,350</b>
47,859	51,940	58,333	62,837	96,064	<b>876,816</b>
2	7	12	24	-	<b>-</b>
54,769	53,717	60,140	59,087	59,121	<b>539,622</b>
35,717	40,289	45,573	55,139	51,613	<b>471,093</b>
56,978	61,977	68,701	68,739	75,929	<b>693,035</b>
-	77	91	101	-	<b>-</b>
17,638	19,935	23,180	21,832	19,861	<b>181,279</b>
45,227	47,153	42,496	44,516	73,889	<b>674,415</b>
129,581	132,654	150,282	161,362	170,953	<b>1,560,359</b>
4,695	5,410	6,790	4,490	7,330	<b>U.S. dollars 66.90</b>
6,831	7,149	7,399	7,943	8,288	
				Yen	U.S. dollars
¥305.73	¥307.74	¥386.30	¥529.24	¥367.09	<b>\$3.35</b>
304.36	306.38	384.67	526.98	365.44	<b>3.33</b>
3,078.40	3,148.70	3,565.00	3,826.44	4,053.30	<b>36.99</b>
70.00	85.00	116.00	145.00	130.00	<b>1.18</b>
11.3	10.9	13.7	13.7	10.4	
5.9	5.5	6.4	8.2	5.2	
10.2	10.0	11.5	14.3	9.3	
56.1	55.4	56.5	58.2	54.3	
22.9	27.6	30.0	27.4	35.4	
35.1	46.7	53.8	50.7	46.4	

Shareholders' equity = net assets - subscription rights to shares - non-controlling interests

Net income per share (Yen) = net income attributable to owners of parent / (average number of shares issued and outstanding in the fiscal period, corrected for treasury stock)

Net assets per share (Yen) = shareholders' equity / (number of shares issued and outstanding, corrected for treasury stock)

Operating income to net sales (%) = 100 x operating income / net sales

Return on assets (ROA, %) = 100 x net income attributable to owners of parent / average total assets in prior fiscal period

Return on equity (ROE, %) = 100 x net income attributable to owners of parent / average shareholders' equity in prior fiscal period

Shareholders' equity ratio (%) = 100 x shareholders' equity / total assets

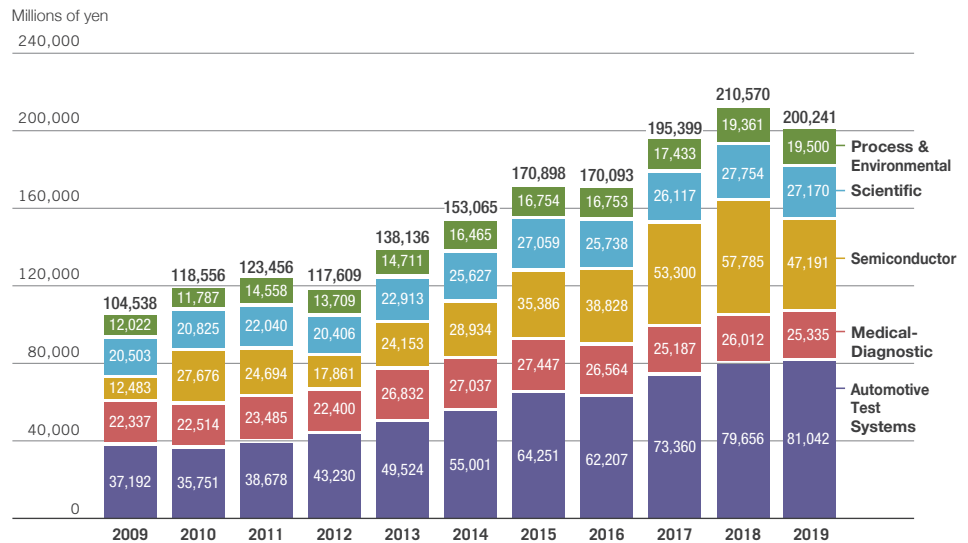
Consolidated dividend payout ratio (%) = 100 x dividends paid / net income attributable to owners of parent

Nonconsolidated dividend payout ratio (%) = 100 x dividends paid / net income (nonconsolidated)

## Eleven-year summary

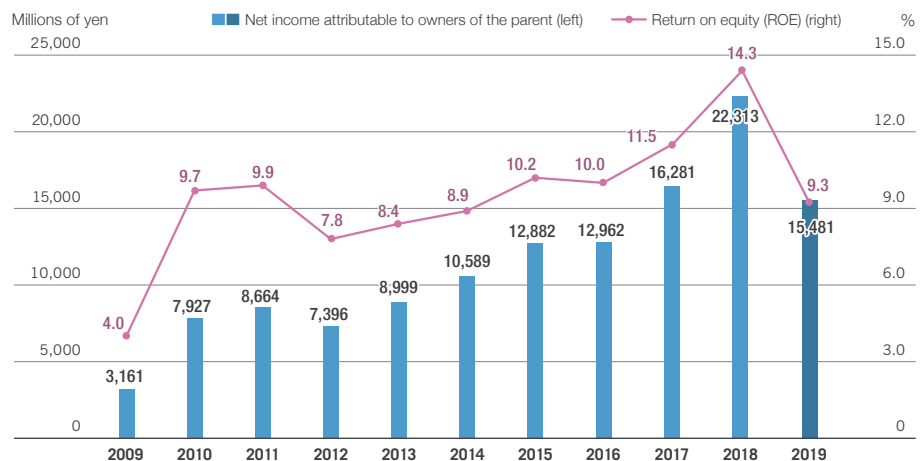
### Net sales by segment

We saw sales decline for the first time in three years, in the year ended December 31, 2019. This was due to a decline in sales primarily in Japan and Asia, with semiconductor manufacturers adjusting their capital spending.



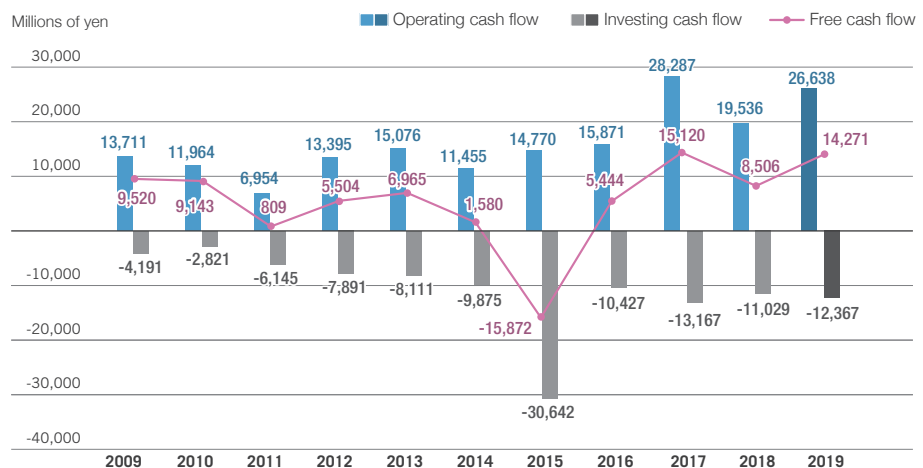
### Net income attributable to owners of the parent and ROE

We saw net income attributable to owners of the parent record its first decrease in seven years in the year ended December 31, 2019 owing to a decline in sales and operating income, while ROE finished at 9.3%.

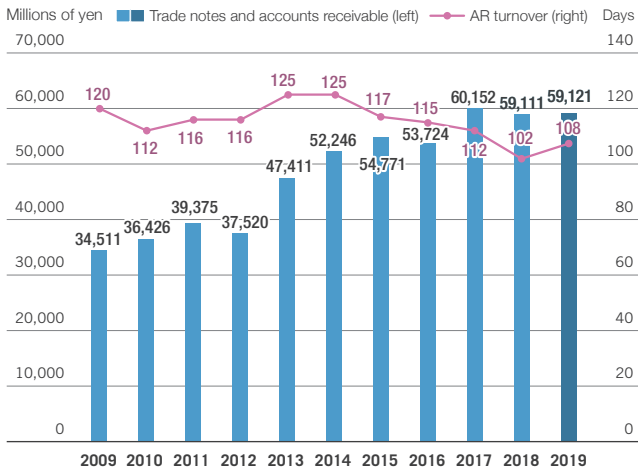


### Cash flows

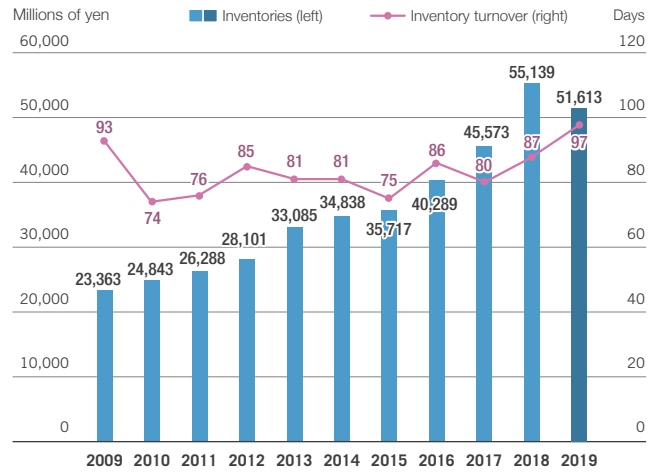
We continued high-level investment in the year ended December 31, 2019, including the strengthening of our bases globally and investment in facilities to handle demand for electrified vehicles. Meanwhile, with investment adjustments in the semiconductor industry, inventories decreased, leading to a year-on-year increase in cash flow from operating activities, while free cash flow resulted in the positive range, amounting to 14.2 billion yen.



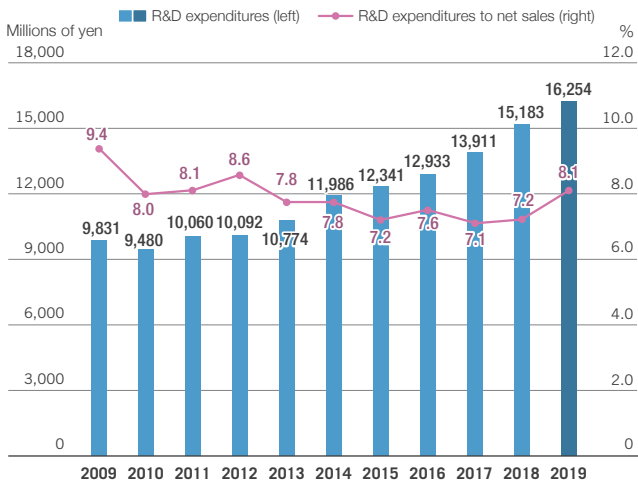
### Accounts receivable (AR) and AR turnover (days)



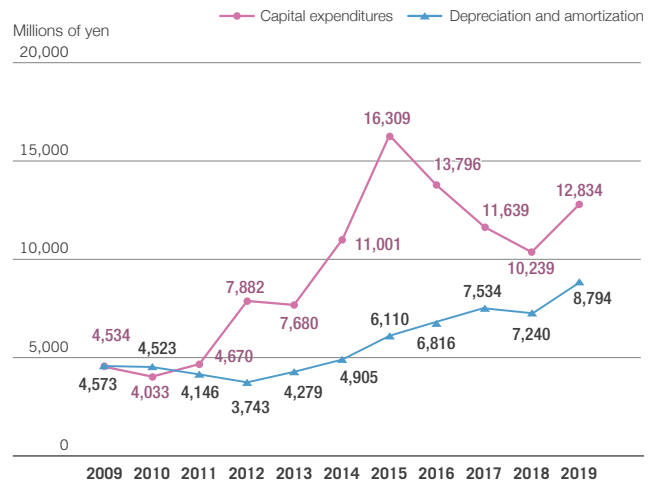
### Inventories and inventory turnover (days)



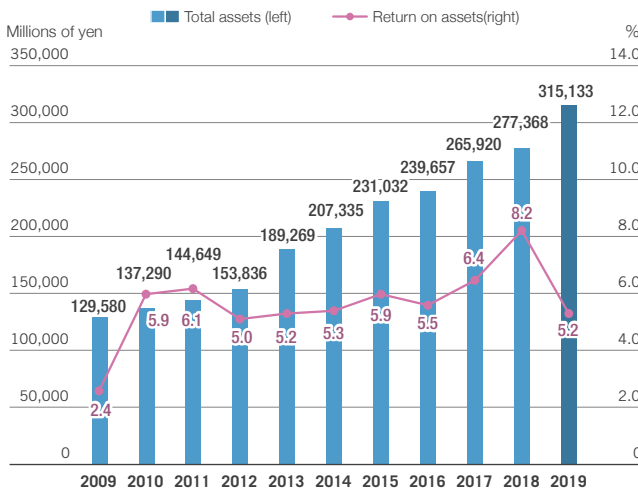
### R&D expenditures and R&D expenditures to net sales



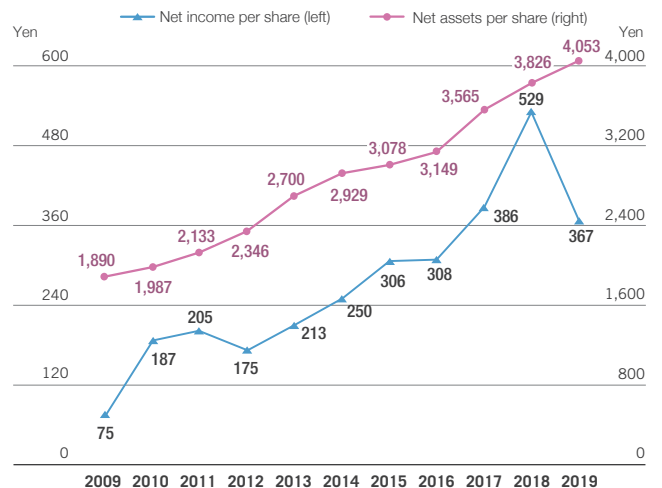
### Capital expenditures and depreciation and amortization



### Total assets and Return on assets



### Net income per share and net assets per share



## Consolidated balance sheets

Assets	Millions of yen <sup>1</sup>		Thousands of U.S. dollars <sup>2</sup>
	2018.12	2019.12	2019.12
<b>Current assets:</b>			
Cash and cash equivalents	¥62,837	¥96,064	\$876,816
Trade notes and accounts receivable			
Affiliated companies	24	-	-
Other	59,087	59,121	539,622
Allowance for doubtful receivables	(682)	(796)	(7,265)
Marketable securities	1,899	1,998	18,236
Inventories	55,139	51,613	471,093
Other current assets	9,586	8,551	78,048
<b>Total current assets</b>	187,891	216,553	1,976,569
<b>Property, plant, and equipment:</b>			
Land	13,692	15,177	138,526
Buildings and structures	55,894	61,039	557,128
Machinery, equipment and vehicles	24,784	27,517	251,159
Construction in progress	3,018	3,604	32,895
Other property, plant, and equipment	17,729	19,394	177,017
<b>Total</b>	115,118	126,732	1,156,736
Accumulated depreciation	(46,379)	(50,803)	(463,700)
<b>Net property, plant, and equipment</b>	68,739	75,929	693,035
<b>Investments and other noncurrent assets:</b>			
Investment securities	8,314	10,571	96,485
Investments in nonconsolidated subsidiaries and affiliates	44	40	365
Deferred tax assets	4,636	3,605	32,904
Net defined benefit asset	-	13	118
Allowance for doubtful accounts	(76)	(51)	(465)
Other investments and other assets	2,917	2,933	26,770
<b>Total investments and other noncurrent assets</b>	15,836	17,114	156,206
<b>Intangibles:</b>			
Goodwill	901	1,254	11,445
Software	2,907	2,734	24,954
Other intangibles	1,092	1,546	14,110
<b>Total intangibles</b>	4,901	5,535	50,520
<b>Total assets</b>	¥277,368	¥315,133	\$2,876,350
<b>Liabilities and net assets</b>			
<b>Current liabilities:</b>			
Short-term loans	¥10,458	¥8,099	\$73,922
Current portion of long-term debt	1,735	16,069	146,668
Trade notes and accounts payable			
Affiliated companies	101	-	-
Other	21,832	19,861	181,279
Accounts payable—other	15,920	16,164	147,535
Accrued income taxes	3,514	2,004	18,291
Advances received	17,475	19,169	174,963
Accrued bonuses to employees	1,265	1,188	10,843
Reserve for product warranty	2,012	2,369	21,622
Other current liabilities	3,681	3,545	32,356
<b>Total current liabilities</b>	77,997	88,472	807,520
<b>Long-term liabilities:</b>			
Long-term debt	32,322	49,720	453,815
Deferred tax liabilities	184	613	5,595
Net defined benefit liability	1,946	2,017	18,410
Provision for loss on dissolution of the employees' pension fund	640	-	-
Other noncurrent liabilities	2,258	2,692	24,571
<b>Total long-term liabilities</b>	37,352	55,044	502,409
<b>Total liabilities</b>	115,349	143,517	1,309,939
<b>Net assets:</b>			
<b>Shareholders' equity:</b>			
Common stock	12,011	12,011	109,629
Authorized—100,000,000 shares			
Issued and outstanding—42,170,448 shares (excluding treasury stock) at 12/2018			
Issued and outstanding—42,176,228 shares (excluding treasury stock) at 12/2019			
Capital surplus	18,717	18,599	169,760
Retained earnings	132,329	141,689	1,293,254
Treasury stock—362,304 shares at 12/2018 and 356,524 shares at 12/2019	(1,428)	(1,405)	(12,824)
<b>Total shareholders' equity</b>	161,630	170,894	1,559,821
<b>Accumulated other comprehensive income:</b>			
Net unrealized gains or losses on available-for-sale securities	2,788	4,344	39,649
Deferred gains or losses on hedges	(2)	0	0
Foreign currency translation adjustments	(2,829)	(4,042)	(36,893)
Remeasurements of defined benefit plans	(224)	(244)	(2,227)
<b>Total accumulated other comprehensive income</b>	(267)	58	529
<b>Subscription rights to shares</b>	549	651	5,941
<b>Non-controlling interests</b>	106	10	91
<b>Total net assets</b>	162,018	171,615	1,566,401
<b>Total liabilities and net assets</b>	¥277,368	¥315,133	\$2,876,350

Notes: 1. The Japanese Yen amounts are rounded down to the nearest million.

2. The U.S. dollar amounts are provided solely for convenience at the rate of 109.56 yen to 1.00 U.S. dollar, the rate prevailing on December 31, 2019, on the Tokyo foreign exchange market.

## Consolidated statements of income

HORIBA, Ltd. and consolidated subsidiaries  
As of December 31, 2018 and December 31, 2019

Philosophy

Strategies

Governance

Results

	Millions of yen <sup>1</sup>		Thousands of U.S. dollars <sup>2</sup>
	2018.12	2019.12	2019.12
<b>Net sales</b>	¥210,570	¥200,241	\$1,827,683
<b>Operating costs and expenses:</b>			
Cost of sales	120,630	117,624	1,073,603
Selling, general and administrative expenses	61,100	61,701	563,170
<b>Total operating costs and expenses</b>	181,731	179,325	1,636,774
<b>Operating income:</b>	28,838	20,916	190,909
<b>Other income (expenses):</b>			
Interest and dividend income	323	422	3,851
Interest expense	(440)	(496)	(4,527)
Foreign exchange gains (losses), net	(473)	(439)	(4,006)
Gain on sales of property, plant, and equipment	537	113	1,031
Loss on sales of property, plant, and equipment	(22)	-	-
Loss on disposal of property, plant, and equipment	(76)	(44)	(401)
Subsidy income	11	43	392
Foreign tax refund	-	148	1,350
Bond issuance cost	-	(154)	(1,405)
Gain on sales of investment securities	0	9	82
Gain on transfer of businesses	115	-	-
Gain on bargain purchase	48	-	-
Reversal of provision for loss on dissolution of the employees' pension fund	-	137	1,250
Other, net	56	78	711
<b>Total other income (expenses), net</b>	79	(182)	(1,661)
<b>Income before income taxes</b>	28,917	20,734	189,247
<b>Income taxes:</b>			
Current	6,375	4,956	45,235
Deferred	203	268	2,446
<b>Total income taxes</b>	6,579	5,225	47,690
<b>Net income</b>	22,338	15,508	141,548
<b>Profit attributable to non-controlling interests</b>	24	26	237
<b>Net income attributable to owners of parent</b>	¥22,313	¥15,481	\$141,301
		Yen <sup>1</sup>	U.S. dollars <sup>2</sup>
	2018.12	2019.12	2019.12
<b>Per share information:</b>			
Net income—basic	¥529.24	¥367.09	\$3.35
Net income—diluted	526.98	365.44	3.33
Cash dividends	145.00	130.00	1.18

## Consolidated statements of comprehensive income

HORIBA, Ltd. and consolidated subsidiaries  
As of December 31, 2018 and December 31, 2019

	Millions of yen		Thousands of U.S. dollars
	2018.12	2019.12	2019.12
<b>Net income</b>	¥22,338	¥15,508	\$141,548
<b>Other comprehensive income:</b>			
Net unrealized gains or losses on available-for-sale securities	(1,848)	1,555	14,193
Deferred gains or losses on hedges	(2)	3	27
Foreign currency translation adjustments	(3,989)	(1,220)	(11,135)
Remeasurements of defined benefit plans	(133)	(20)	(182)
<b>Total other comprehensive income</b>	(5,973)	318	2,902
<b>Comprehensive income</b>	¥16,364	¥15,827	\$144,459
(Breakdown of comprehensive income)			
Comprehensive income attributable to owners of parent	¥16,348	¥15,807	\$144,277
Comprehensive income attributable to non-controlling interests	16	19	173

Notes: 1. The Japanese Yen amounts are rounded down to the nearest million.

2. The U.S. dollar amounts are provided solely for convenience at the rate of 109.56 yen to 1.00 U.S. dollar, the rate prevailing on December 31, 2019, on the Tokyo foreign exchange market.

## Consolidated statements of cash flows

HORIBA, Ltd. and consolidated subsidiaries  
For the years ended December 31, 2018 and December 31, 2019

	2018.12	2019.12	2019.12
		Millions of yen <sup>1</sup>	Thousands of U.S. dollars <sup>2</sup>
<b>Cash flows from operating activities:</b>			
Income before income taxes	¥28,917	¥20,734	\$189,247
Depreciation and amortization	7,240	8,794	80,266
Increase (decrease) in allowance for doubtful receivables	(69)	105	958
Increase (decrease) in net defined benefit liability	(83)	1	9
Interest and dividend income	(323)	(422)	(3,851)
Interest expense	440	496	4,527
Foreign exchange losses (gains)	167	89	812
Loss (gain) on sales of property, plant, and equipment	(514)	(113)	(1,031)
Loss on disposal of property, plant, and equipment	76	44	401
Loss (gain) on sales of investment securities	(0)	(9)	(82)
Decrease (increase) in trade notes and accounts receivable	(862)	(935)	(8,534)
Decrease (increase) in inventories	(10,368)	2,852	26,031
Increase (decrease) in trade notes and accounts payable	(596)	(1,760)	(16,064)
Other, net	4,976	3,196	29,171
<b>Subtotal</b>	29,001	33,075	301,889
Interest and dividends received	305	434	3,961
Interest paid	(439)	(465)	(4,244)
Income taxes (paid) refund	(9,331)	(6,405)	(58,461)
<b>Net cash provided by (used in) operating activities</b>	19,536	26,638	243,136
<b>Cash flows from investing activities:</b>			
Increase in time deposits	(1,403)	(2,418)	(22,070)
Decrease in time deposits	1,202	3,018	27,546
Decrease in time deposits restricted for use	32	-	-
Payments for purchase of marketable securities	(2,200)	(2,000)	(18,254)
Proceeds from sales or redemption of marketable securities	1,701	1,900	17,342
Payments for purchase of property, plant, and equipment	(9,667)	(11,762)	(107,356)
Proceeds from sales of property, plant, and equipment	1,420	262	2,391
Payments for purchase of intangibles	(611)	(1,172)	(10,697)
Payments for purchase of investment securities	(24)	(24)	(219)
Proceeds from sales or redemption of investment securities	0	13	118
Other, net	(1,481)	(182)	(1,661)
<b>Net cash provided by (used in) investing activities</b>	(11,029)	(12,367)	(112,878)
<b>Cash flows from financing activities:</b>			
Net increase (decrease) in short-term borrowings	2,792	(2,205)	(20,125)
Proceeds from long-term borrowings	-	313	2,856
Repayments of long-term debt	(541)	(1,561)	(14,247)
Repayments on finance lease obligations	(181)	(831)	(7,584)
Net decrease (increase) of treasury stock	(0)	(0)	(0)
Cash dividends paid	(5,309)	(6,110)	(55,768)
Proceeds from issuance of bonds	-	29,845	272,407
Dividends paid to non-controlling interests	-	(7)	(63)
Payments from changes in ownership interests in subsidiaries that do not result in change in scope of consolidation	-	(226)	(2,062)
<b>Net cash provided by (used in) financing activities</b>	(3,240)	19,215	175,383
<b>Effect of exchange rate changes on cash and cash equivalents</b>	(762)	(259)	(2,364)
<b>Net increase (decrease) in cash and cash equivalents</b>	4,503	33,227	303,276
<b>Cash and cash equivalents at beginning of year</b>	58,333	62,837	573,539
<b>Cash and cash equivalents at end of year</b>	¥62,837	¥96,064	\$876,816

Notes: 1. The Japanese Yen amounts are rounded down to the nearest million.

2. The U.S. dollar amounts are provided solely for convenience at the rate of 109.56 yen to 1.00 U.S. dollar, the rate prevailing on December 31, 2019, on the Tokyo foreign exchange market.

## Corporate information

<b>Head office</b>	2 Miyano Higashi, Kisshoin, Minami-ku Kyoto 601-8510 Japan	
<b>Founded</b>	October 17, 1945	
<b>Incorporated</b>	January 26, 1953	
<b>Net sales</b>	200,241 million yen (Consolidated)	Fiscal 2019
<b>Paid-in capital</b>	12,011 million yen (Consolidated)	As of December 31, 2019
<b>Number of employees</b>	8,288 (Consolidated)	As of December 31, 2019
<b>Fiscal closing date</b>	December 31, annually	
<b>Annual Meeting of Shareholders</b>	Held in March	
<b>Transfer agent</b>	Sumitomo Mitsui Trust Bank, Limited	
<b>Stock listings</b>	Tokyo Stock Exchange, First Section Securities Code: 6856	
<b>Independent auditor</b>	KPMG AZSA LLC	

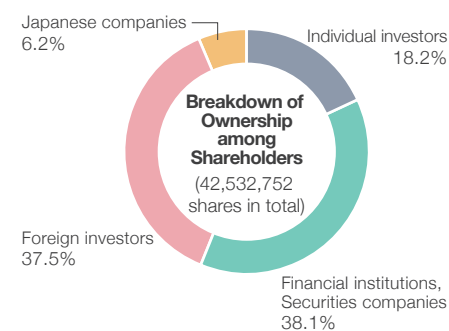
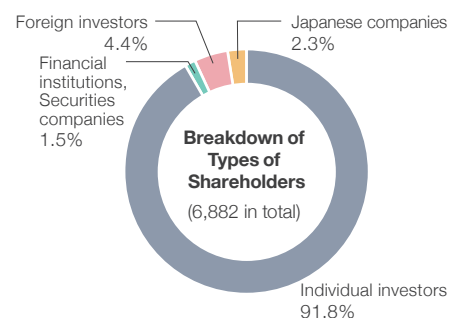
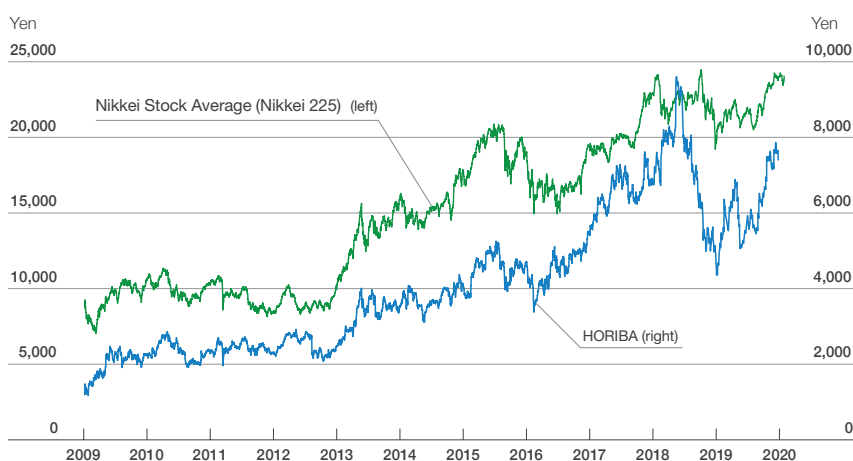
## Major shareholders

As of December 31, 2019

Name of shareholders	Shares (Thousands)	Percentage* (%)
The Master Trust Bank of Japan, Ltd.	2,446	5.80
Japan Trustee Services Bank, Ltd.	2,397	5.68
PICTET AND CIE (EUROPE) SA, LUXEMBOURG REF: UCITS	2,252	5.34
National Mutual Insurance Federation of Agricultural Cooperatives	1,682	3.99
Atsushi Horiba	1,040	2.47
THE KYOTO CHUO SHINKIN BANK	837	1.98
The Bank of Kyoto, Ltd.	828	1.96
HORIBA Raku-Raku Kai	804	1.91
Japan Trustee Services Bank, Ltd. (trust account 5)	802	1.90
HORIBA Employee Shareholding Association	710	1.69

\* Percentages of shares are calculated by deducting own shares (356,524 shares).

## Stock Price Trend



## TSR\*

Investment period	1 year	3 years		5 years	
	Cumulative / Annual Rate	Cumulative	Annual Rate	Cumulative	Annual Rate
HORIBA	118.7%	175.9%	20.7%	196.2%	14.4%
TOPIX (including dividends)	112.1%	137.4%	11.2%	136.4%	6.4%

\* Total Shareholders' Return: Total return on investment that combines capital gains and dividends

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