



FLUID MACHINERY &  
SYSTEMS BUSINESS



ENVIRONMENTAL  
PLANTS BUSINESS



PRECISION  
MACHINERY BUSINESS



## EBARA Group Integrated Report 2019





## EBARA Way

# Creation of New Value by Acting Based on the “EBARA Way”

The EBARA Group’s beginnings were in answer to the calls of society, and we have continued to provide value to society through our business in addition to fulfilling our social responsibilities. In conjunction with the 100th anniversary of the Company’s founding in 2012, we reflected on the type of company we are and want to be and reorganized those fundamental values and ethics into the EBARA Group Business Ethics Framework, to support our ethical operation over the next 100 years. As part of this undertaking, we redefined the Group’s founding spirit, corporate philosophy, and CSR Policy as the “EBARA Way,” the transcendental value shared across the EBARA Group. By acting based on the “EBARA Way,” we will create new social, environmental, and economic value.





## EBARA Group Business Ethics Framework

### Elements of the EBARA Way:

#### Founding Spirit of Passion and Dedication

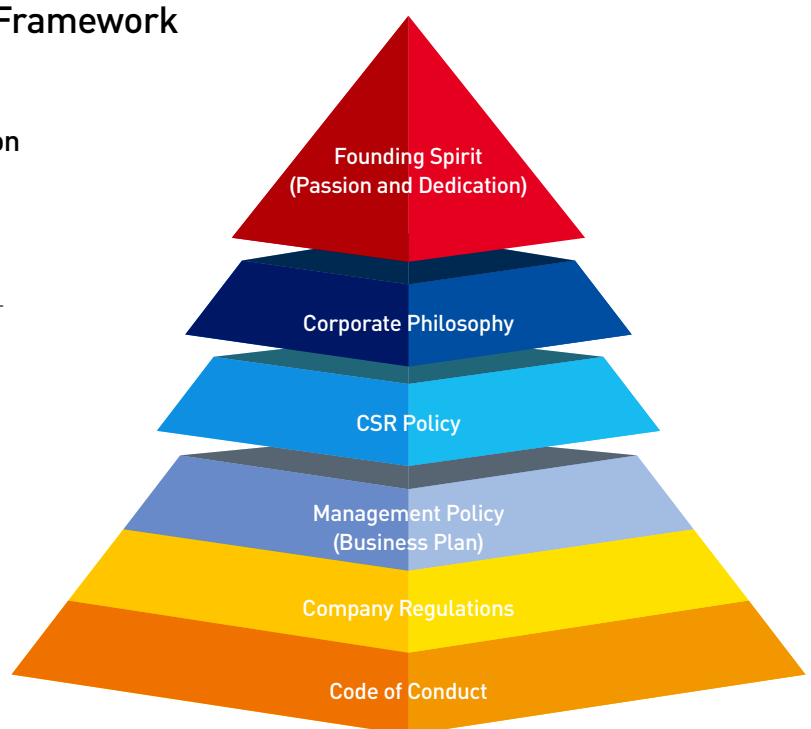
Both employees and the Company shall strive for growth with passion and dedication to bring forth originality and ingenuity, rather than simply fulfilling the task at hand. When working with passion and dedication, there is nothing that cannot be communicated to others.

#### Corporate Philosophy

We contribute to society through high-quality technologies and services relating to water, air, and the environment.

#### CSR Policy

We seek to foster trust with our valued stakeholders by conducting our business with a strong sense of ethics.



REFERENCE EBARA Group Business Ethics Framework

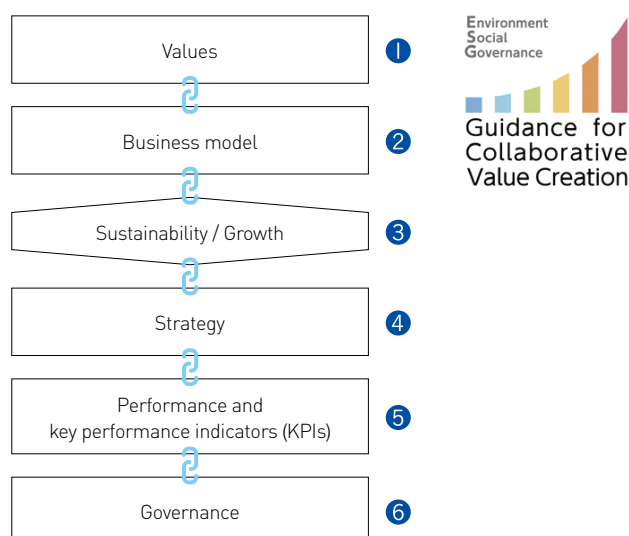
[https://www.ebara.co.jp/en/about/csr/ethics/corporate\\_ethics/index.html](https://www.ebara.co.jp/en/about/csr/ethics/corporate_ethics/index.html)

## Information Regarding Integrated Report 2019



### Editorial Policy

The EBARA Group has issued this integrated report to provide stakeholders with financial and non-financial information about its medium-to-long-term value creation activities. This report was created with reference to the International Integrated Reporting Council's International Integrated Reporting Framework; the Guidance for Integrated Corporate Disclosure and Company-Investor Dialogues for Collaborative Value Creation: ESG Integration, Non-Financial Information Disclosure, and Intangible Assets into Investment (Guidance for Collaborative Value Creation) released by the Ministry of Economy, Trade and Industry; and the standards of the Global Reporting Initiative. The relationship between information in this report and the Guidance for Collaborative Value Creation is described in the table of contents. A table detailing the referenced Global Reporting Initiative standards is available on the Company's corporate website.



**Cautionary Statement with Regard to Forward-Looking Statements**  
Certain of the statements made in this integrated report are forward-looking statements, which involve certain risks and uncertainties that could cause actual results to differ materially from those projected. Readers are cautioned not to place undue reliance on these forward-looking statements, which are valid only as of the date thereof. EBARA undertakes no obligation to republish revised forward-looking statements to reflect events or circumstances after the date thereof or to reflect the occurrence of unanticipated events.

### Company References

"EBARA" and "the Company" refer to EBARA CORPORATION while "the EBARA Group," "the Group," or "we," refer to EBARA CORPORATION and its domestic and overseas subsidiaries and affiliates

### Target Readers

All stakeholders of the EBARA Group

### Reporting Period

The fiscal year ended December 31, 2018 (January 1, 2018 to December 31, 2018)  
(Notice will be provided when the period differs from the above.)

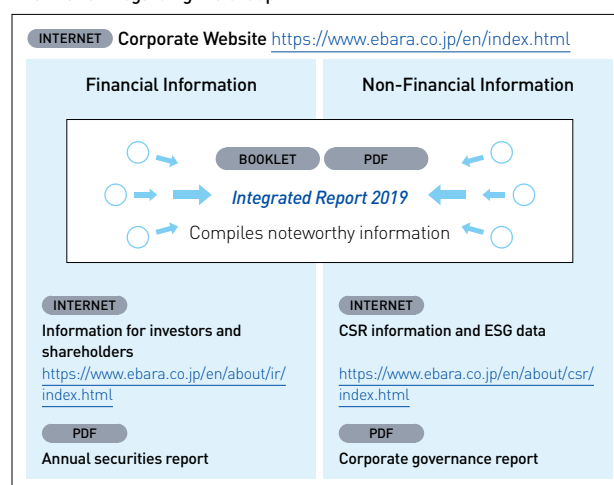
### Scope of Reporting

EBARA CORPORATION and the 90 subsidiaries (of which 60 are consolidated) and six affiliates that collectively comprise the EBARA Group (as of December 31, 2018).  
Notice will be provided when the scope of data collection differs from the above.

### Japanese Publication Date

September 2019 (2018 edition: November 2018; 2020 edition: June 2020 (tentative))

### Information Regarding the Group



To contact EBARA CORPORATION, please use the following.  
<https://www.ebara.co.jp/en/contact/index.html>

Please share your opinions regarding this report at the following.  
[https://www.ebara.co.jp/en/contact/qa/report/index.php?contact\\_group=Report](https://www.ebara.co.jp/en/contact/qa/report/index.php?contact_group=Report)



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## COVER STORY

# Social Issues and EBARA's History of Ambition

EBARA's Founding Spirit of "*Netsu to Makoto*" (Passion and Dedication) is a philosophy of engaging with work with passion and completing tasks with dedication. This Founding Spirit has continued to propel the Group forward throughout its history, driving it to fulfill its mission of contributing to society in the areas of water, air, and the environment since its founding in 1912. The Group's businesses support social and industrial infrastructure and through this, we have continued to grow while addressing the social issues of the given era.

1912

1960

1970

1980

1986  
Start of Japan's bubble economy

1979  
Oil shock

1973  
Oil shock

# EBARA'S HISTORY

1912~

## Development of the EBARA Group's Foundations

EBARA was founded by Issey Hatakeyama with the goal of supplying products based on Dr. Ariya Inokuty's world-renowned volute pump research. In the years that followed, EBARA continued to contribute to the modernization of Japan by producing the first domestically manufactured waterworks pumps, installing water infrastructure to prepare for natural disasters, developing the first water purifiers for waterworks manufactured in Japan, and undertaking other initiatives ahead of its time.

Pressing Social Issues

### Modernization of Japan

- Installation of water infrastructure
- Lack of arable land
- Reconstruction after Great Kanto Earthquake
- Widespread industrialization

1945~

## EBARA Technologies Responding to Social Demand

EBARA contributed to the stabilization of the lives of people in Japan after World War II by mass-producing pumps for increasing food production and for farmland reclamation. In addition, we delivered the first domestically produced feed water pump for supercritical pressure power plants to help address power shortages. At the same time, the Group began exporting plant equipment and establishing overseas bases to lay the groundwork for its overseas expansion.

Pressing Social Issues

### Post-World War II Reconstruction and Japanese Postwar Economic Miracle

- Lack of food and other basic necessities for people of Japan
- Power shortages
- Advancement of heavy and chemical industries
- Increased construction of plants overseas

1980~

## EBARA Technologies Permeating Society

It was during this time that the Group succeeded in developing and realizing practical application of a gasification and ash melting furnace for use as a next-generation waste treatment facility capable of completely decomposing dioxins and recycling residue. In addition, technologies accumulated thus far were applied to the development of dry vacuum pumps, resulting in the start of the Precision Machinery Business.

Pressing Social Issues

### Development of the Information Society

- Lack of waste disposal sites
- Need to realize recycling-oriented society
- Growth of semiconductor market and increased semiconductor demand
- Ozone depletion, desertification, and advancement of climate change





## EBARA's Three Businesses

### Precision Machinery Business

Number of support bases and overhaul bases worldwide

**More than 50**

Aggregate shipments of CMP systems

**More than 2,000**

### Environmental Plants Business

Waste treatment facilities delivered in Japan

**More than 300**

(in 46 prefectures)

Number of waste treatment facilities under contracted management

**More than 80**

### Fluid Machinery & Systems Business

Cryogenic pumps

**No. 1 global share**

Standard pumps

**No. 1 domestic share**

Compressors for oil and gas plants (downstream)

**Global share of approx. 30%**

Cooling towers

**No. 1 domestic share**

Note: Shares were calculated by EBARA.

Note: Graph is an approximate image of net sales over time.

2000~

### Frameworks for Future Growth

Energy-efficient, high-efficiency pumps and chillers were developed to help reduce environmental impacts while pump technologies were created for urban rainwater drainage systems. The Group also developed sophisticated, ultra-precise, high-productivity CMP and plating systems.

Pressing Social Issues

#### Search for Path to Sustainability

- Increased concern for environmental issues and acceleration of global warming countermeasures
- Rising demand for energy-saving and highly efficient technologies
- Extreme rain resulting from urban heat island phenomenon
- Development of ICT and accelerated advancement of semiconductor technologies

2010~

### Centennial Anniversary and Pursuit of Future Growth

The Group succeeded in improving its financial base and building a robust business structure through the selection and concentration of businesses. The Group then began investing in its global competitiveness by bolstering its overseas service and support (S&S) base network and introducing automated assembly lines powered by Internet of Things (IoT) and artificial intelligence (AI) technologies. Our environmental, social, and governance (ESG) management initiatives are also evolving as we strengthen corporate governance systems and implement a new human resource system.

Pressing Social Issues

#### Toward a More Diverse and Inclusive Society

- Digitization driven by proliferation of IoT and AI technologies
- Social pressure for work style reforms
- Increasing expectation for companies to contribute to realizing a sustainable society due to rising interest in climate change and ESG issues and the adoption of the United Nations Sustainable Development Goals

Over its century-long history, EBARA has continued its quest to resolve social issues through business activities based on its Founding Spirit of "Netsu to Makoto" (Passion and Dedication). These efforts allowed the Group to accumulate distinctive strengths and capitals while developing a unique value creation process.

### COMPETITIVE ADVANTAGE The Evolution of EBARA's Strengths and Capitals

→P.09-10

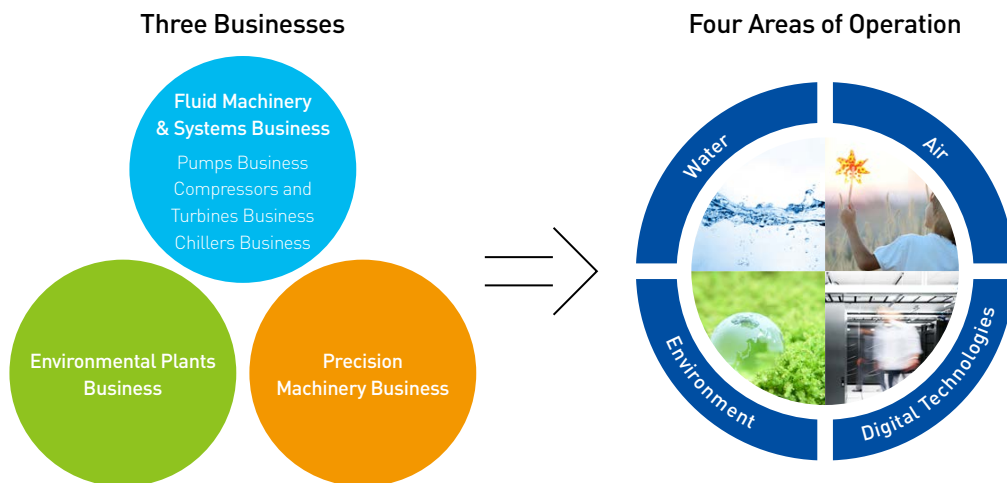
### VALUE CREATION PROCESS Creation of Value Based on the "EBARA Way," Together with Customers

→P.11-12

## OUR BUSINESSES AND AREAS OF OPERATION

# Three Businesses and Four Areas of Operation

The EBARA Group is a conglomerate comprised of three core businesses: the Fluid Machinery & Systems Business, which supplies pumps, compressors, and other rotating machinery; the Environmental Plants Business, which handles municipal solid waste treatment and resource recycling facilities; and the Precision Machinery Business, which produces equipment and devices related to semiconductor manufacturing. With these three businesses, we are helping resolve social issues and create value in our four areas of operation: water, air, the environment, and digital technologies.





## Three Businesses Supporting Social and Industrial Infrastructure

### Fluid Machinery & Systems Business

Net Sales Ratio **60%**

Supplies products and services that combine world-class technological capabilities and extensive experience to address customer needs and support social and industrial infrastructure around the world.

#### Pumps Business

Offers large-scale, high-pressure custom pumps for use in sewage facilities, rainwater drainage systems, petrochemical plants, and other facilities as well as standard pumps for use in high-rise buildings, condominiums, industrial facilities, and others.

#### Compressors and Turbines Business

Provides compressors and turbines for oil refineries and petrochemical plants.

#### Chillers Business

Handles chillers, cooling towers, and related systems for use in the air-conditioning equipment of buildings and large-scale commercial facilities.

#### Other Businesses

Provides fans for use in applications such as tunnel ventilation as well as electricity, telecommunications, and energy control equipment.

### Environmental Plants Business

Net Sales Ratio **12%**

Uses EBARA's incinerator and gasification plant technologies to handle the design, construction, operation, and maintenance of municipal solid waste incineration plants and other waste treatment facilities. This business helps support sanitary cities and safe and secure lifestyles.

### Precision Machinery Business

Net Sales Ratio **26%**

Facilitates the realization of more convenient and comfortable societies by providing products that contribute to the manufacturing processes of semiconductors, flat panel displays, and other devices indispensable to a super-smart society. The products we provide include plating systems, bevel polishing systems, dry vacuum pumps, chemical mechanical polishing (CMP) systems that can polish semiconductor wafers with nano-level precision, and other high-quality components.

## EBARA's Four Areas of Operation

## Areas in Which EBARA Creates Value

### Water

We support water infrastructure worldwide by providing a vast lineup of products, such as water supply pumps for buildings and condominiums, pumping stations that prevent flooding, and pumps for desalination plants.

### Environment

We promote efficient resource use and stable energy supply by providing pumps and compressors for energy-related facilities and constructing and maintaining municipal solid waste treatment facilities and biomass power generation plants. In addition, we supply energy-efficient and resource-conserving products in all businesses.



### Air

We provide dry vacuum pumps that create clean vacuums, gas abatement systems for treating hazardous gases as well as greenhouse gases, chillers used for air conditioning, and tunnel ventilation fans to the global market.

### Digital Technologies

Aiming to contribute to the realization of a super-smart society in which all things are interconnected, we support the development of cutting-edge technologies by supplying vacuum pumps and various types of semiconductor manufacturing equipment, including CMP systems, that capitalize on the technologies we have fostered in the areas of water, air, and the environment.

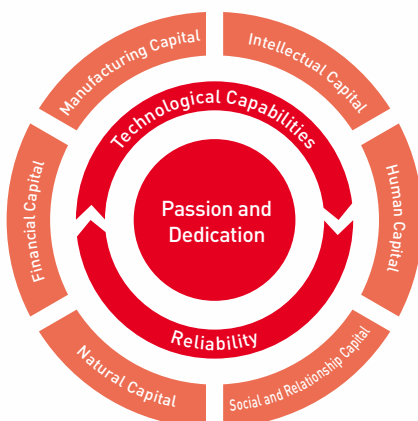
## COMPETITIVE ADVANTAGE

# The Evolution of EBARA's Strengths and Capitals

The EBARA Group has continued to adhere to its Founding Spirit of “*Netsu to Makoto*” (Passion and Dedication) throughout its century-long history. This spirit is the core from which our technological capabilities and reliability have grown from, and these strengths together enable us to respond to the needs of customers and society. Moreover, we strategically utilize and enhance our intellectual capital, human capital, and social and relationship capital while looking to reduce the burden we place on natural capital. In addition, we are reinforcing our manufacturing capital and financial capital, inputs that form the foundation of our operating activities. These different capitals all evolve after being infused with the core EBARA strengths, creating our competitive advantage and allowing us to serve our stakeholders while simultaneously creating distinctive value for society.

## EBARA's Core Strengths and Significant Capitals

EBARA's Competitive Advantage





## Significant Capitals which Heighten Competitiveness

### Intellectual Capital

Rigorous research and development underpinning efforts to maximize investment efficiency and bolster product competitiveness

Number of patents held  
**+20.6%** (in comparison to 2015)

See P.31–36 for more information on intellectual capital management.

### Human Capital

Human resources with ambition, originality, and ingenuity that embody the "EBARA Way"

Number of employees worldwide  
**16,556**

See P.37–40 for more information on human capital management.

### Social and Relationship Capital

Strong partnerships for creating new value

Ratio of top 200 tier 1 suppliers (domestic consolidated basis) aware of CSR Procurement Guidelines  
**98%**

See P.43–44 for more information on social and relationship capital management.

### Natural Capital

Environmental management advanced through concerted Groupwide efforts

Scope of global environmental data collection  
**88%**

See P.41–42 for more information on natural capital management.

### Financial Capital

Stable financial base

Credit rating

**A**

(Rating and Investment Information, Inc.)

See P.27–30 for more information on financial capital management.

### Manufacturing Capital

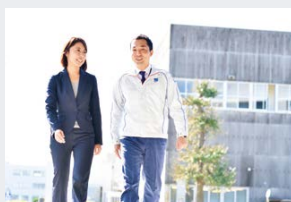
Investment in manufacturing equipment that supports the shift to next-generation technologies

Total capital expenditures (capital outflows)  
**¥19.3 billion**

See P.50 and throughout the report for examples of investment in manufacturing capital.

## EBARA's Core Strengths

## The Driving Force behind EBARA's Creation of Distinctive Value



### Passion and Dedication

"Netsu to Makoto" (Passion and Dedication) was the motto of EBARA founder Issey Hatakeyama, and he was constantly advocating these principles to employees. This spirit lives on in the EBARA Group of today, forming the foundation for attitudes toward the work ethic and behavior of our people. When we go about our work with passion, exercise originality and ingenuity, and maintain a dedication to completing the task at hand, our technological capabilities and reliability grow stronger.

### Technological Capabilities

Since our founding, we have continued to act in accordance with our philosophy of contributing to the resolution of social issues through our business activities providing the products and services desired by customers and society. Over our century-long history, we have accumulated the technologies necessary to offer support across the entirety of our product lifecycles while broadening the scope of our business. EBARA's technologies are capable of realizing finely tuned responses to customer needs and thus support the growth of our business.

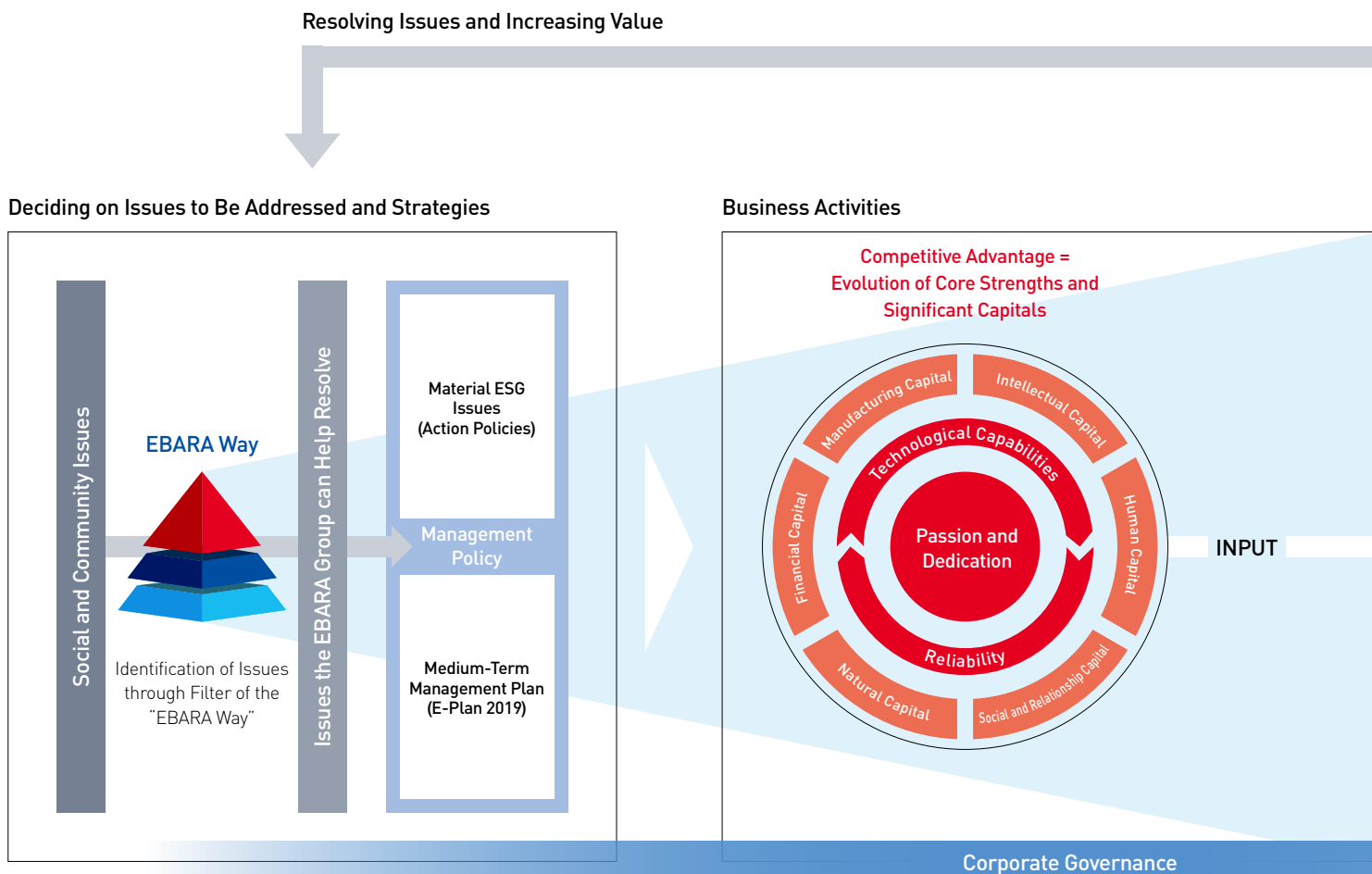
### Reliability

The passion and dedication all employees exercise in their work and the tenacity they exhibit in the face of adversity have won EBARA a strong reputation for reliability among its customers. We continue to build upon this reputation of being a reliable and steadfast partner by remaining true to our spirit of passion and dedication and by proactively solving issues customers may be facing. Strengthening our trust-based relationships with customers and other stakeholders will unlock new possibilities for EBARA.

## VALUE CREATION PROCESS

# Creation of Value Based on the “EBARA Way,” Together with Customers

The EBARA Group believes that improving its social value, environmental value, and economic value through its business activities is essential for improving its overall corporate value. We therefore engage in co-creation with valued partners aimed at developing products and services that contribute to the realization of a safer, more secure, and comfortable society as described in the Management Policy.





## Social Issues Addressed in the Management Policy and Value Created by EBARA Group

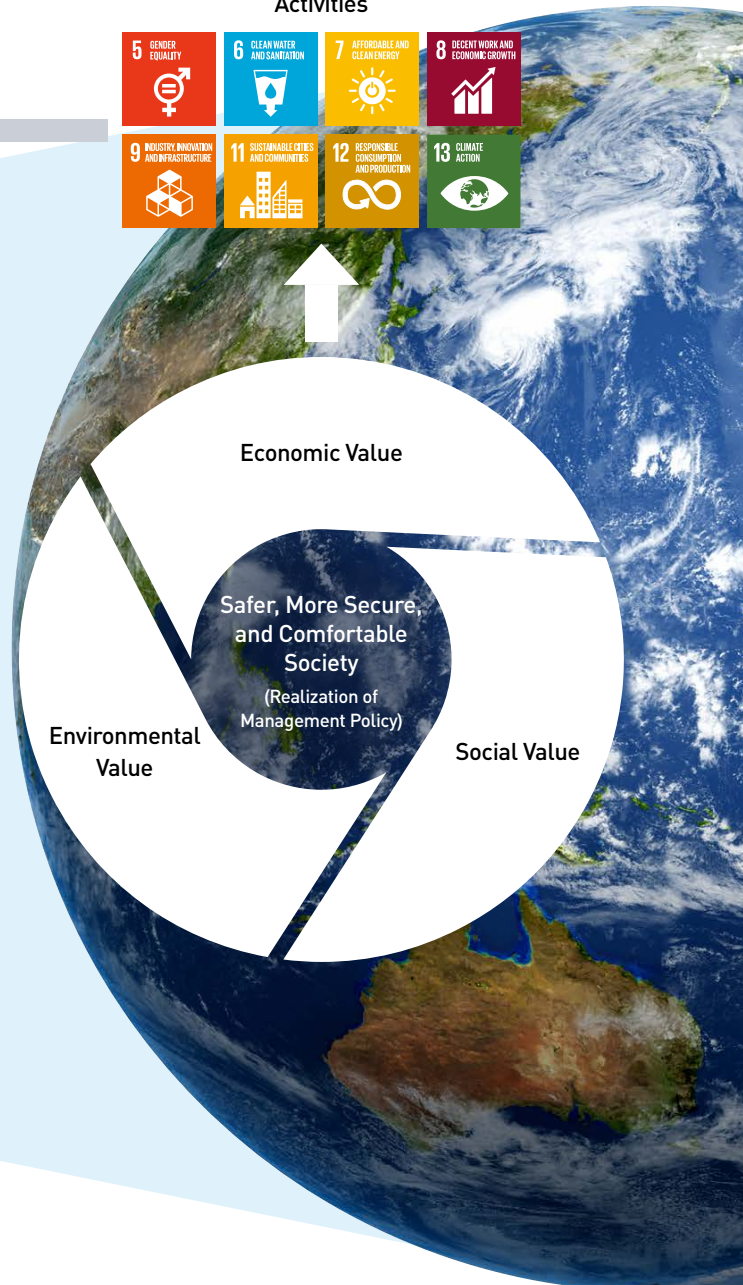
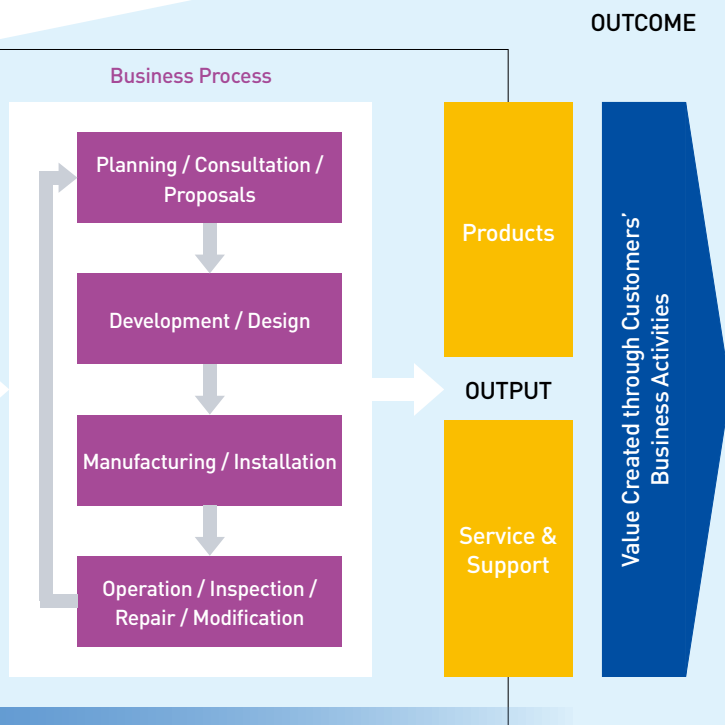
### Social Issues Addressed in the Management Policy

Effective utilization of water resources	Optimization of energy use
Treatment of waste	Realization of a super-smart society

### Value Created

Social Value	<ul style="list-style-type: none"> <li>• Sustainable development of industries</li> <li>• Stable supplies of energy and water</li> <li>• Construction of resilient social infrastructure</li> <li>• Realization and development of a super-smart society</li> </ul>
Environmental Value	<ul style="list-style-type: none"> <li>• Provision of products that use less energy and fewer resources</li> <li>• Recycling of resources</li> <li>• Eco-friendly production activities</li> </ul>
Economic Value	<ul style="list-style-type: none"> <li>• Realization of stable economic cycles</li> </ul>

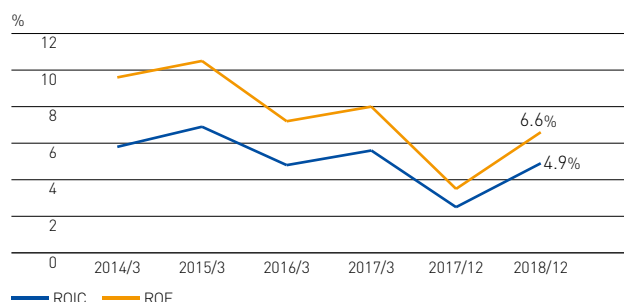
### Sustainable Development Goals (SDGs) Highly Relevant to Business Activities



# Performance Highlights

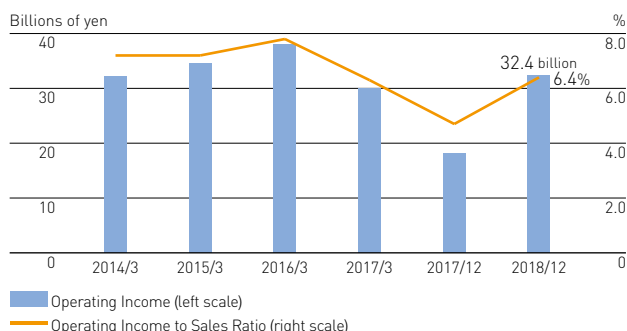
## Financial Indicators

### ROIC\*1 / ROE\*2



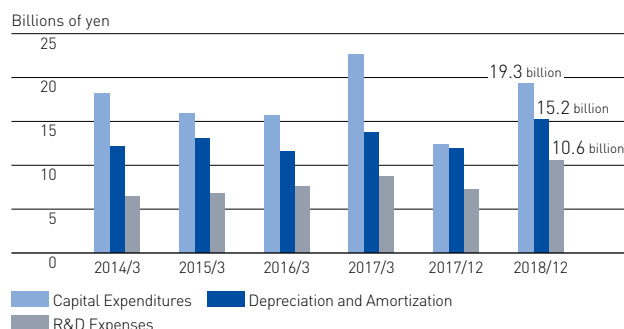
**POINT** The Company has positioned return on invested capital (ROIC) as its most important key management indicator and has set the target of achieving ROIC of 8.0% or more in the fiscal year ending December 31, 2019. This target will be pursued by achieving a debt/equity ratio of 0.40 times–0.60 times and return on equity (ROE) of 11.0%–13.0%. In the fiscal year ended December 31, 2018, ROIC was 4.9% while ROE was 6.6%. Improvements to profitability are behind schedule centered on the Fluid Machinery & Systems Business, and we are projecting that we will be unable to meet the target for the fiscal year ending December 31, 2019.

### Operating Income / Operating Income to Sales Ratio



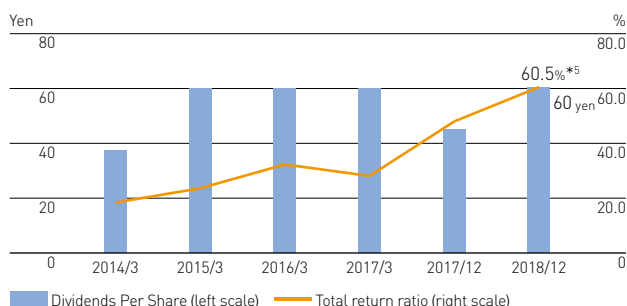
**POINT** E-Plan 2019 sets an operating income to sales ratio target of 9.0% or more. Operating income levels have been down in recent years due to the persistence of sluggish conditions in the oil and gas market. In the nine-month period ended December 31, 2017, a recovery trend emerged in the oil and gas market. Together with the benefits of profitability improvement measures in all of our businesses, this recovery trend has been driving gradual improvement in profitability.

### Capital Expenditures / Depreciation and Amortization / R&D Expenses



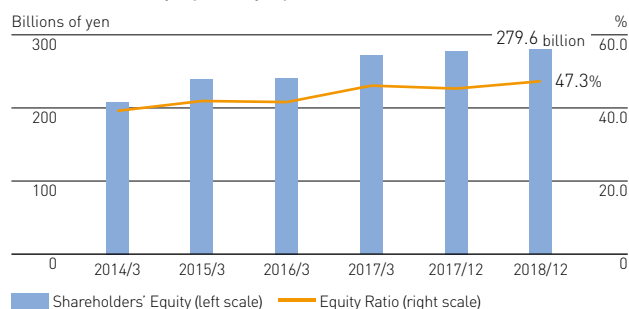
**POINT** Capital expenditures were up in the fiscal year ended March 31, 2017, due to investments in the facilities of the Kumamoto Plant. We intend to continue aggressively investing in growth throughout the period of E-Plan 2019. Investments in the nine-month period ended December 31, 2017, and forward have included those for the automation of standard pump and dry vacuum pump assembly lines as well as for the construction of test development facilities for components to be supplied to the semiconductor market.

### Dividends Per Share\*3 / Total Return Ratio\*4



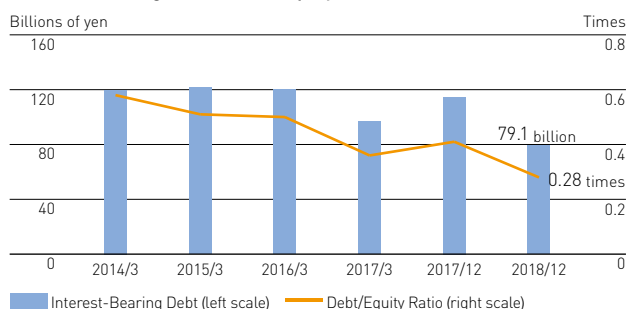
**POINT** EBARA has been issuing consistent dividends over the past several years due to improvements in its financial position. During the period of E-Plan 2019, we will target a total return ratio of 30% or more. The targeted indicator for shareholder returns was changed from dividend payout ratio to total return ratio with the goal of allowing for flexible capital policies while maintaining consistent dividends over the long term.

### Shareholders' Equity\*6 / Equity Ratio



**POINT** The accumulation of retained earnings drove increases in shareholders' equity and the equity ratio.

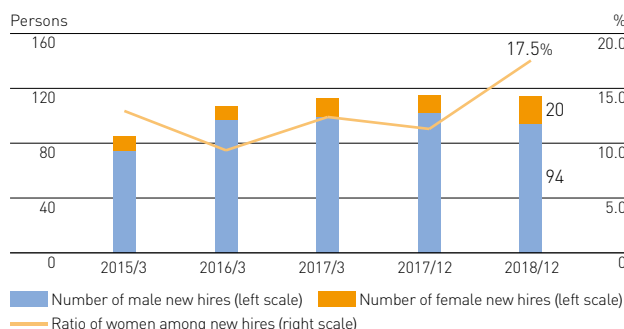
### Interest-Bearing Debt / Debt/Equity Ratio



**POINT** Interest-bearing debt is on the decline following improvements in financial health. On December 31, 2018, the debt/equity ratio was 0.28 times, lower than the level of 0.40 times–0.60 times targeted over the period of E-Plan 2019.

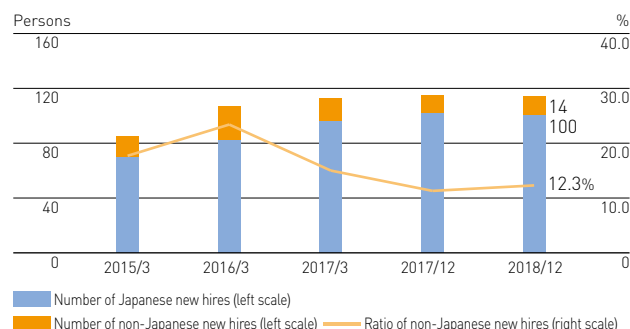
## Non-Financial Indicators

### Ratio of Women Among New Hires



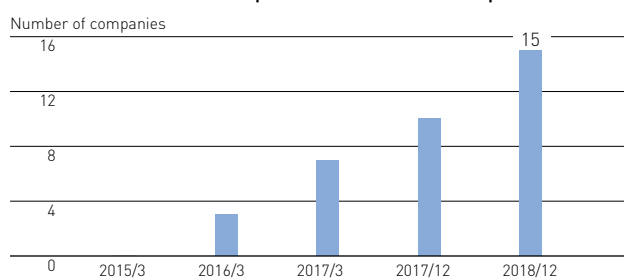
**POINT** The ratio of women among new hires has been set as a key performance indicator (KPI) with a target of 11% at EBARA in the fiscal year ending December 31, 2019. Various initiatives are being implemented to make EBARA an appealing place to work for women. EBARA also supports initiatives aimed at recruiting more women into science, technology, engineering, and mathematics fields.

### Ratio of Non-Japanese New Hires



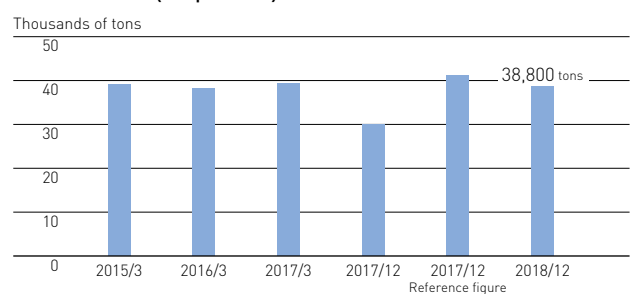
**POINT** EBARA has been actively promoting the employment of non-Japanese individuals since 2011 based on the recognition that diversity is prerequisite to ongoing growth in the global market. EBARA has also implemented a variety of measures focused on improving non-Japanese employee retention.

### Number of Overseas Companies with EBARA Group Hotlines



**POINT** As part of the effort to reinforce anticorruption programs launched in 2016, we have been establishing compliance hotlines at overseas Group companies. In the fiscal year ended December 31, 2018, we completed extending these hotlines to 15 overseas Group companies, and we intend to promote use of these hotlines going forward.

### CO<sub>2</sub> Emissions (Scope 1 & 2)\*7



**POINT** Ongoing reductions of CO<sub>2</sub> emissions are one of the EBARA Group's FY2020 Environmental Targets. In the fiscal year ended December 31, 2018, emissions were down 4.0% from the reference figure for the twelve-month period ended December 31, 2017. The Company will continue efforts to minimize environmental impact as it grows its business in the future.

## Contributions to the Environment through Business Activities

### Energy-Efficient Standard Pumps Environmental Benefits:

**6,789,600 kWh** reduction in electricity use

**POINT** KPIs regarding the electricity usage of several standard pump models have been set for Action Policy 1 for addressing EBARA's material ESG issues. Based on a preliminary calculation by the Company, the pumps that have been delivered to end-users have made reductions in electricity use during operation of 6,789,600 kWh when compared to prior models, which equates to an annual reduction in CO<sub>2</sub> emissions of around 3,400 tons. We will continue to develop the most efficient pumps we can in order to lower the overall CO<sub>2</sub> emissions of factories or buildings in which those pumps are used.

### Waste-to-Energy Generation in the Environmental Plants Business Environmental Benefits:

**718,345 MWh** of electricity generated

**POINT** By generating power at municipal solid waste treatment facilities and returning this power to the community, EBARA is helping create a sustainable society. Waste-to-energy generation volume has been set as a KPI for Action Policy 2 for addressing EBARA's material ESG issues. In the fiscal year ended December 31, 2018, we generated enough electricity to power approximately 240,000 households.

\*1 ROIC: Profit attributable to owners of parent / (Interest-bearing debt (Average between beginning and end of period) + Shareholders' equity (Average between beginning and end of period))

\*2 ROE: Profit attributable to owners of parent / Shareholders' equity (Average between beginning and end of period)

\*3 EBARA conducted a consolidation of common shares at a rate of one share for every five shares with an effective date of October 1, 2016. Figures for dividends per share have been adjusted based on the assumption that this consolidation was conducted on April 1, 2014.

\*4 When the annual dividend of ¥36.00 for the fiscal year ended March 31, 2017 (including an interim dividend of ¥6.00), is converted after the consolidation of shares, it is equivalent to ¥60.00 per share, consisting of an interim dividend of ¥30.00 and a year-end dividend of ¥30.00. Accordingly, the total return ratio is calculated based on an annual dividend of ¥60.00 per share.

\*5 Share buybacks were conducted in amounts of ¥5.0 billion in the fiscal year ended December 31, 2018.

\*6 Shareholders' equity: Total net assets - (Subscription rights to shares + Non-controlling interests)

\*7 Figures are on a consolidated basis combining Scope 1 and Scope 2 emissions for the Company and domestic Group companies. The base year for emissions targets is the fiscal year ended March 31, 2001. The Company uses the emissions coefficient of 0.357 kg/kWh prescribed in the Order for Enforcement of the Act on Promotion of Global Warming Countermeasures in 2000.



# “Technology. Passion. Support our Globe”—Our Commitment to Enriching People’s Lives

## Masao Asami

President and Representative Executive Officer

### Vision for EBARA’s Corporate Culture

Greetings. My name is Masao Asami, and I took up the mantle of President and Representative Executive Officer of EBARA CORPORATION in March 2019. After joining the Company in 1986, I spent the majority of my career in the Precision Machinery Business, which mainly caters to the semiconductor industry. The pace of change in this industry is blinding, and the competitiveness of a company can be greatly diminished if it falls a minute, or even a second, behind. Over the years, I have continued to serve customers that operate in this high-pressure industry, where they are constantly pressed to make high-risk decisions. My daily work was to examine various ways of helping our customers survive amid this fierce competition and to produce as many viable ideas as possible. Rising to this challenge spurred my own growth. Committing to a perpetual cycle of addressing customer needs, under any circumstances; searching for the necessary solutions with tenacity and passion; and overcoming the challenges that present themselves to satisfy customers are what, I believe, drives the growth of people and companies. The EBARA Group operates three businesses—the Fluid Machinery & Systems Business, the Environmental Plants Business, and the Precision Machinery Business—each of which faces different operating environments and organizational speeds. Amid what is being called the Fourth Industrial Revolution, weathering the turbulent climate of social change will require that every employee in each business remains receptive toward tackling arising social challenges while approaching their work with an earnest dedication.

The EBARA Group is home to those who are committed to contributing to people, society, and the environment through its businesses. When all employees are able to exert their full effort to fulfill this commitment, they will find pride and motivation in their work. It is my mission to cultivate such a corporate culture, and I am sure that accomplishing this mission will drive the growth of the entire EBARA Group.

### EBARA’s Purpose and Vision

The EBARA Group has continued to develop its business based on “*Netsu to Makoto*” (Passion and Dedication), the Founding Spirit that we have valued since our inception. Throughout our history of over 100 years, we have proceeded to hone our exceptional technological capabilities in order to deliver products and services that support society, industry, and everyday life. This is the purpose of EBARA’s existence, and this will not change going forward. The heart of our technological capabilities is the Inokuty-type volute pump\* principle. This principle is a point of origin for our various fluid and rotation technologies as well as for the related control technologies. Our unique research and development activities aimed at elevating our core technologies to higher levels of performance have always been, and will always be, the driving force behind EBARA’s growth. The Company’s ongoing existence is predicated on its ability to continue applying, evolving, and combining its core technologies to create new products and solutions in response to the needs of society and of local customers in any given era.

In consideration of this, I believe we can summarize the EBARA Group’s mission into the words “Technology. Passion. Support our Globe.” Our present goal in the current medium-term management plan, E-Plan 2019, is to develop our businesses on a global basis and grow continuously as a manufacturer of industrial machinery. The operating environment at the moment is plagued by political risks such as the trade war between the United States and China, not to mention the massive transformations taking place in the manufacturing industry globally, making it difficult to formulate an outlook for the future. Nevertheless, I am confident that there will be many opportunities for EBARA as technological progress changes society and industries. We often speak of “ICAC5 technologies,” a term which we use to refer to Internet of Things (IoT), technologies that will connect all things; cloud technologies that will support IoT; artificial intelligence; car (automated driving) technologies; and 5G communications technologies boasting

\* The Inokuty-type volute pump is a centrifugal pump based on the theory of Dr. Ariya Inokuty, who was an inspiration to founder Issey Hatakeyama.



transmission speeds 100 times faster than those of current technologies. We recognize that these technologies have great potential to enrich people's lives while simultaneously contributing to the preservation of the environment. The development of ICAC5 technologies is dependent on the further development of semiconductors, a core EBARA market. Figuring out how to facilitate the creation of this smarter and more comfortable society, supported by ICAC5 technologies, while also realizing the sustainable society so desired by the entire world and growing our businesses, will require that we look even more closely at the true needs of the world and at what we can do to provide even more appealing products and services. I want to lead EBARA so that it will always be a company that approaches this and every challenge with passion and dedication and a strong sense of purpose to support the world with its technologies.

### EBARA's Value Creation and KPIs

The EBARA Group aspires to raise its overall corporate value by increasing the social value, environmental value, and economic value it creates through its business activities. Accordingly, return on invested capital (ROIC) and the operating income to sales ratio have been identified as financial key performance indicators (KPIs) in E-Plan 2019. The nature of our business means that a large portion of our customer base is the infrastructure sector. It is therefore important that we manufacture and supply our products through cost-competitive, eco-friendly processes while ensuring that these products deliver both energy efficiency and high-quality performance when used by customers. It is also our responsibility to prevent halts to operations from equipment failures and to offer service and support (S&S), including parts exchanges and inspections, to guarantee that our products can continue operating reliably over long periods of time. Meanwhile, there is heightened interest in environmental, social, and governance (ESG) issues as well as in the set of shared global targets that is the United Nations Sustainable Development Goals (SDGs). Given this interest, we must share information with our wide range of stakeholders regarding the EBARA Group's initiatives for increasing its value and the progress of these

initiatives. We approached this in 2017 by first identifying the material ESG issues of the Group and setting KPIs for gauging our progress in addressing these issues. We then considered how relevant these initiatives were to each of the 169 targets of the SDGs. A year and a half has passed since the material ESG issues were identified, and we are seeing progress on this front. Nevertheless, it is crucial that we develop a clear understanding of the challenges we face in accomplishing the targets we set for the fiscal year ending December 31, 2019, and respond accordingly. We must also constantly reevaluate our KPIs to determine if they are truly the most ideal for our goals and thereby implement a PDCA (plan-do-check-act) cycle for setting KPIs that are best suited to maximizing corporate value and to boosting employee motivation.

### Review of the Current Medium-Term Management Plan, E-Plan 2019

In the fiscal year ended December 31, 2018, the second year of E-Plan 2019, smooth progress was made in measures for all businesses. As a result, orders in all three businesses exceeded those in the first year of the plan. Net sales were also higher in the second year of E-Plan 2019, as growth in sales in the Fluid Machinery & Systems Business and the Precision Machinery Business was able to compensate for the decline in sales in the Environmental Plants Business.

However, we were unable to improve profitability due to delayed recovery in the operating environments of these businesses as well as certain one-time internal detractors. As a result, consolidated ROIC was 4.9% while the operating income to sales ratio was 6.4%. The most significant factor behind our failure to improve profitability was that the projected recovery in plant investments in the oil and gas markets, which primarily impacted the Fluid Machinery & Systems Business, was delayed and we were unable to furnish an appropriate response to this situation. We are committed to identifying the causes of this failure by reevaluating our market forecasts and measures, so that we can revise our approach and make up for this delayed recovery in profitability to the greatest extent possible in the final year of E-Plan 2019.

**EBARA must be a company that evolves together with society to continue contributing thereto. I will take the initiative in thinking and working together with employees to transform the EBARA Group.**







The first commitment I made after becoming President and Representative Executive Officer was to thoroughly examine the issues all of our businesses are facing to pinpoint the causes of our decline in profitability and to formulate effective measures for addressing these causes. I will take a hands-on approach toward this process, joining in the search and playing a central role in enacting change. Up until now, a great deal of authority for managing the progress of business measures was delegated to the respective in-house company presidents. Each business acted in accordance with its own markets and as a result, each business has developed different conceptions of reasonable timeframes or what constitutes a sense of urgency. I view bridging that gap between the businesses and creating a united sense of urgency as a challenge that lies ahead. This has led me to start holding meetings of all Executive Officers once a week, in addition to follow-up one-on-one meetings when necessary. I believe that by doing this, I will be able to make better-informed management decisions based on an overarching perspective gained from the opinions of in-house company presidents and Executive Officers. It will also enable me to maintain an up-to-date understanding of the conditions of each business to raise the speed of my responses and thus allow for prompt measures to be put in place at the earliest sign of an issue.

### Pursuit of Future Growth

We are currently in the process of formulating E-Vision 2030, which will lay out our vision for EBARA in 2030. We will be using a backcasting approach from E-Vision 2030 to prepare the next medium-term management plan in order to facilitate management that maximizes economic, social, and environmental value created by the EBARA Group as well as the Group's profits.

Over the next 10 or 20 years, it is anticipated that society, infrastructure, and people's lives will become more sophisticated, as symbolized by the ICAC5 technologies. The EBARA Group will respond to this trend by leveraging AI and IoT to make its products more sophisticated and to accelerate the automation of its production processes. For example, I see the potential

to embed sensors into pumps in order to remotely monitor and control operating status or to develop systems that create operating conditions based on customer specifications or to help customers achieve their energy conservation targets or other such plans. Evolving our products and services to the point that we may even be able to exceed our customers' expectations regarding the levels of optimization in their operations would in turn enable us to improve our profitability. Under the next medium-term management plan, I look to focus on expanding our S&S operations from the customer's perspective and to prepare us to make proposals that go as far as to effect change in customers' business infrastructure.

I believe that each of our employees possesses a desire to contribute to society through their work. To help them give form to this desire, I will work to find new business opportunities by fully leveraging EBARA's technological capabilities. My search will not be limited to extensions of current operations, but will rather seek new opportunities based on the society of the future. EBARA must be a company that evolves together with society to continue contributing thereto. To accomplish this goal, I will take the initiative in thinking and working together with employees to transform the EBARA Group.

**Masao Asami**

President and Representative Executive Officer

### WE SUPPORT



The EBARA Group is a signatory to the United Nations Global Compact (UNGC), endorses its Ten Principles, and is exercising these principles.

## Roadmap for Increasing Corporate Value

# Ongoing Growth through the Execution of E-Plan 2019 and Measures that Address Material ESG Issues

Since its founding, the EBARA Group has continued to expand the scope of its operations, maintaining its focus on pumps and other rotating machinery while branching out to environmental plants and semiconductor manufacturing equipment and devices. Today, the Group has grown into a conglomerate—comprised of 90 subsidiaries around the world (60 consolidated) and six affiliates—that generates consolidated net sales of around ¥500 billion a year, more than 50% of which comes from outside of Japan.

We are committed to advancing E-Plan 2019 and implementing initiatives for addressing the EBARA Group's material environmental, social, and governance (ESG) issues in order to achieve the growth objectives of our management policy and further increase corporate value.

### Underway

### Progress in the Fiscal Year Ended December 31, 2018

#### Material ESG Issues

(for the period of April 2017–December 2019)

#### Basic Policy

The EBARA Group will help develop more efficient and resilient social and industrial infrastructure through product and service innovations in order to contribute to the realization of a sustainable society that offers comfortable and fulfilling lifestyles for people around the world.

➡ The EBARA Group has identified eight material issues and six action policies for addressing these issues. Progress on these initiatives are monitored through key performance indicators (KPIs) and related targets.

#### Progress Highlights

##### Environmental

- Provided products with reduced electricity consumption ➡ P.49, 59
- Achieved waste-to-energy generation target ➡ P.55

##### Social

- Accelerated diversity promotion initiatives ➡ P.37
- Increased awareness of CSR Procurement Guidelines among suppliers ➡ P.44

##### Governance

- Appointed an Independent Director as Chairman of the Board of Directors ➡ P.67–70
- Established succession plan ➡ P.74–75

#### Slogan

Unlimited challenge toward growth

#### Basic Policy

Solidify the profit foundation of the Group so that it is not influenced by market fluctuations, and aim for further growth.

➡ Position three-year period of E-Plan 2019 as a period for focusing on income growth and improving the profitability of all businesses.

#### E-Plan 2019

(for the period of April 2017–December 2019)

ROIC **4.9%**

Operating income to sales ratio **6.4%**

Operating income was down from the previous equivalent period due to faltering earnings growth in the Fluid Machinery & Systems Business. Return on invested capital (ROIC) in the fiscal year ended December 31, 2018, rose by 2.4 points, but this recovery was stifled by slumping operating income to sales ratios in all businesses.



Targets for the Fiscal Year Ending December 31, 2019

#### Comprehensive Resolution of Eight Material Issues

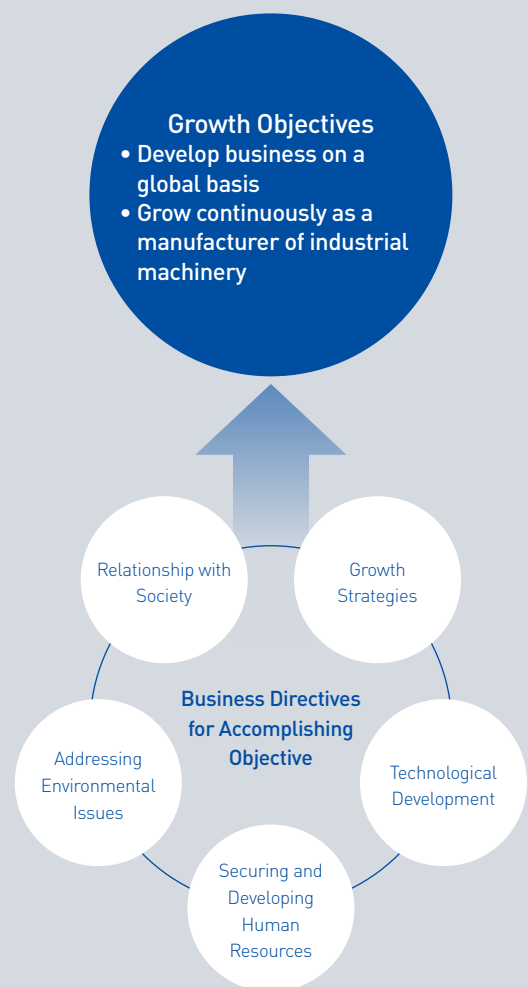
- Increase sales volumes of resource and energy efficient products
- Expand S&S operations
- Formulate FY2030 Environmental Targets
- Ensure thorough compliance and more sophisticated risk management
- Promote employee diversity

ROIC **8.0% or more**

Operating income to sales ratio **9.0% or more**

ROIC of 4.5% and an operating income to sales ratio of 5.6% are projected in the fiscal year ending December 31, 2019. This performance will fall short of the targets for E-Plan 2019, but the EBARA Group will continue to move forward with the measures of the plan to drive growth in the fiscal year ending December 31, 2020 and beyond.

#### Management Policy



REFERENCE Management Policy

<https://www.ebara.co.jp/en/about/corporate/about/philosophy/>



# Material ESG Issues, Action Policies, and Relationship with the Sustainable Development Goals

## The EBARA Group's Views on Materiality

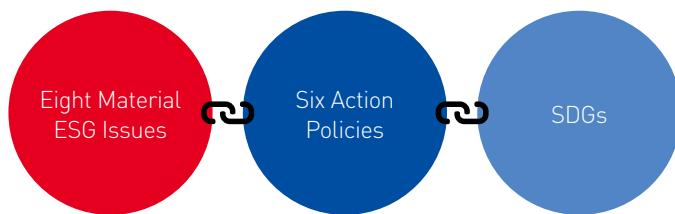
To guide the EBARA Group in its quest to continue growing with society and improving corporate value, we have identified eight ESG issues material to our sustainable development and determined six action policies for initiatives pertaining to these issues. In addition, we have set KPIs and targets to monitor and confirm the progress of these policies. Initiatives pertaining to these issues will be revised based on their progress as we endeavor to increase corporate value.

REFERENCE Process for Identifying Material ESG Issues

<https://www.ebara.co.jp/en/about/csr/ethics/materiality/index.html>

## Eight Material ESG Issues and Six Action Policies

The six action policies tackle the eight material ESG issues in a comprehensive manner. We have established KPIs and targets leading up to 2019 for each action policy.



## Identification of Material ESG Issues



## Six Action Policies

The six action policies address each of the eight material ESG issues. KPIs and targets have been set for each action policy in order to monitor progress made in solving material issues. →P.23-24



### Action Policy 1

Provide products and services that minimize the use of energy and resources

## Relationship with the SDGs




	1 NO POVERTY	2 ZERO HUNGER	3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION	5 GENDER EQUALITY	6 CLEAN WATER AND SANITATION	7 AFFORDABLE AND CLEAN ENERGY	
Action Policy 1						High	High	
Action Policy 2		Medium				High	High	
Action Policy 3						High	Medium	
Action Policy 4						Medium		
Action Policy 5					High			
Action Policy 6				Medium	High			

Eight Material ESG Issues				Six Action Policies					
Innovation in the areas of water, air, and the environment	E	S		1	2				
Improvement of social infrastructure	E	S		1	2				
Consideration for the environment	E			1	2	3			
Continuous improvement of governance			G					5	
Reliable product quality and responsible customer engagement		S					4		
Responsible supply chain	E	S					4		
Secure talented human resources, foster their capabilities, and maximize value		S							6
Risk management			G					5	

[illegible]


## Overview of KPIs and Progress toward Targets

**Action Policy 1**  **Provide products and services that minimize the use of energy and resources**

Material ESG Issues Addressed —————

**Innovation in the areas of water, air, and the environment / Improvement of social infrastructure / Consideration for the environment**

Progress



KPIs and targets have been set with regard to addressing climate change by creating energy-efficient products and conserving resources by reducing equipment weight, and steady progress is being made toward the accomplishment of these targets.

Major KPIs and Results (Progress toward Target)

Fluid Machinery & Systems Business → P.49	Environmental Plants Business → P.55	Precision Machinery Business → P.59
<ul style="list-style-type: none"> <li>• Applicable, delivered standard pump products in-use energy reduction (68%)</li> <li>• Applicable, delivered custom pump products weight reduction (67%)</li> </ul>	<ul style="list-style-type: none"> <li>• Waste-to-energy generation at Company-operated waste incineration plants (100%)</li> </ul>	<ul style="list-style-type: none"> <li>• Chemical mechanical polishing systems and dry vacuum pumps in-use energy reduction (81%)</li> </ul>

**Action Policy 2**  **Expand the service and support (S&S) business, maximize product life, and minimize any product downtime**

Material ESG Issues Addressed —————

**Innovation in the areas of water, air, and the environment / Improvement of social infrastructure / Consideration for the environment**

Progress




KPIs and targets have been set for service and support (S&S) sales and base numbers and progress toward these targets has been steady. The EBARA Group is contributing to the development of resilient infrastructure through the reliable operation of social and industrial infrastructure.

Major KPIs and Results (Progress toward Target)

Fluid Machinery & Systems Business → P.49	Environmental Plants Business → P.55	Precision Machinery Business → P.59
<ul style="list-style-type: none"> <li>• S&amp;S sales (93%)</li> <li>• Standard pump on-call processing time*<sup>1</sup> (87%)</li> <li>• Number of countries with custom pump and chillers S&amp;S bases (86%)</li> </ul>	<ul style="list-style-type: none"> <li>• Operation &amp; Maintenance (O&amp;M) contracting facilities (80%)</li> </ul>	<ul style="list-style-type: none"> <li>• S&amp;S sales (96%)</li> <li>• Number of overhauls*<sup>2</sup> performed (89%)</li> <li>• Companywide average on-time overhaul shipments (81%)</li> </ul>

\*1 On-call processing time: The time required to document and relay requests to relevant divisions after conclusion of inquiry.

\*2 Overhauls: Inspections and repairs involving disassembly.

**Action Policy 3**  **Minimize the amount of energy and resources used in business activities**

Material ESG Issues Addressed —————

**Consideration for the environment**

Targets to be set by December 31, 2019

The scope of environmental performance data collection was expanded on a Groupwide and global basis to facilitate the formulation of targets for the fiscal year ending December 31, 2030.


Major KPIs and Results

→ P.41-42

- Scope of Global data collection: 88% of consolidated net sales
- Greenhouse gas emissions: Down 4.0% from the period of January 1 to December 31, 2017
- Material recycling rate: 96.3%




**Action Policy 4**



**Fulfill social responsibilities to supply chain, deliver reliable product quality throughout the product's life cycle, and achieve responsible customer engagement**

Progress



Material ESG Issues Addressed \_\_\_\_\_

**Reliable product quality and responsible customer engagement / Responsible supply chain**


**CSR procurement surveys have been contributing to higher awareness regarding the CSR Procurement Guidelines among suppliers. The EBARA Group will continue to issue these surveys while expanding the scope of surveyed suppliers going forward.**

Major KPIs and Results

➔ P.44


- CSR procurement survey response rate: 72%
- Rate of CSR Procurement Guidelines awareness among tier 1 top 200 domestic suppliers: 98%

**Action Policy 5**



**Continuously improve governance structures, headed by the Board of Directors, practice thorough compliance, and strengthen risk management**

Progress\*<sup>3</sup>



Material ESG Issues Addressed \_\_\_\_\_

**Continuous improvement of governance / Risk management**

**The high opinion of the Company's corporate governance systems among external stakeholders was maintained, and we are making steady progress in the establishment and implementation of foundations for entrenching compliance.**


Major KPIs and Results

➔ P.61-84

- Number of Independent Directors: 7 of 11 directors (as of March 28, 2019)
- Rate of participation in training sessions conducted on the "EBARA Way" and the EBARA Group Code of Conduct: 90%
- Number of companies administering compliance surveys: 15 in Japan, 10 overseas
- Number of companies with compliance whistle-blowing hotlines enabling consultation with outside venues: 17 in Japan, 15 overseas
- Number of companies that conducted compliance (anti-corruption) training: All 4 applicable companies


\*<sup>3</sup> Progress bar based on number of training sessions conducted on the "EBARA Way" and the EBARA Group Code of Conduct, the only indicator for which a quantitative target has been set for Action Policy 5. Performance with regard to corporate governance indicators is disclosed, but targets are qualitative/immeasurable.

**Action Policy 6**



**Enhance diversity, improve work environments to empower employees to develop to their full potential, and provide opportunities to develop necessary skills**

Progress



Material ESG Issues Addressed \_\_\_\_\_

**Secure talented human resources, foster their capabilities, and maximize value**

**Steadfast progress has been made in promoting diversity, reducing work hours, preventing occupational accidents, and investing in human resource development.**

Major KPIs and Results (Progress toward Target)

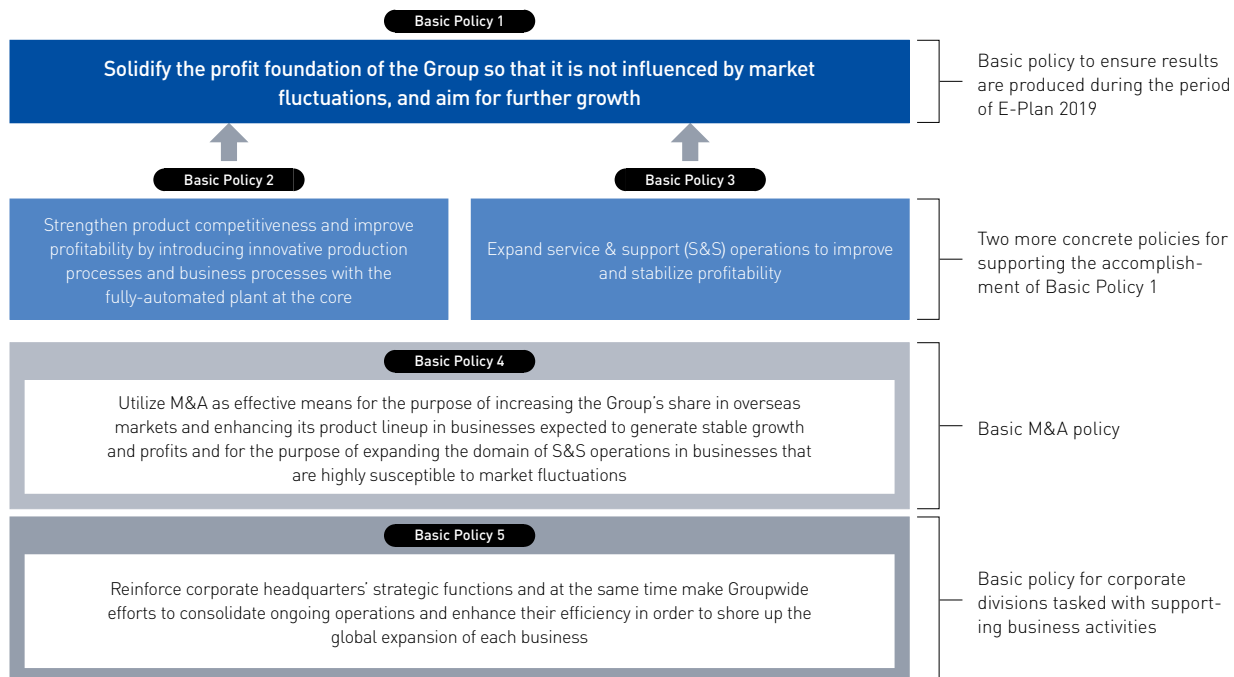
➔ P.38

- Range of diversity indicators (92%)
- Work hours (97%)
- Workplace safety (94%)
- Human resource development (100%)

## Progress of E-Plan 2019 Medium-Term Management Plan

E-Plan 2019 is focused on profit, and it targets profitability improvements in all businesses. Particular emphasis in E-Plan 2019 is placed on improving the profit margin of the pumps business, the business on which EBARA was founded and which generates the largest amount of sales.

### Framework of Basic Group Policies

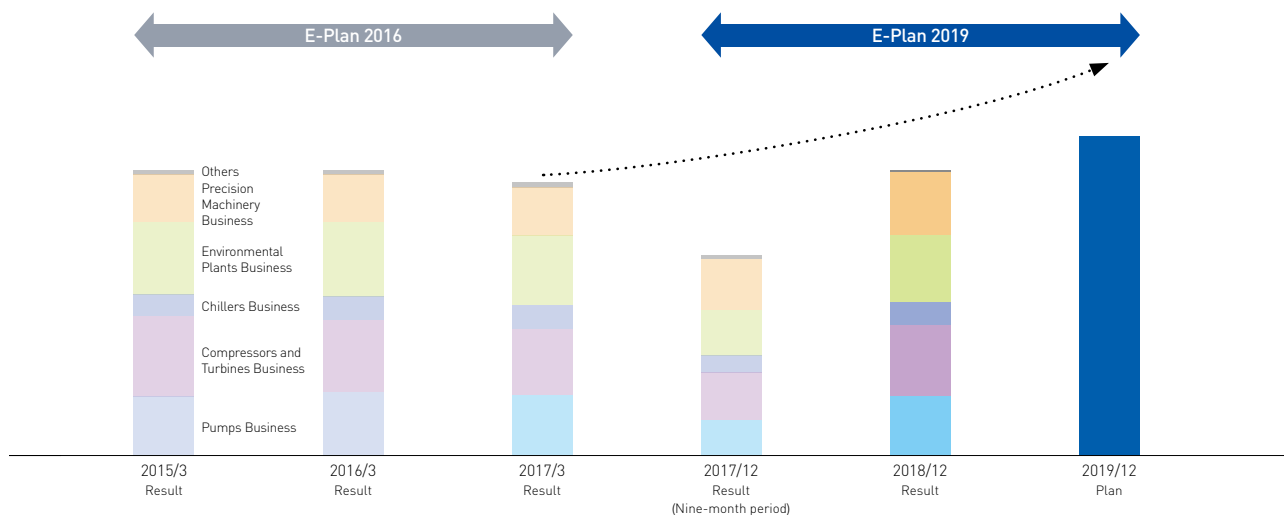


REFERENCE E-Plan 2019

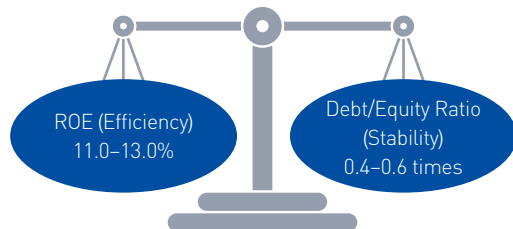
<https://www.ebara.co.jp/en/about/ir/information/management/index.html>

### Basic Policy 3 S&S Sales by Business

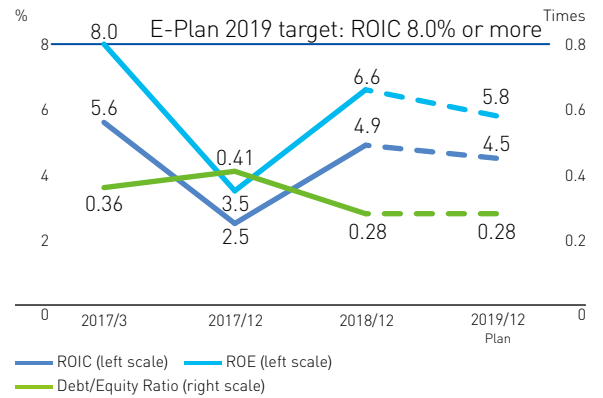
Smooth growth in S&S sales in the Precision Machinery Business and the compressors and turbines business was seen in the fiscal year ended December 31, 2018.



## Basic Policy 1 Reinforcement of Profit Foundation

ROIC **8.0% or more**

## ROIC / ROE / Debt/Equity Ratio



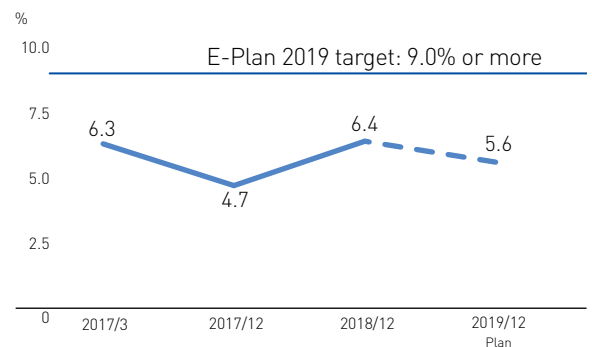
## Operating income to sales ratio

**9.0% or more\***

Fluid Machinery & Systems Business	8.5% or more
Pumps Business	8.0% or more
Compressors and Turbines Business	11.0% or more
Chillers Business	7.0% or more
Environmental Plants Business	11.0% or more
Precision Machinery Business	12.0% or more

\* On the assumption that consolidated net sales will amount to ¥500.0 billion or more

## Operating Income to Sales Ratio



## Summary of Progress in Second Year of E-Plan 2019

ROIC improvement was stifled by slumping operating income to sales ratios in all businesses.

Positive Occurrences	Negative Occurrences
Contributions to profit realized along with more or less smooth initiative progress in all businesses	External: Slow energy market recovery, sluggish Chinese market, curtailing of capital investment among customers in semiconductor market Internal: Additional costs in Fluid Machinery & Systems Business, loss associated with partial withdrawal from business of a Chinese manufacturing subsidiary in Environmental Plants Business

## Measures Approaching Final Year of E-Plan 2019

The accomplishment of targets will be delayed, but initiatives for improving ROIC will continue to be implemented to drive growth in the fiscal year ending December 31, 2020, and beyond.

ROIC Improvement Measures	Measures
	<b>Increase operating income to sales ratio</b> <ul style="list-style-type: none"> <li>Solidify profit foundation to become more resilient to market fluctuations</li> <li>Steadily implement and build upon E-Plan 2019 measures</li> </ul>
	<b>Raise capital efficiency</b> <ul style="list-style-type: none"> <li>Appropriately manage balance sheet</li> <li>Continue reducing working capital</li> </ul>

## Financial Strategies as Explained by the Executive in Charge of Finance



**Akihiko Nagamine**

Executive Officer  
Division Executive, Finance & Accounting Division

### Q. Why has ROIC\* been designated as the most important KPI?

**A.** The EBARA Group operates with capital borrowed from financial institutions and procured from corporate bond and equity markets. These funds are comprised of the precious savings people have invested in stocks, pensions, securities, insurance, or investment trusts to enrich their lives or save for retirement. Accordingly, one of the important obligations of a publicly listed company is to generate the interest expected by bondholders and profits in line with the returns anticipated by shareholders. Publicly listed companies operate their businesses using society's assets, and they are thus charged with a heavy responsibility. In order to fulfill this obligation, we have chosen to set ROIC as our most important KPI and target a level for this indicator that exceeds the weighted average cost of capital (WACC).

### Q. What are EBARA's ROIC targets and the cash allocation policies for the period of E-Plan 2019?

**A.** Under the current medium-term management plan, E-Plan 2019, we are targeting ROIC of 8.0% or more in the fiscal year ending December 31, 2019, the final year of the plan. This target is meant to achieve a level of ROIC that exceeds the Company's WACC, which is estimated to be between 6% and 7%. We will look to generate ROIC of 8.0% or more by accomplishing return on equity (ROE) of between 11% and 13%, a debt/equity ratio of 0.4 times to 0.6 times, and an operating income to sales ratio of at least 9.0%.

To this end, our cash allocation policies for the three-year period of E-Plan 2019 will see us prioritizing growth investments for improving profitability, and we have earmarked ¥60.0 billion for capital investments, ¥35.0 billion for research and development (R&D), and ¥10.0 billion for M&A accordingly. These amounts are a reflection of our intent to conduct capital investments and M&A totaling more than one-third of profit attributable to owners of parent plus depreciation and amortizations and to invest 2% or more of annual net sales in R&D.

In addition, more than one-third of profit is to be returned to shareholders each year, and we are thus targeting a consolidated total return ratio of 30% or more.

The remaining one-third of profit will be retained to fund human resource investments in subsequent fiscal years. Such investments will include development programs, employee education, work systems and the creation of workplaces that support diverse workstyles, and improvements in salary levels and welfare benefits. Through these investments, we aim to cultivate a workplace environment that is conducive to innovation.

Our business is such that there is a long period of time between the receipt of an order and the payment for said order. Also, as a supplier for products and services that support social and industrial infrastructure, we have an obligation to continue our business even under extreme circumstances, such as after large-scale natural disasters or during financial crises. In recognition of these factors, we have a policy of maintaining roughly two months of sales worth of cash and deposits, securing a little bit of leeway with regard to necessary working capital.

The remaining funds will be allocated to the repayment of interest-bearing debt. Should funds be insufficient, the necessary amount will be procured. In addition, we will keep a level of shareholders' equity that will enable us to maintain a R&I Credit Rating of A in order to ensure that we can procure funds even under extreme circumstances.

### Q. What is the progress with regard to these efforts?

**A.** We have made smooth progress so far based on these policies, investing a total of ¥17.9 billion over the past two years in R&D, equivalent to 2% of net sales, and deciding to invest more than ¥60.0 billion over a three-year period in capital investments such as fully automated plants. However, capital investments are slightly behind schedule and M&A have not been progressing as

### E-Plan 2019 Cash Allocation Policy

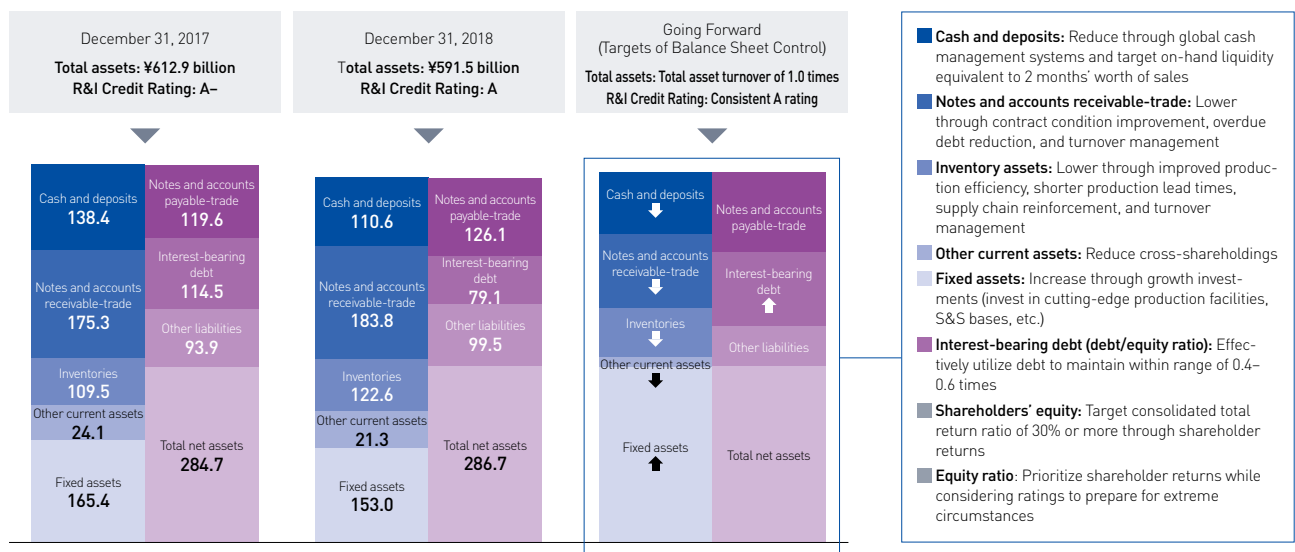
	E-Plan 2019 Targets		Forecasts for E-Plan 2019 Period
1st Growth Investments Investments for boosting product competitiveness	Total	¥105.0 billion	¥97.0 billion
	Capital investments	¥60.0 billion	More than ¥60.0 billion approved (fully automated plants, etc.)
	R&D	¥35.0 billion	¥32.0 billion invested
	M&A	¥10.0 billion	Less than ¥5.0 billion
2nd Shareholder Returns	Consolidated total return ratio	30% or more	77%*1,2
3rd Interest-Bearing Debt Management of debt/equity ratio within defined range	Debt repayment	¥10.0 billion	¥25.0 billion*2

\*1 Figure includes share repurchases of ¥20.0 billion, making for a dividend payout ratio of 35%.

\*2 Following the accumulation of cash due to delays in payments for growth investments, share repurchases were conducted in the fiscal year ended December 31, 2018, and the fiscal year ending December 31, 2019, and ¥25.0 billion worth of interest-bearing debt was repaid on December 31, 2018.



## Targeted Balance Sheet



planned. For this reason, net cash used in investment activities was only ¥23.8 billion over the past two years, and we thus accumulated a significant amount in cash and deposits.

This situation prompted us to repurchase ¥5.0 billion worth of shares and repay ¥25.0 billion of interest-bearing debt. As a result, cash and deposits on December 31, 2018, decreased ¥27.8 billion from the previous equivalent period, to ¥110.6 billion, 2.6 months' sales worth. In light of the high level of cash and deposits, we have chosen to move forward with the acquisition of another ¥15.0 billion worth of share repurchases in the fiscal year ending December 31, 2019.

We are projecting a three-year total of more than ¥36.0 billion in shareholder returns over the period of E-Plan 2019, making for a total return ratio of over 75%. Conversely, profitability is substantially less than targeted. The operating income to sales ratio was a mere 6.4% in the fiscal year ended December 31, 2018, resulting in figures of 4.9% and 6.6%, respectively, for the efficiency indicators of ROIC and ROE. Improving profitability is a pressing issue.

#### Q. What financial approach will be adopted toward improving profitability?

**A.** In terms of finances, we need to place more emphasis on our balance sheet if we are to improve profitability. This is because the benefits of management initiatives for enhancing the income statement appear first on the balance sheet.

For example, the Company has annual sales of ¥500.0 billion and total assets of ¥600.0 billion. This means we are not even producing an amount of sales equivalent to the assets we use to generate those sales in a year. We need to use our assets more efficiently in order to achieve sales that are on par with the scale of assets. Total asset turnover (net sales / total assets) is one of the factors contributing to ROIC, our most important KPI. I therefore aim to realize turnover of at least 1.0 in order to prevent this indicator from dragging down ROIC.

Meanwhile, the combined total of notes and accounts receivable-trade and inventories exceeds ¥300.0 billion, making up half of total assets. At the same time, our annual sales of ¥500.0 billion translate to daily sales of about ¥1.5 billion, and as such the ¥300.0 billion in notes and accounts receivable-trade and

inventories equates to 200 days' worth of sales. We can cut working capital by ¥30.0 billion if we reduce this amount by 20 days. The resulting funds can then be allocated to growth investments. I believe that we must realize such reductions by boosting the competitiveness of our business through improvements to contract conditions, product quality, and productivity as well as through shorter lead times and the reinforcement of our supply chain.

Going forward, we will invest in the development of cutting-edge, fully automated plants as well as in the construction of global S&S and sales networks that will enable us to achieve these objectives. Currently, only ¥150.0 billion, or one-fourth of total assets are fixed assets. Given our equity ratio, I believe that we could have between 40% to 50% of assets represented by fixed assets without issue. For this reason, I am looking to lower the amount of notes and accounts receivable-trade and inventory assets and use the on-hand cash created by this reduction to increase fixed assets through capital investments and M&A. I am aiming to build a strong balance sheet that will make future improvements in profitability possible, resulting in greater margins on the income statement.

It is my intent to enhance our balance sheet through initiatives for improving profitability and to thereby achieve a robust corporate constitution capable of driving ongoing growth. I plan to achieve this through continuously managing KPIs such as by-business receivable and inventory turnover periods, making investment decisions while considering the hurdle rates based on business- and country-specific WACC introduced in the fiscal year ended December 31, 2018, augmenting our global cash management systems, and reducing cross-shareholdings.

\* ROIC =

$$\left( \frac{\text{Operating income / Net sales}}{\text{(Return on sales)}} \right) \times \left( \frac{\text{Net sales / Total assets}}{\text{(Total asset turnover)}} \right) \times \left( \frac{\text{Total assets / Shareholders' equity}}{\text{(Financial leverage)}} \right) \times 1 / (1 + \text{debt/equity ratio})$$

# Analysis of Business Results, Financial Position, and Cash Flows

## Business Results and Operating Environment

Net sales increased ¥1.3 billion from the previous equivalent period, to ¥509.1 billion, due to higher sales in the Fluid Machinery & Systems Business and the Precision Machinery Business.

Cost of sales was ¥376.0 billion, making for a cost of sales ratio of 73.8%, and gross profit was ¥133.1 billion accordingly. Selling, general and administrative expenses totaled ¥100.6 billion and operating income decreased ¥4.1 billion from the previous equivalent period, to ¥32.4 billion.

Non-operating income and non-operating expenses made for a net expense of ¥1.2 billion, largely due to the recording of ¥1.5 billion in interest expenses leading to ordinary income decreasing ¥4.2 billion from the previous equivalent period, to ¥31.2 billion.

Extraordinary income and extraordinary loss combined resulted in a net loss of ¥3.9 billion primarily attributable to impairment loss of ¥2.6 billion. Due to this factor, income before income taxes was ¥27.3 billion.

The combined total of income taxes-current and income taxes-deferred was ¥7.6 billion, resulting in profit attributable to non-controlling interests of ¥1.4 billion. The aforementioned factors led profit attributable to owners of parent to decrease ¥4.5 billion from the previous equivalent period, to ¥18.2 billion.

### Segment Performance

In the Fluid Machinery & Systems Business, orders were ¥326.2 billion, up ¥17.3 billion from the previous equivalent period; net sales were ¥308.9 billion, up ¥4.8 billion; and operating income was ¥8.7 billion, down ¥5.3 billion.

Recovery was seen in capital investment in the downstream areas of the oil and gas market that are the primary targets for deliveries of our compressors and turbines and custom pumps. Against this backdrop, orders increased ¥19.3 billion from the previous equivalent period centered on the products of the compressors and turbines business. The full-fledged recovery of custom pumps orders is expected to be delayed until the fiscal year ending December 31, 2019, as the lead time for these items are shorter than for compressors and turbines, resulting in orders being made at later times. Net sales

were favorable with regard to compressors and turbines and standard pumps. However, operating income in the Fluid Machinery & Systems Business was low as a result of several one-time detractors from profit occurring in the second half of the fiscal year. Specifically, these detractors included problems with specific models in the pumps business, intensified price competition in the compressors and turbines business, and delays in the integration of systems when consolidating factories in the chillers business.

In the Environmental Plants Business, orders were ¥106.9 billion, up ¥41.8 billion from the previous equivalent period; net sales were ¥62.8 billion, down ¥7.1 billion; and operating income was ¥4.9 billion, relatively unchanged from the previous equivalent period.

In the fiscal year ended December 31, 2018, the Environmental Plants Business was successful in capturing several large-scale orders, contributing to an exceptionally high level of orders and an increase of ¥41.8 billion. Conversely, operating income decreased slightly as a result of a decrease in net sales centered on engineering, procurement, and construction orders, and the recording of a provision for loss on the partial withdrawal from the business of a Chinese manufacturing subsidiary, which occurred in the second half of the fiscal year.

In the Precision Machinery Business, orders were ¥140.6 billion, up ¥10.3 billion from the previous equivalent period; net sales were ¥135.7 billion, up ¥3.6 billion; and operating income was ¥18.5 billion, up ¥1.1 billion.

Orders, net sales, and operating income all broke records due to the brisk capital investments seen in the semiconductor market, particularly in memory-related sectors. However, performance growth slowed heading into the second half of the fiscal year as customers began to curtail investments.

Note: The previous fiscal period was a nine-month period beginning April 1, 2017, and ending December 31, 2017. Comparisons with the previous equivalent period compare performance between the period from January 1 to December 31, 2017, and the fiscal year ended December 31, 2018.

## Consolidated Statements of Income (Billions of yen)

	January 1– December 31, 2017	Fiscal year ended December 31, 2018	Change	Notes
Orders	506.0	575.5	+69.4	Increase centered on Environmental Plants Business
Net sales	507.8	509.1	+1.3	Increase centered on Fluid Machinery & Systems Business and Precision Machinery Business
Cost of sales	—	376.0	—	Cost of sales ratio: 73.8%
Gross profit	—	133.1	—	Gross profit to sales ratio: 26.1%
Selling, general and administrative expenses	—	100.6	—	SG&A expenses to sales ratio: 19.8%
Operating income	36.6	32.4	(4.1)	Decrease centered on Fluid Machinery & Systems Business
Ordinary income	35.4	31.2	(4.2)	Interest expenses of ¥1.5 billion
Income before income taxes	—	27.3	—	Impairment loss of ¥2.6 billion
Profit attributable to owners of parent	22.7	18.2	(4.5)	Total of income taxes-current and income taxes-deferred of ¥7.6 billion

## Financial Position

Total assets as of December 31, 2018, stood at ¥591.5 billion, down ¥21.3 billion from the previous fiscal year-end. Increases of ¥8.5 billion in notes and accounts receivable-trade and ¥13.1 billion in inventories were outweighed by decreases of ¥27.8 billion in cash and deposits and ¥7.4 billion in investments and other assets.

Total liabilities amounted to ¥304.8 billion on December 31, 2018, a decrease of ¥23.3 billion from a year earlier. This decrease was primarily a result of the repayment of short-term loans payable and the redemption of current portion of

bonds. Interest-bearing debt decreased ¥35.4 billion, to ¥79.1 billion, and the debt/equity ratio decreased from 0.41 times on December 31, 2017, to 0.28 times on December 31, 2018, following the repayment of interest-bearing debt.

Total net assets came to ¥286.7 billion on December 31, 2018, an increase of ¥1.9 billion from the previous fiscal year-end. The amount of profit attributable to owners of parent recorded outweighed the decreases resulting from share repurchases and dividends paid. The equity ratio increased from 45.3% on December 31, 2017, to 47.3% on December 31, 2018.

### Consolidated Balance Sheets (Billions of yen)

	December 31, 2017	December 31, 2018	Change
Current assets	447.4	<b>438.5</b>	(8.9)
Cash and deposits, securities	140.8	<b>112.2</b>	(28.6)
Notes and accounts receivable-trade	175.3	<b>183.8</b>	+8.5
Inventories	109.5	<b>122.6</b>	+13.1
Others	21.7	<b>19.1</b>	(2.0)
Fixed assets	165.4	<b>153.0</b>	(12.3)
Tangible fixed assets	110.2	<b>107.8</b>	(2.3)
Intangible assets	12.0	<b>10.6</b>	(1.4)
Investments and other assets	43.1	<b>34.5</b>	(8.6)
Total assets	612.9	<b>591.5</b>	(21.3)

	December 31, 2017	December 31, 2018	Change
Total liabilities	328.1	<b>304.8</b>	(23.3)
Notes and accounts payable-trade	119.6	<b>126.1</b>	+6.5
Interest-bearing debt	114.5	<b>79.1</b>	(35.4)
Others	93.9	<b>99.5</b>	+5.5
Total net assets	284.7	<b>286.7</b>	+1.9
Total shareholders' equity	280.9	<b>289.6</b>	+8.6
Total accumulated other comprehensive income	(3.0)	<b>(9.9)</b>	(6.9)
Subscription rights to shares	1.1	<b>1.1</b>	(0)
Non-controlling interests	5.6	<b>5.9</b>	+0.3
Total liabilities and net assets	612.9	<b>591.5</b>	(21.3)

## Cash Flows

Year-on-year comparisons are not available as the previous fiscal period was a nine-month period beginning April 1, 2017, and ending December 31, 2017.

Net cash provided by operating activities amounted to ¥34.6 billion due to robust operating income.

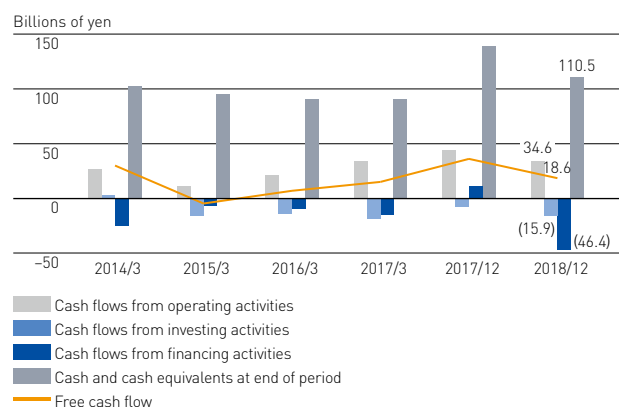
Net cash used in investing activities was ¥15.9 billion as proceeds from sales and redemption of securities and investment securities of ¥5.5 billion and other inflows were outweighed by outlays such as purchase of fixed assets of ¥18.5 billion.

Free cash flow, calculated by combining net cash generated from operation and net cash used in investment, was a positive ¥18.6 billion.

Net cash used in financing activities was ¥46.4 billion. This was the result of a ¥24.2 billion decrease in short-term and long-term loans payable, ¥10.0 billion in redemption of bonds, ¥5.0 billion in share repurchases, and ¥4.5 billion in cash dividends paid.

As a result, cash and cash equivalents at end of period decreased ¥28.5 billion, coming to ¥110.5 billion on December 31, 2018.

### Consolidated Cash Flows



# Intellectual Capital—Management Resources Underpinning Competitive Edge—Research and Development and Intellectual Property Management



**Hiroshi Sobukawa**

Executive Officer  
Responsible for Technologies, R&D, and  
Intellectual Property

## Message from Executive Officer Responsible for Technologies, R&D, and Intellectual Property

Guided by the basic intellectual capital management policy of BRDIP,\*<sup>1</sup> which promotes coordination between **B**usinesses, **R**esearch and **D**evelopment, and **I**ntellectual **P**roperties, and the basic strategy of ABA,\*<sup>2</sup> which encourages collaboration between **A**cademia, **B**usinesses, and **A**ssociations, the EBARA Group has proceeded to hone the competitive edge of its business by advancing R&D and intellectual property activities through its proprietary frameworks. I hope to help support the growth of the EBARA Group as a global conglomerate by evolving and building upon the BRDIP policy and the ABA strategy going forward.

REFERENCE EBARA's Technologies

<https://www.ebara.co.jp/en/about/technologies/index.html>

## Basic Approach

The EBARA Group has developed several proprietary frameworks under its ABA strategy. Ebara Open Innovation (EOI)\*<sup>3</sup> is a framework for strengthening fundamental technologies through partnership with universities. Ebara Open Laboratory (EOL)\*<sup>4</sup> is a framework for enhancing product technologies through coordination between business and research divisions. Ebara Innovation for "X" (EIX)\*<sup>5</sup> is a framework for advancing projects for creating new products and businesses. Lastly, Ebara Open for Supplier (EOS)\*<sup>6</sup> is a framework for bolstering prototyping functions. The unique open innovation activities advanced through these frameworks have consistently supported the reinforcement of the Group's business. We will continue to evolve and build upon these frameworks in order to strengthen the technologies that contribute to our business

while aggressively advancing forward-looking research and development.

Meanwhile, several unique frameworks are in place to invigorate intellectual property activities. With these frameworks, the Group has been promoting a shift toward quality over quantity in intellectual property and evolving its patent portfolio to be more strategically viable. We are also managing and utilizing the intellectual properties of Group companies on a global basis while engaging in technology branding activities. Going forward, the EBARA Group's intellectual property divisions will remain receptive to social trends, pursuing close coordination with business divisions as they support operations through proactive intellectual property activities.

\*1 BRDIP: An original EBARA Group acronym created from "businesses," "R&D," and "intellectual properties"

\*2 ABA: An original EBARA Group acronym created from "academia," "businesses," and "associations"

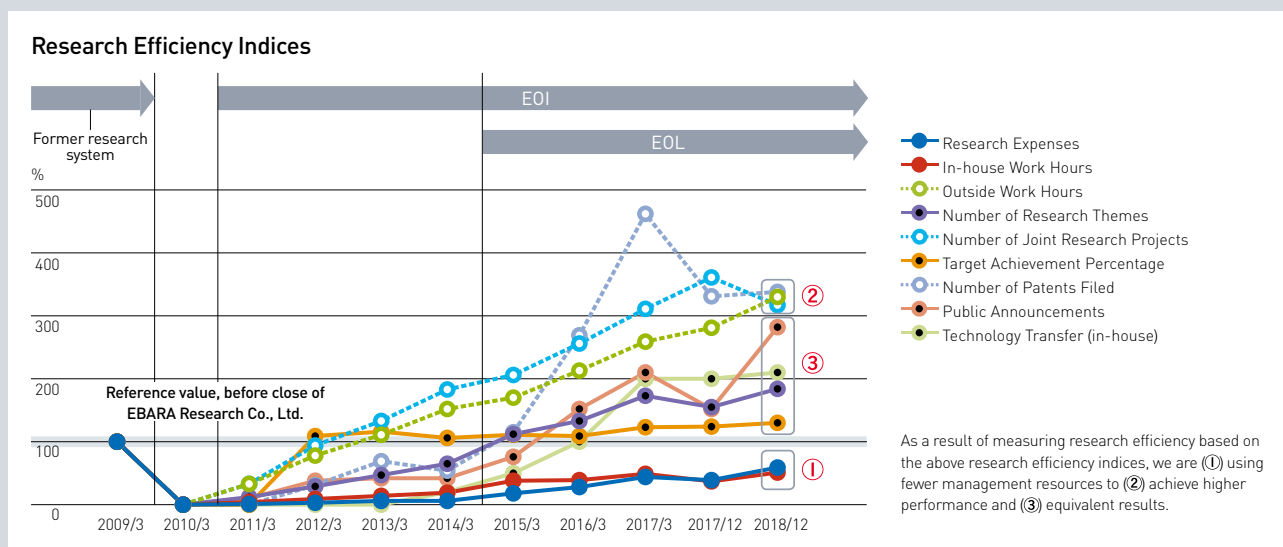
\*3 EOI: An original open innovation framework that fosters young researchers at outside research institutions by conducting joint research to resolve advanced technological issues

\*4 EOL: A corporate research organization that enables exchanges among researchers and open sharing of research themes in-house

\*5 EIX: A research and development system for business creation

\*6 EOS: A term referring to both a framework and activities for open exploration of R&D suppliers that is not limited to existing suppliers

## Progress in Priority Strategies (Fiscal year ended December 31, 2018)





## Initiatives for Bolstering Intellectual Capital

### First EOI International Symposium

Industry-academia collaboration activities through the EOI framework are in their ninth year. This year saw the holding of the first EOI International Symposium. A total of eight professors, four from domestic universities and four from overseas universities, were invited to give structured lectures on the results of their research activities. More than 100 employees attended, making the event a site of vigorous discussion. At this event, many questions and opinions were voiced by younger engineers, and one of the guest lecturers stated that the number of questions from engineers was proof of the improvement made in EBARA's technical capabilities.



### Ebara Hi-tech University

The EBARA Group has launched Ebara Hi-tech University (EHU),\*<sup>7</sup> a program aimed at bolstering the technical capabilities of Group researchers and engineers and providing inspiration by giving them an opportunity to learn about the latest technological information and trends. 10 lectures were held by

external researchers invited to act as guest lecturers and six training sessions were conducted in the fiscal year ended December 31, 2018. The training sessions were based on a curriculum designed to foster the intuition of junior employees to help them better understand technologies and various phenomena on an intuitive level. This focus on human resource development supports the development of fundamental technologies of the EBARA Group.

\*7. EHU: A program aimed at bolstering the technical capabilities of Group researchers and engineers and promoting inspiration by giving them an opportunity to learn about the latest technological information and trends

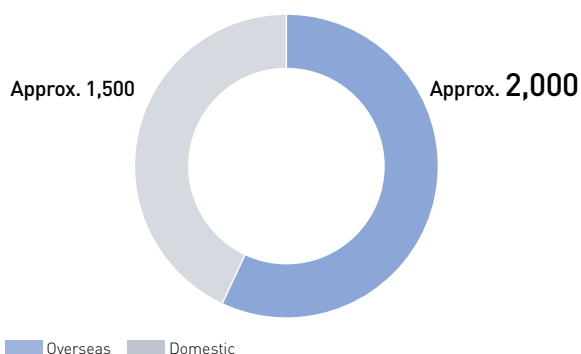
### Technology Branding Strategies

Technology branding activities are being advanced as part of the EBARA Group's efforts in the area of intellectual properties. As one facet of these activities, the technology brand "eDYNAMiQ" for EBARA's standard pump technology was launched in 2018. Created through cooperation with business divisions, this brand is meant to help communicate to customers the passion that EBARA has poured into its standard pumps over the years. An acronym of the words Eco, Dynamic, and Integrated Quality, the brand name of "eDYNAMiQ" represents the characteristics of EBARA's standard pump technology.



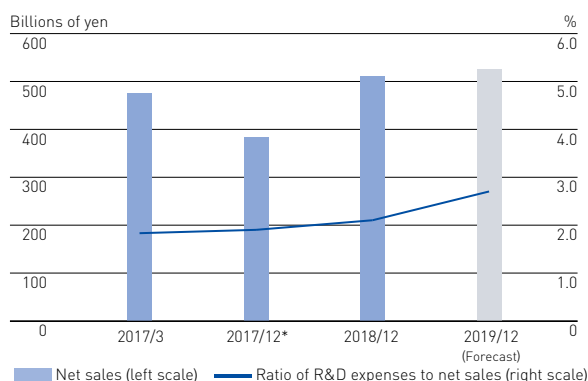
### Number of Patents Held

The number of patents held grows each year, and overseas patents have come to exceed patents in Japan as the Group seeks to acquire the intellectual properties in each business that are necessary to continue expanding globally.



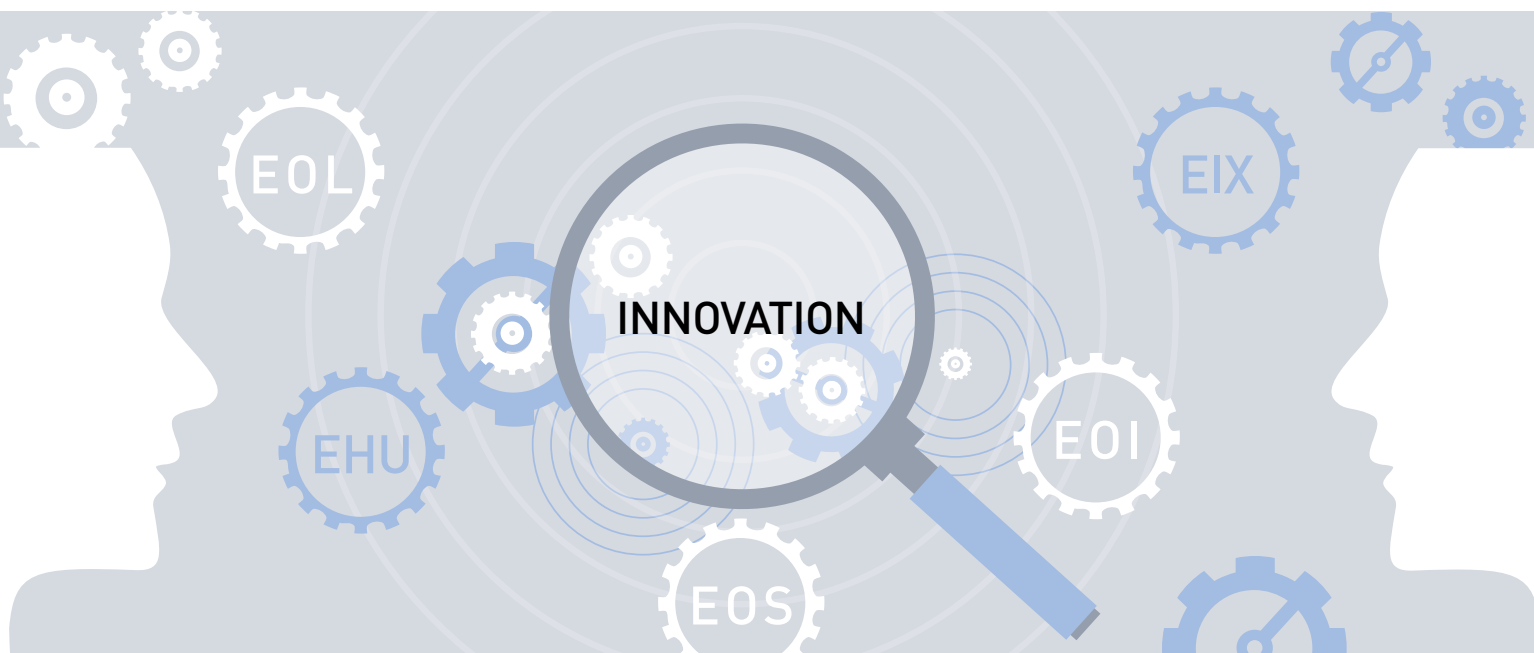
### Ratio of R&D Expenses to Net Sales

In the fiscal year ended December 31, 2018, the ratio of R&D expenses to net sales was 2.1%. A ratio of 2.7% is projected in the fiscal year ending December 31, 2019, as a result of new investments.



\* The irregular nine-month period ended December 31, 2017, is the result of a change in the settlement date used by the Company.

## R&D Enhancement Case Study



### EBARA's R&D Activities for Creating a New Era

## Evolution of Virtual Factories to Shape the Future of Manufacturing with Suppliers

It has been 10 years since EBARA CORPORATION disbanded its prior research laboratories to launch a new R&D structure. Over this period, we have promoted the advancement of various initiatives aimed at strengthening EBARA's innovative R&D structure, which is unlike anything seen among its peers. One such initiative is Ebara Open for Supplier (EOS). The following is a discussion with the Kawasaki Institute of Industrial Promotion, an indispensable co-creation partner, on the EOS initiatives implemented thus far and the future of manufacturing.



**Atsushi Miura**

Director, Kawasaki Institute of Industrial Promotion



**Manabu Tsujimura**

Fellow at EBARA CORPORATION

### Inception of EOS

#### —What exactly is EOS?

**Tsujimura:** EOS is a special R&D prototyping framework put in place by EBARA. In 2009, the Company disbanded its research laboratories. With its previous systems and frameworks abolished, EBARA began looking for a new R&D method. The Company was faced with a situation in which it needed to continue research and development, but it had no labs or researchers. The solution it found was the creation of a completely new R&D structure focused on open innovation with researchers from both inside and outside the Company conducting joint research through a virtual environment. Moving forward with the resulting EOI and EOL initiatives, our R&D activities over the decade have consistently bore fruit. However, one issue that arose regarded the establishment of a prototyping factory that was ideally suited to this new R&D system. EBARA's existing factories were exclusive for products and consequently, incompatibilities were sure to appear whenever we tried to produce new prototype articles there. What we needed was a production framework that could adapt as necessary when we sought to create something completely new, a virtual prototyping factory to complement our virtual R&D system that did not

need factory staff and equipment in the Company. The framework we created to achieve this was EOS. We realized that working with suppliers that could join us in developing various manufacturing processes and realizing these production technologies was the key to better R&D. This was when we heard about the Kawasaki Institute of Industrial Promotion and its work supporting 1,500 small and medium-sized enterprises (SMEs) in Kawasaki City, prompting us to visit the institution, enabling us to take a large step forward in EOS realization.

### What is the Kawasaki model supporting EOS?

**Miura:** Kawasaki City is a central part of the Keihin industrial district, which is home to many major companies and SMEs. The Kawasaki Institute of Industrial Promotion has been supporting SMEs amid the globalization of society and the spread of information technologies for 30 years. Our basic approach is to focus on frontline operations, actively visiting SMEs to gain an understanding of the visions of their presidents and working together with them to further their development. We have gained recognition for this commitment, and this approach to supporting companies based on a shared vision has produced results, thereby coming to be known throughout Japan as the "Kawasaki Model." Among our initiatives, we are attracting particular attention with regard to how we help create new products, based on our focus on frontline operations, infusing SMEs with the intellectual properties of major companies and promoting open use of patents with the potential to give rise to

new products and technologies.

**Tsujimura:** EBARA has had relationships with several SME associations in the past. However, most of the associations simply introduced us to SMEs, and usually no transactions came of those meetings. That's why when I met with the Kawasaki Institute of Industrial Promotion, I was surprised at how swift and attentive its approach for SMEs was. The Institute's commitment to matching the desires of SMEs with those of EBARA as an order placer and to tying these desires to actual orders could be said to represent the core of the Kawasaki Model. This commitment coincided with the hopes of our staff, and I felt confident that this model would help us realize the goals of the EOS framework.

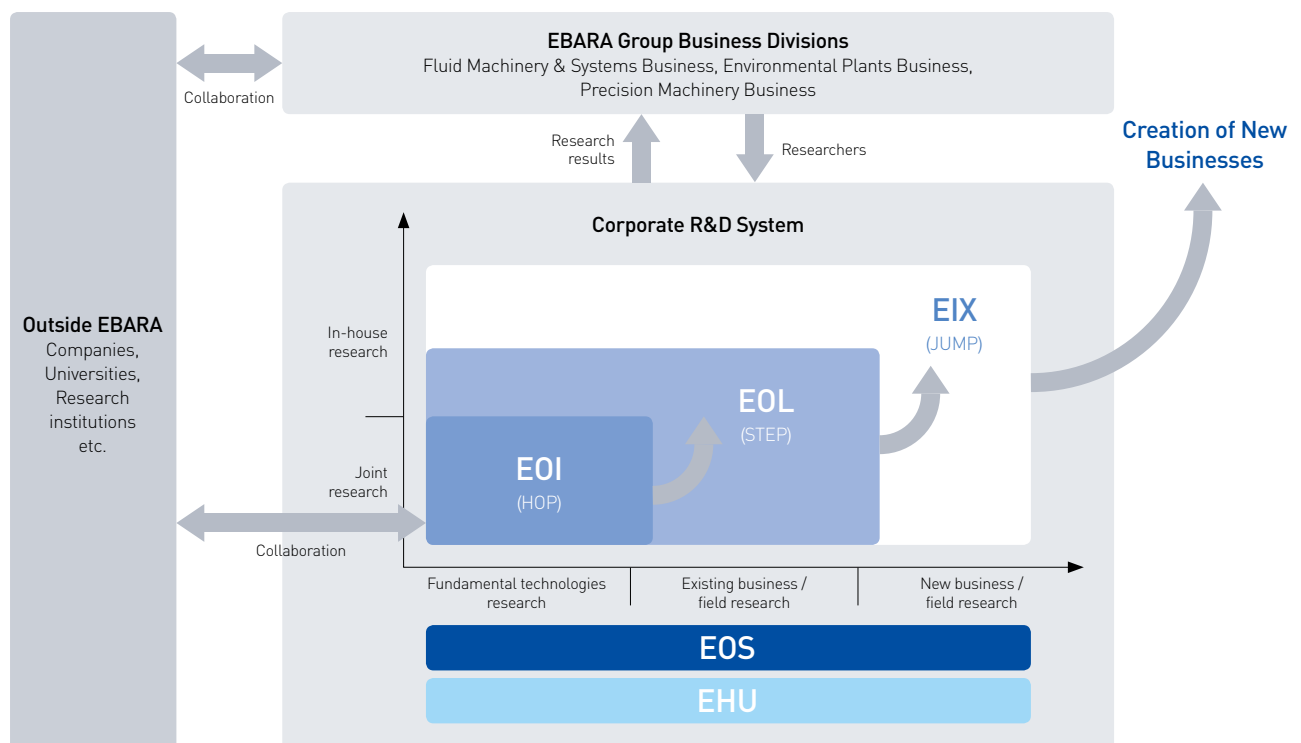
### Actual EOS Initiatives

#### —How have EOS initiatives been advancing?

**Miura:** One major characteristic of the Kawasaki Model is team dispatch initiatives. In these initiatives, teams formed by government employees, representatives from local financial institutions, and staff from the Institute visit SMEs to explain the various subsidy systems and measures available to them. I remember when you, Mr. Tsujimura, asked to accompany these teams. To us, the idea of having the head of technology at a major company visit the frontlines with us on such a team was inconceivable. This unexpected development led us to refer to the team as the "Tsujimura Caravan" when you accompanied us. We asked our coordinators, who had amassed

### R&D System Surpassing the Boundaries of EBARA

EBARA's R&D system is comprised of the EOI (joint research), EOL (in-house research), and EIX (new business / field research) frameworks. Research is also being advanced through the EOS framework for reinforcing prototyping functions and the EHU program for fostering the human resources that support technological development. EBARA strives to create new business by promoting coordination with business divisions and with external institutions and by fully capitalizing on this R&D system. For more information regarding each framework, please see the footnotes on P.31–32.



## R&D Enhancement Case Study

extensive raw data through our frontline-oriented initiatives thus far, to choose the SMEs to be visited from among the approximately 1,500 companies under our jurisdiction, and these visits were thus made a reality.

**Tsujimura:** I have found participation in these dispatch teams to be most meaningful as they have enabled me to communicate our desire to create a framework through which we could request the production of prototypes for R&D purposes. To date, I have joined the teams five times, visiting 18 companies. Later, we were able to hold open innovation forums at our Fujisawa District and Futtsu Plant through co-sponsorship by the Kawasaki Institute of Industrial Promotion. Technologies were explained and exhibited at these forums, which provided a prime opportunity for exchanges between SME representatives and EBARA engineers. More than 100 EBARA employees participated in each forum, engaging in lively exchanges of opinion. These activities were connected to four prototyping and examination requests in 2016, seven in 2017, and six in 2018.

**Miura:** Mr. Toichi Maeda, then President and Representative Executive Officer and current Chairman & Director of the Company, as well as business division executives and other representatives from EBARA participated in the open innovation forums, making it a truly revolutionary event entailing collaboration between SMEs not only from Kawasaki City but also from the greater Keihin area including Yokohama and Ota City. There, EBARA employees engaged in daily research activities and the representatives of SMEs were able to have a frank and open discussion about their hopes and the realities of manufacturing. The atmosphere at the forums indicated a flat relationship, contrasting the standard hierarchical structure found at most major manufacturing companies. All participants were moved by this atmosphere. The opportunity to hear the president of a major company explain their vision in person was another factor that truly impressed me about these forums.

**Tsujimura:** The policies based on which we advance EOS initiatives are all principles gleaned from the stance of the Kawasaki Institute of Industrial Promotion.

Policy 1: The companies we visit are customers that provide technologies to EBARA.  
 Policy 2: Customer satisfaction is a top priority.  
 Policy 3: Initiatives are to start small and to be grown gradually as they produce results.

EOS is a new undertaking, and we knew we would experience setbacks as we moved forward, but we were able to arrive at where we are today by addressing these head-on and changing our approach when needed. For example, usually when companies place orders, they will conduct credit investigations and go through various other procedures. As such, a great amount of time and work is required before the actual order can be placed. However, EBARA recognizes that the companies from which we request prototyping activities want orders with prompt payments. We therefore adjusted our purchasing system to allow for orders to be placed immediately for articles that offer the desired quality and for payments to be issued within two months. There have even been times when

visiting companies as a member of the Institute's dispatch teams in which I have paid in cash to purchase items I found appealing on the spot. At the same time, there were cases in which orders were placed, but the companies were unable to produce the requested articles in a satisfactory manner. However, we believe that these failures should be treated in the same way as those that occur at our own factories and that we have a responsibility to pay for the time spent on making the product. While we may refer to the framework as a "virtual factory" scheme, this does not change the fact that our partners are important allies in a co-production process. Our commitment to this sentiment has driven ongoing improvements in EOS initiatives.

**Miura:** EOS initiatives are an incredibly ambitious undertaking with the potential to change not only the manufacturing system at EBARA but also the very concept of manufacturing in Japan. Today, we are in an era in which industry structures are transforming, and manufacturing operations are being transferred to locations with lower personnel costs like China and other emerging countries. We are approaching the limits of what can be accomplished with the conventional hierarchical manufacturing systems found at most major companies. Given this backdrop, I have great praise for how EBARA is designing a framework for maintaining an open and equal relationship with suppliers and for using these relationships to realize a virtual factory scheme. This initiative is truly groundbreaking and reflective of the society to come.





As the EOS framework has improved, I have witnessed changes to SMEs' traditional hierarchical values and engrained customs and cultures. It could be said that it is customary for SMEs to passively receive and fulfill orders from major companies. EBARA's EOS framework puts a new twist on that custom that can challenge traditional perspectives, leading to changes in the culture of the companies involved. I see great potential for EOS to change the very nature of SMEs in Japan.

#### —What successes have been achieved thus far?

**Tsujimura:** When we launched the EOI and EOL frameworks, we consolidated previously inconsistent research themes with a focus on heightening our product development capabilities. The transition to virtual laboratories then changed our prior year-based perspective on research to a day-by-day research perspective. The result was an astounding improvement in research efficiency. Today, R&D expenses are half those of 2009, while output is two to three times higher and research efficiency is four to six times higher.

Through the EOS framework, we aim to develop a virtual factory scheme for prototyping. This scheme will not be able to create immediate results akin to those of the EOI and EOL frameworks. However, compared to the massive amounts of time and money required to build factories, virtual factories can be set up quickly and at low cost. We are still in the process of creating this scheme, and ongoing effort is required. As such, the successes thus far are still few. Nevertheless, we are making steady progress in the development of virtual factories through our connections with the Institute and with our suppliers.

In 2018, we launched new initiatives aimed at starting up virtual factories. Specifically, we began building the Connected Lab within the Fujisawa District. This lab will be a site for joint efforts with external suppliers. Our decision to create such a facility was based on the recognition that, no matter how "virtual" these factories may be, we will still need physical venues through which to connect with suppliers.

**Miura:** I think that the virtual factory scheme of EOS is a marriage of both virtual and physical relationships in that it is built upon both trust-based, face-to-face interpersonal connections and digital technologies.

The passion and dedication of EBARA is giving rise to a new type of relationship between large enterprises and SMEs. The successes of these initiatives may not yet be tangible, but the efforts of today will no doubt grow gradually into greater successes tomorrow. I anticipate that these efforts will one day create new technologies, new products, and maybe even new industries.

### Future of EOS

#### —What are EBARA's goals going forward?

**Tsujimura:** EBARA is currently in the process of building the Connected Lab to furnish the physical infrastructure for connecting with the people that we are linked to through the EOS framework. Going forward, we hope to make this lab into a place that enables involved parties to discuss and share ideas for the prototype being created through panels in virtual

spaces and that makes easy the close coordination needed to realize the mutual heightening of knowledge and technologies. The R&D system I envision a century from now is one in which one can write their idea on a big panel and have it immediately shared with all project members, who can then send their responses. This system will allow for a swift transition to development through coordination between the EOI, EOL, and EOS frameworks. As one step toward realizing this vision, we are currently working to realize the use of avatars to coordinate with people both inside and outside of the Company through virtual spaces. If we can apply augmented reality technologies to this system in the future, it will make it possible to share product information through virtual spaces, and to view this information and collaborate. This is one of my goals.

**Miura:** KEIDANREN is currently searching for ways to realize a new manufacturing style known as digital fabrication. However, it seems as though EBARA is already working toward realizing digital fabrication through the virtual factories of its EOS scheme. Other companies are probably engaging in similar undertakings, but there are likely none that have managed to establish the actual frameworks for this manufacturing style. The EOS framework is a system for linking major companies and SMEs and driving the ongoing growth of both. The number of SMEs in Japan is half that of 20 years ago, but those that still survive undoubtedly boast exceptional technologies. The current rapid pace of change in today's world means that adapting to this speed will be crucial to survival going forward. I think that utilizing one's own technologies while effectively connecting these technologies to others will be an important part of this adaptation. Meanwhile, collaboration between completely different fields can create unprecedented technologies. Such technologies have the potential to generate value for society and to contribute to the resolution of the various issues faced by communities. I hope to work toward this vision in order to evolve our approach into what may one day come to be referred to as the "Ebara-Kawasaki Model."

**Tsujimura:** EBARA's R&D system includes the EOI, EOL, EIX, and now EOS frameworks. Next, we will expand our efforts to incorporate the EHU and NIH (Not Invented Here) programs. The phrase "not invented here" generally carries a negative meaning, but we use it in a positive sense as in "we don't do that here, but we want to." I see the potential for EBARA to adapt its technologies to various fields, not just to the evolution of the automotive and semiconductor fields that are garnering attention today but also to space, medicine, and other fields that the Company has yet to explore. Through our EOS initiatives, we are developing the infrastructure that will allow us to take a realistic approach toward judging what we can accomplish and how these accomplishments can be achieved when we actually go to use our technologies in these fields. Furthermore, I hope to utilize the connections we have formed through the EOS framework to broaden the scope of technologies we can access and return the benefits to society. As we adopt a forward-looking perspective and place value in mutual trust, I am confident in our ability to start small and grow gradually to realize our goals.

## Human Capital—Management Resources Underpinning Competitive Edge—Human Resources and Diversity



**Shu Nagata**

Executive Officer  
Division Executive, Corporate Strategic Planning Division  
and Human Resources Division

### Message from Executive Officer Responsible for Human Resources

The EBARA Group seeks to cultivate a corporate culture that encourages all employees to tackle their work with a competitive spirit and embrace challenge with passion and dedication. To this end, we replaced our prior seniority-based grading system with a system that evaluates employees based on their demonstrated role and accomplishments in the workplace, regardless of age, gender, or nationality. To facilitate the ongoing development and growth of EBARA's business on a global scale, we will continue to implement system reforms aimed at utilizing global human resources more effectively and promoting Group unity.

REFERENCE Personnel Affairs and Human Resource Development Policy

<http://www.ebara.co.jp/en/about/csr/social/environment/index.html#anc1209051>

## Initiatives for Enhancing Human Capital

### Human Resource System Reforms

Management-level employees were incorporated into the new system in the nine-month period ended December 31, 2017, and all union members were incorporated in the fiscal year ended December 31, 2018. The following initiatives were implemented to facilitate the transition.

Human Resource System-Related Measures	Results
<b>Succession management program</b>	<ul style="list-style-type: none"> <li>Enables optimal placement of individuals to management positions based on ability as opposed to seniority</li> <li>Enables the formation of strategic placement plans for capable individuals to develop in different areas of the organization</li> <li>Expands succession management program toward Groupwide/global positions to accelerate global mobility</li> </ul>
<b>Installation of new grading system</b>	<ul style="list-style-type: none"> <li>Restructured a traditional seniority-based HR system to a system that evaluates and motivates employees based on their contribution and performance, more comparable to systems globally</li> </ul>
<b>Unified employee classifications</b>	<ul style="list-style-type: none"> <li>Eliminates employee classifications which allows all employees to be evaluated and rewarded for highly skilled work and performance results</li> </ul>
<b>Drastic change in promotional examination for management-level positions</b>	<ul style="list-style-type: none"> <li>Talented employees are promoted to management-level positions faster than before</li> <li>Promotion of youngest employee to a management-level position at age 28 (previously youngest was 35)</li> </ul>
<b>Employee awareness survey</b>	<ul style="list-style-type: none"> <li>Surveyed approximately 9,000 employees at domestic Group companies</li> <li>Exceeded the average score for questions regarding work motivation for companies with more than 10,000 employees</li> </ul>

### Promotion of Diversity and Work Style Innovation

A priority in EBARA's diversity promotion initiatives has been to step up efforts for empowering female employees. These efforts have earned recognition, and, in May 2018, the Company received the highest rating (Rank 3) in the "Eruboshi" certification mark program. In this program, the Minister of Health, Labour and Welfare grants this certification to the companies that present excellence in empowering female employees based on the Act on Promotion of Women's Participation and Advancement in the Workplace.

In addition, the Operations Innovation Division was established in April 2018, after which EBARA began implementing Companywide work style innovations. In promoting diversity, the EBARA Group seeks to go beyond just empowering female employees to cultivate workplace environments in which each and every employee is able to fully exercise their talents and realize their ideal work-life balance.



### Human Resource Development

Under the new human resource system, the roles and responsibilities of section and department managers have changed drastically. In reflection of these new roles and responsibilities, training programs for new section and department managers at EBARA CORPORATION and domestic Group companies were introduced to facilitate awareness reforms and skill acquisition. Going forward, we will continue efforts to enhance the capabilities of managers.

In addition, Self-Development Workshops were held for employees who were previously general/assistant staff to help them better understand the changes in their roles and to take the first step in tackling new challenges. We will enhance the line-up of these self-development training programs to support employee skill development going forward.

## Resolution of Material Issues: Action Policy 6



## Progress toward Action Policy KPI Targets (Fiscal year ended December 31, 2018)



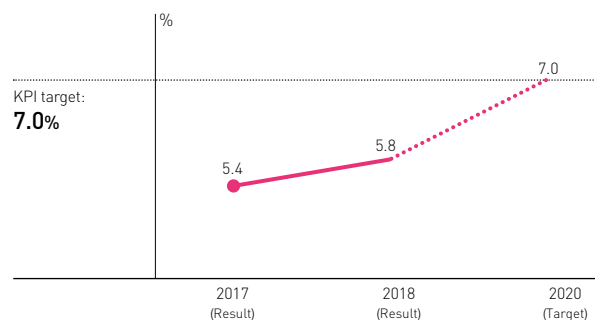
## Promotion of Diversity

**Ratio of female managers 5.8%**

(EBARA CORPORATION, full-time employees)

To accomplish our target for the ratio of female managers, we are enhancing and accelerating support for female employees to develop their careers. Various ongoing initiatives are being implemented in this regard, including presentations on the career paths of more experienced female employees, holding workshops, and dispatch to external training sessions.

## Status &amp; KPI Target

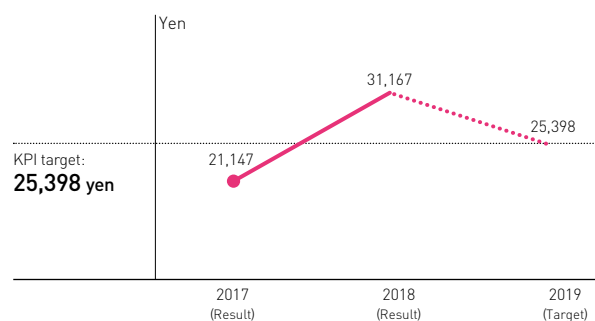


## Human Resource Development

**Training expenditures per employee**
**¥31,167** (consolidated, in Japan)

Programs for improving management skills have been conducted for managers at domestic Group companies, as the introduction of the new human resource system drastically increased the roles and responsibilities of managers.

## Status &amp; KPI Target

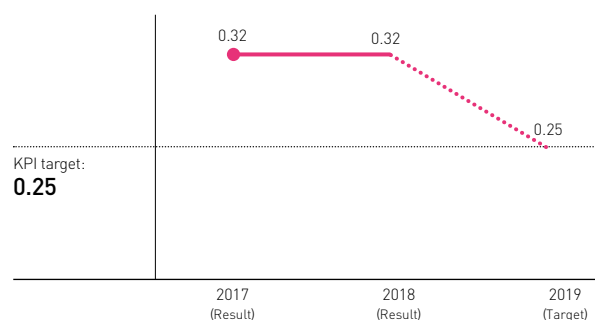


## Occupational Health and Safety

**Frequency rate of accidents resulting in lost work days**
**0.32** (consolidated, in Japan)

We have set our target for reducing the frequency rate of accidents resulting in lost work days as 0.25 or less, the average of manufacturers with more than 1,000 employees. Seeking to accomplish this goal, we will support Group companies in establishing and installing health and safety plans/regulations in each company.

## Status &amp; KPI Target

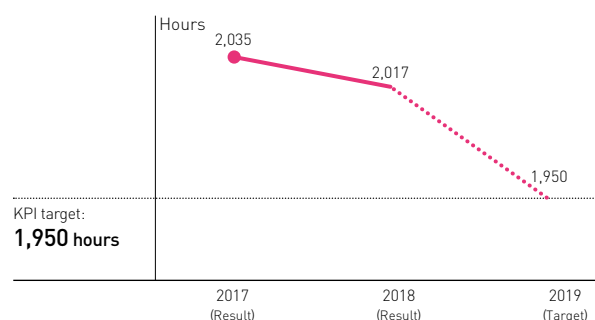


## Work Style Innovation

**Total annual work hours per employee**
**2,017 hours** (consolidated, in Japan)

We facilitate a flexible workplace environment. In the fiscal year ended December 31, 2018, the Work Style Innovation Committee, chaired by the President and Representative Executive Officer, was established to monitor progress of work hour KPIs and improvement of productivity in each division. In addition, we are participating in the government-led TELEWORK DAYS campaign as a special sponsor.

## Status &amp; KPI Target



# EBARA'S PEOPLE

## Engaging in Competition and Embracing Challenge

We asked employees for their stories regarding their goals and how they are taking on challenges to better society and support the growth of the Company.

### QUESTION

Could you please tell us about the project that you are currently engaged in?

### ANSWER

My team is currently in the midst of implementing a Groupwide enterprise resource planning system. I believe that, as the EBARA Group grows as a global company, it is crucial to develop foundations and implement a work process optimization and standardization system that unites the Group and lives up to the expectations of markets and customers worldwide.

Currently, we have a 107-year history that has been supported by the introduction of operation systems and the pursuit of optimization on a by-business or by-division basis.

However, we realize that this approach has limits with regard to our ability to utilize digital technologies in management. This is why in implementing this new system, we will need to consider iconoclastic reforms while maintaining our traditional strengths and following the "EBARA Way." In order to effectively utilize this new system, we will need to change how every employee thinks, along with our very corporate culture. This is the end goal of my project, and I have no doubt that this massive undertaking will go down in EBARA Group history.

### QUESTION

How do you intend to further build upon the EBARA Group's strengths through this project? Also, what challenges do you hope to tackle in the future and what do you want to accomplish?

### ANSWER

The EBARA Group has a wide range of businesses and boasts sophisticated technologies, diverse products, and extensive base, sales, and service networks. This system between business segments and countries is very complex, and it is currently difficult to identify and share important information between business segments and departments efficiently. If, however, we could find a way to standardize and share relevant information and data within the Group, it would become possible for all organizations within the Group to utilize the strengths of others in a greater range of instances and on a mutual basis. I want to see the EBARA Group become an organization in which all employees are united as one, and driven by passion and dedication to swiftly deliver highly reliable products and services to customers around the world. I am devoted to helping create the foundations and corporate culture that will be required to accomplish this vision.



**Akiko Uematsu**

Division Executive, Operations Innovation Division

- 1992 Joined the Company  
Involved in launching overseas businesses in overseas sales division of the Precision Machinery Business
- 2000 Supervisor position in a management division of a precision machinery subsidiary  
Responsible for the development of a system for managing income at Group companies
- 2007 Team Manager in Internal Control Improvement & Enhancement Division  
Handled development of Groupwide frameworks as part of project for furnishing Group internal control systems based on Financial Instruments and Exchange Act
- 2015 General Manager, Internal Control Department  
Planned and deployed internal control self-inspection guidelines
- 2017 General Manager, Internal Control and Risk Management Department  
Designed and implemented measures for spreading and monitoring implementation of internal control self-inspection guidelines and risk management guidelines
- 2019 Division Executive, Operations Innovation Division  
Assumed responsibility for promoting Companywide work process and work style reforms

**It is crucial to develop foundations and implement a work process optimization and standardization system that unites the Group and lives up to the expectations of markets and customers worldwide.**



## QUESTION

**You worked overseas for quite a while. What kinds of challenges did you face there and what kinds of results did you see from those efforts?**

## ANSWER

For around eight years, I worked at Ebara Pumps Europe S.p.A., an Italian consolidated subsidiary that functions as an overseas production base for manufacturing stainless steel standard pumps.\* I was in charge of development and sales support for the EVMS model pump, a global core product, as a project coordinator.

As part of this project, we introduced a development methodology that entailed advancing all processes simultaneously in order to realize substantially shorter development periods. Before the project, our development was relay-race-style, meaning each design, production, and sales process was fully completed before passing the baton to the next process. However, this style of production resulted in a very long total development process, as the creation of the dies for production or sales materials had to wait until after the design phase had been totally completed. The initial design phase also had a substantial impact on the entire development process and it was difficult to realize optimal designs that also took ease of production or procurement into account.

To address these downsides, we organized a dedicated team comprised of representatives from all relevant divisions. Through this team, the basic design data necessary for the production and sales processes was shared while the design phase was still underway to allow all processes to be conducted at the same time. We were thereby able to shorten what used to be four-year development periods down to two years. Moreover, by accounting for ease of production and procurement in the design phase, this project realized a 30% cost reduction.

## QUESTION

**What kinds of challenges do you hope to tackle in the future?**

## ANSWER

In the past, I had the opportunity to take part in an official development assistance project in the Republic of Gambia in the west of Africa, where we constructed a regional water supply system. In the future, I hope to utilize the business strategy formulation and project management experience I gained to tackle the challenge of reinforcing businesses at existing bases and establishing new bases in the global market. The memory of villagers' tears of joy when we completed construction of the water supply system in Gambia will serve as my motivation going forward and as one source of the pride I feel working at EBARA.



**Dai Sakihama**

Business Development Section, Global Sales Headquarters,  
Standard Pump Business Division, Fluid Machinery & Systems Company

- 2008    Joined the Company  
Assigned to the development and design of standard pumps
- 2011    Dispatched to Ebara Pumps Europe S.p.A.  
Appointed to engineering position as part of an official development assistance project in Gambia
- 2012    Assigned to Business Development Department of Ebara Pumps Europe S.p.A.  
Responsible primarily for new product development and planning
- 2019    Appointed to Business Development Section, Global Sales Headquarters  
Responsible primarily for supporting sales of standard pumps in Southeast Asia

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**The memory of villagers' tears of joy in  
Gambia will serve as my motivation going  
forward and as one source of the pride I feel  
working at EBARA.**

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\* Stainless steel standard pumps are primarily used for supplying water in buildings and commercial facilities. Other uses include pressurization and circulation applications for general industrial equipment such as water treatment and cleaning systems.

## Natural Capital—Management Resources Underpinning Competitive Edge—Environmental Management



**Toru Nakayama**

Executive Officer  
Division Executive, Legal, Internal Control and  
Risk Management and General Affairs Division  
Chairman, Environmental Control Committee

### Message from Executive Officer Responsible for Environmental Management

The EBARA Group recognizes that efforts to combat climate change are not only important responsibilities but also significant business opportunities. We are therefore moving ahead with the development of products that realize the maximum possible reduction in environmental impact through miniaturization and efficiency improvement. In addition, we are making a business of helping prevent disaster damage from extreme weather events and supporting swift recoveries from any damage that occurs. The Group is also engaged in a concerted effort to reduce energy consumption, minimize waste, and otherwise realize more eco-friendly production activities. We also endorsed the recommendations of the Task Force on Climate-related Financial Disclosures in May of 2019, and we disclose information pertaining to our efforts to combat climate change as a signatory.

REFERENCE EBARA Group Environmental Policy

<https://www.ebara.co.jp/en/about/csr/environment/vision/index.html>

REFERENCE Environmental Management Structure

<https://www.ebara.co.jp/en/about/csr/environment/management/index.html>

## Initiatives for Strengthening Environmental Management

### Enhanced Monitoring of Global Environmental Data

To facilitate the formulation of environmental targets for 2030, Groupwide IT infrastructure has been installed to collect, manage, and aggregate quantitative environmental performance data. The scope of environmental performance data collection includes 100% of domestic consolidated subsidiaries and 92% of overseas consolidated subsidiaries (based on percentage of sales). We have been continuously expanding the scope of our data collection, beginning with the manufacturing facilities with the largest impact and are working to include all consolidated subsidiaries.

### Global Reinforcement of Environmental Management

The Company has been performing on-site environmental and safety surveys of overseas production bases since 2014. These surveys were focused on the bases under the control of the Fluid Machinery & Systems Business up until 2017. The scope of the surveys was then expanded in 2018 to include the sites of all companies under the jurisdiction of the Precision Machinery Business. Checklists have been established for these surveys to ensure that the precursors of environmental risks are addressed. The effectiveness of these checklists is reviewed with each on-site survey in a process of ongoing enhancement aimed at ensuring accurate risk assessment.

## Environmental Measures through Products

The following are examples of standard pumps launched in 2018 that contribute to reduced environmental impact during use.

- FSD4 model: Compared with conventional shaft direct connection type pumps, this pump is more compact and space efficient, contributing to resource conservation.
- DL model: With a simple structure that is easy to inspect and repair, this pump achieves a longer lifespan and uses standardized parts to help conserve resources.
- Sewage pumps with premium-efficiency IE3 motors: These pumps conserve energy with premium-efficiency motors and are thus being promoted as strategic global products.

### Improvement of Sales and Production Efficiency and Environmental Initiative Transparency

Estimate and inquiry centers have been established to expedite customer support, facilitate reductions in per unit of production energy consumption from automated pump assembly lines, and promote renewable energy use.

## Resolution of Material Issues: Action Policy 3

**Progress toward Action Policy KPI Targets** (Fiscal year ended December 31, 2018)

We aim to formulate EBARA Group's FY2030 Environmental Targets based on an accurate understanding of current environmental performance levels on a global and Groupwide basis. The following KPIs and targets have been set for domestic Group companies, and business sites are working to reduce their environmental footprint accordingly.

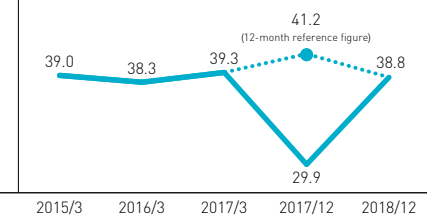
**Greenhouse Gas Emissions\***

**38,800t** (Consolidated, in Japan\*)

We are pursuing ongoing reductions in CO<sub>2</sub> emissions through the introduction of and upgrades to air-conditioning equipment and lighting with higher energy efficiency and other measures to increase operational eco-efficiency.

FY2020 Environmental Target:  
**Reduce emissions continuously**

Thousand tons of CO<sub>2</sub>

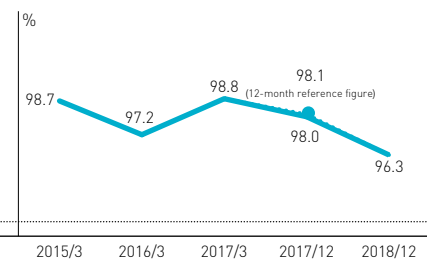
**Material Recycling Rate**

**96.3%** (Consolidated, in Japan\*)

The EBARA Group has set the target of maintaining a material recycling rate of 95.0% or more as one of its FY2020 Environmental Targets. We will work toward this target by ensuring that waste is properly separated, reducing packaging materials, and implementing other initiatives for increasing the material recycling rate and minimizing the landfill disposal rate.

KPI Target:

**95% or more**

**Total Water Consumption**

**524,000m<sup>3</sup>**; Tap water: **379,000m<sup>3</sup>**;

**Groundwater: 124,000m<sup>3</sup>**;

**Industrial water: 21,000m<sup>3</sup>**

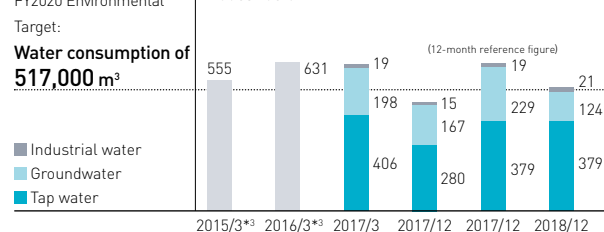
(Consolidated, in Japan\*)

Inspections and repairs of tap water leaks at the Suzuka District contributed to water conservation by reducing the amount leaked per hour from 480 L to 70 L.

FY2020 Environmental Target:

**Water consumption of 517,000 m<sup>3</sup>**

Thousands of m<sup>3</sup>

**Waste Production**

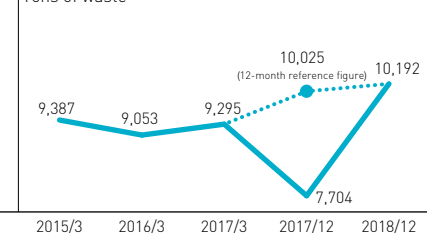
**10,192t** (Consolidated, in Japan\*)

EBARA is pursuing reductions in waste volumes by lowering the amount of packaging materials it uses, among other initiatives. In addition, we are reviewing the waste processing subcontractors used by the Group as a Groupwide waste production reduction measure, with the aim of increasing recycling rates.

FY2020 Environmental Target:

**Reduce emissions continuously**

Tons of waste

**Renewable Energy Usage Rate**

**0.50%** (Consolidated, in Japan\*)

Solar panels have been installed at the Fujisawa District and at one domestic Group company. In addition, the Kumamoto Plant began procuring electricity from waste-to-energy generation at EBARA Environmental Plant Co., Ltd., in December 2017, thereby realizing a year-on-year reduction in CO<sub>2</sub> emissions volumes of 53%. We will continue to investigate and examine possible methods of introducing renewable energy systems going forward.

\*1 The Company uses the emissions coefficient of 0.357 kg/kWh set in 2000.

\*2 Figure excludes one electricity supply company.

\*3 Only total water consumption was monitored prior to the fiscal year ended March 31, 2016.

## Social and Relationship Capital—Management Resources Underpinning Competitive Edge—

### Partnerships with Stakeholders

#### Collaborative Value Creation Partnerships

The EBARA Group CSR Policy defines our commitment to foster trust with our valued stakeholders by conducting our business with a strong sense of ethics. This policy delineates a dedication to co-creating value for society, industry, and life through collaborative value creation partnerships with various stakeholders. We have proceeded to build strong partnerships

and foster greater trust with our stakeholders and this has become a part of the foundation of EBARA's distinctive value creation process. In the future, we will continue to promote strategic engagement with stakeholders to ramp up our initiatives for using social and relationship capital to create new value.

Stakeholders	Engagement Venues	Outcomes
Customers	<ul style="list-style-type: none"> <li>Daily communication through sales divisions</li> <li>Information provision via catalogs and websites</li> <li>Responses to questions and feedback through call centers</li> </ul>	<ul style="list-style-type: none"> <li>Supply of products that match customer needs through provision of finely tuned solutions</li> <li>Contribution to the resolution of social issues through effective water resource usage and efficient energy use as customers utilize EBARA products</li> </ul>
Shareholders and Investors	<ul style="list-style-type: none"> <li>Information disclosure and communication through the General Meeting of Shareholders and financial results presentation meetings</li> <li>Timely disclosure via integrated reports, financial reports, websites, and other venues</li> <li>Factory tours, company presentations, financial results, and ESG presentation meetings</li> </ul>	<ul style="list-style-type: none"> <li>Increased trust in management</li> <li>Diligent communication of feedback to management for improving business activities</li> </ul>
Suppliers and Other Business Partners	<ul style="list-style-type: none"> <li>Daily communication with product component, material, and service suppliers through procurement divisions and requests for adherence to CSR Procurement Guidelines</li> <li>Response to questions and input from partners</li> <li>Support for training at partner locations</li> </ul>	<ul style="list-style-type: none"> <li>Superior product quality and safety</li> <li>Competitive prices</li> <li>Stable supply of products and services with reliable delivery periods</li> <li>Enhanced collaborative value creation partnerships</li> </ul>
Local Communities	<ul style="list-style-type: none"> <li>Coordination with community members and local companies</li> <li>Joint research with universities</li> <li>Open innovation with local citizen groups through EOL</li> </ul>	<ul style="list-style-type: none"> <li>Strong relationships with residents of areas surrounding business sites</li> <li>Development of technologies and higher-quality products and services</li> <li>Wider pool of human resource candidates</li> <li>Enhanced collaborative value creation partnerships</li> </ul>
Employees	<ul style="list-style-type: none"> <li>Daily workplace communication</li> <li>Opportunities for dialogue with management through President Dialogue Meetings, educational lectures, and other programs</li> <li>Regular communications with labor union</li> </ul>	<ul style="list-style-type: none"> <li>Corporate culture encouraging competition and embracing challenge</li> <li>Improved employee motivation and performance</li> <li>Workplace supporting employee physical and mental health</li> </ul>

#### Dialogue with Shareholders and Other Investors

The EBARA Group recognizes the development of long-term trusting relationships with shareholders and other investors as one of its most important management tasks. The EBARA Group appropriately discloses corporate information necessary for shareholders and other investors to make investment decisions and strives to further strengthen its trusting relationships with these stakeholders on a continuous basis by engaging in investor relations (IR) activities for enhancing its corporate value through constructive dialogue.

In regard to the EBARA Group's IR structure, in principle, the Executive Officer responsible for IR and the IR Department perform all IR activities overseen by the President and Representative Executive Officer. Furthermore, Directors (including Independent Directors), Executive Officers, and other members of top management arrange opportunities to speak directly with shareholders and investors as necessary.

#### First Annual ESG Presentation Meeting

Recently, the expectations toward companies and the roles they should play in the realization of a sustainable society have been rising, stimulating a growing trend toward ESG investment, an investment approach that entails evaluating how much ESG factors are integrated into a company's decision-making. To respond to this increased interest among investors, EBARA held its first annual ESG presentation meeting for institutional investors and analysts in December 2018, which drew around 40 attendants. At this meeting, then President and Representative Executive Officer Toichi Maeda explained how the Company evaluates and integrates ESG consideration into its decision-making.



ESG presentation meeting

## Collaborative Value Creation Partnerships with Suppliers

The EBARA Group's Procurement Policy encourages partnerships with suppliers to pursue the mutual improvement of value through the creation of high-value products and services. In addition, we request that suppliers understand and adhere to the CSR Procurement Guidelines, and we are working toward achieving a recognition rate of 100% for the guidelines by 2019.

### Major Sections of CSR Procurement Guidelines

1	Compliance	6	Information disclosure
2	Consideration to human rights, health, and safety	7	Information security
3	Environmental conservation	8	Protection of intellectual property
4	Ensuring proper quality, price, delivery, and safety of products and services	9	Corruption prevention
5	Improvement of technical capabilities	10	Dissociation from antisocial forces

REFERENCE Procurement Policy & CSR Procurement Guidelines

<https://www.ebara.co.jp/en/about/csr/social/commitment/index.html#anc119696>

### Establishment of Procurement Committee

The Procurement Committee was established in 2018. Meeting twice a year, this committee is chaired by an Executive Officer appointed by the President and Representative Executive Officer and comprised of division executives of business divisions. The committee is responsible for establishing basic procurement policies for optimizing procurement activities and ensuring rigorous compliance. Moreover, execution organizations are formed below the Procurement Committee to execute the measures prescribed by the committee to guarantee the steady implementation of its basic policies. In 2018, such organizations were formed for the purposes of promoting

surveys of conditions at supplier facilities, making improvements to EBARA's procurement activities, and responding to regulatory requirements. The structure and activities of these execution organizations are planned for review in the fiscal year ending December 31, 2019.

### Progress toward Action Policy KPI Targets

In the fiscal year ended December 31, 2018, the Procurement Committee issued CSR procurement surveys to suppliers to assess their adherence to the Company's CSR Procurement Guidelines and the standards of the Responsible Business Alliance.\* These surveys found that 84% of respondents were conducting satisfactory CSR activities. The results of these surveys will be utilized to facilitate ongoing improvements to CSR activities across the supply chain.

REFERENCE CSR Procurement Survey Sample

[https://ebara.co.jp/en/about/csr/social/commitment/\\_icsFiles/afiedfile/2019/07/09/2019%20CSR%20Procurement%20Questionnaire\(ENG.ver.\).pdf](https://ebara.co.jp/en/about/csr/social/commitment/_icsFiles/afiedfile/2019/07/09/2019%20CSR%20Procurement%20Questionnaire(ENG.ver.).pdf)

Resolution of Material Issues: Action Policy 4



**Fulfill social responsibilities to supply chain, deliver reliable product quality throughout the product's life cycle, and achieve responsible customer engagement**

CSR procurement survey response rate: **72%**

Awareness of CSR Procurement Guidelines (self-reporting basis): **98%**

\* The Responsible Business Alliance is an organization that defines standards for the human rights of employees, workplace safety, and responsibility for the environment as well as standards for business ethics across the electronics industry supply chain.

## Collaborative Value Creation Partnerships with Local Communities

In line with its corporate philosophy, the EBARA Group conducts social contribution activities based on three basic policies: utilizing know-how gained through business activities, fostering human resources, and meeting social needs. Through these activities, we help resolve social issues together with members of local communities.

### Examples of Activities

#### EBARA Hatakeyama Memorial Fund (Overseas Technical Seminars)



Pump assembly demonstration at overseas technical seminar



Donation of pump cross-section models to university in developing country

#### Support for Development of Next Generation of Engineering Human Resources



Japan Science & Engineering Challenge (JSEC2018)  
Winner of EBARA Award: Gifu High School

#### Events Aimed at Female Junior High and High School Students



Mirai Rikejo—Monzukur Café 2019 event for female science and engineering students  
(Photograph provided by Rikejo magazine, Kodansha Ltd.)



## At a Glance

## Net Sales Ratio (Fiscal year ended December 31, 2018)

## Precision Machinery Business

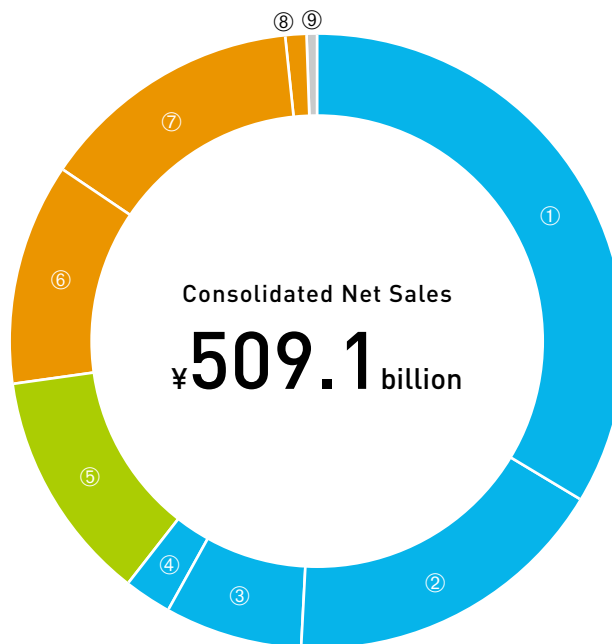
26%

⑥ Components	¥59.3 billion
⑦ CMP Systems	¥69.8 billion
⑧ Others	¥6.5 billion

## Environmental Plants Business

12%

⑤ Environmental Plants	¥62.8 billion
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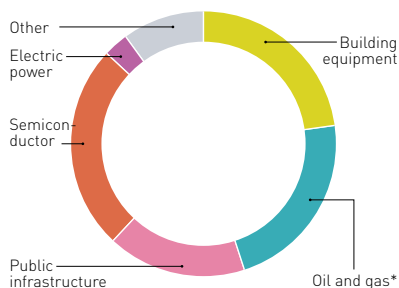
⑨ Other	¥1.6 billion
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## Fluid Machinery &amp; Systems Business

60%

① Pumps	¥172.0 billion
② Compressors and Turbines	¥87.6 billion
③ Chillers	¥35.8 billion
④ Others	¥13.4 billion

## Net Sales Ratio by Industry

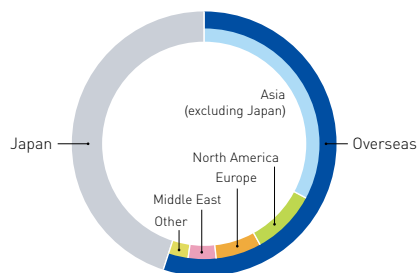


\* Mostly downstream businesses

## POINT

Net sales were not overly concentrated on any one industry, but were rather distributed between industries in a balanced manner. This indicates that EBARA Group products are used in various areas of social and industrial infrastructure and support the creation of a safe, secure, and comfortable society.

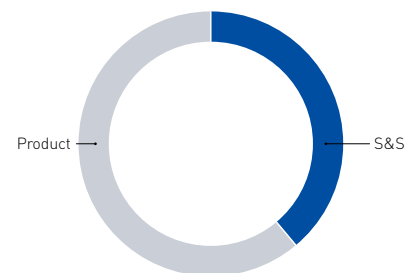
## Net Sales Ratio by Region



## POINT

Over 50% of total net sales came from overseas, with Asia being the largest region. In the fiscal year ended December 31, 2018, there was an increase in sales to Asia and North America in the Fluid Machinery & Systems Business. The EBARA Group will continue efforts to incorporate the growth of overseas markets into its business.

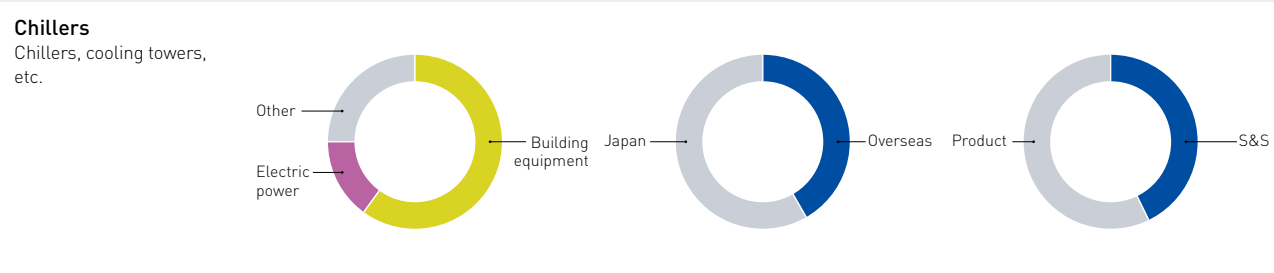
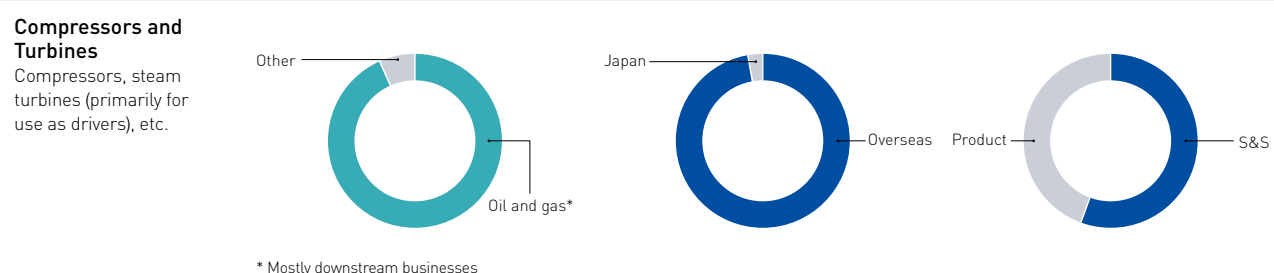
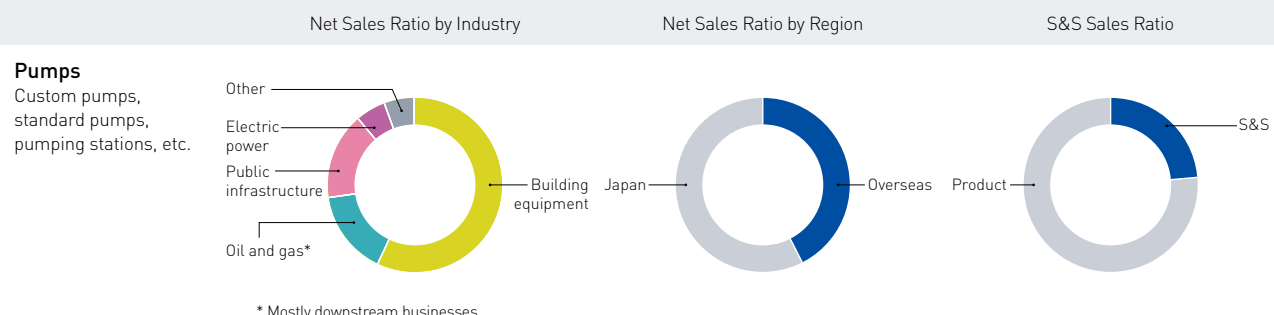
## S&amp;S Sales Ratio



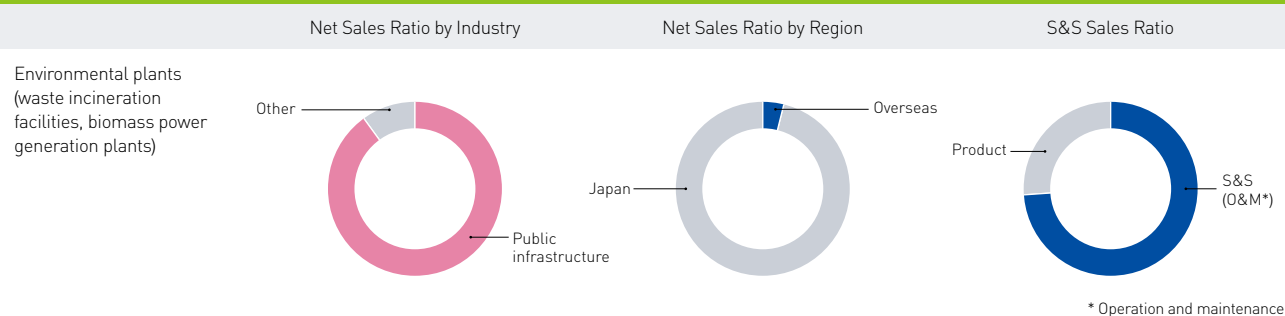
## POINT

Service and support (S&S) operations generated approximately 40% of total net sales, contributing to the stability of the EBARA Group's profit foundation. Measures will be advanced in all businesses going forward in order to capitalize on demand to grow S&S operations.

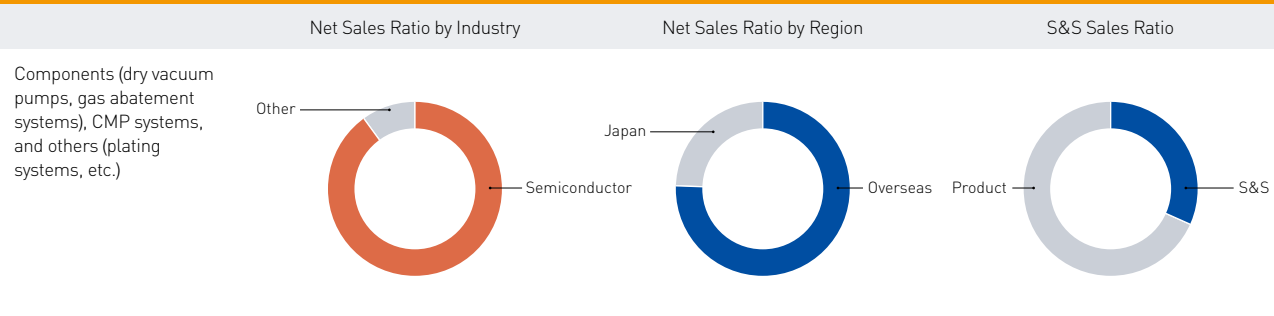
## Fluid Machinery & Systems Business



## Environmental Plants Business



## Precision Machinery Business



# Fluid Machinery & Systems Business



**Aspiring to deliver greater benefits to customers, we endeavored to develop new high-efficiency products and to augment our S&S systems.**

## Nobuharu Noji

Senior Managing Executive Officer  
President, Fluid Machinery & Systems Company

In the fiscal year ended December 31, 2018, net sales in the Fluid Machinery & Systems (FMS) Business were up in comparison to the previous full-year period, even though conditions in building equipment and other principal markets were relatively unchanged. This was largely due to the recovery in the investment appetite of the oil and gas market. However, operating income was down due to the continuation of fierce price competition and the incurring of one-time costs for the purpose of addressing defective products.

Throughout the year, we continued to advance various initiatives in accordance with the basic policies of the medium-term management plan, E-Plan 2019, to improve our profitability and market share in Japan and expand the scale of our operations overseas. Initiatives for improving profitability in Japan included commencing operations of an automated standard pump assembly line on schedule as part of our broader efforts to optimize our production systems. In addition, steady progress was made in the consolidation and standardization of product lineups and in work process reforms spanning from sales to production. To improve market shares and expand operations in Japan and overseas, we endeavored to develop new high-efficiency products and augment service and support (S&S) systems. These efforts were geared toward achieving our targets for reducing electricity consumption during product use and for expanding S&S operations to help maximize product lifespans and minimize equipment downtimes, both Action Policy KPIs which address our material ESG issues. We are committed to making steady progress toward the accomplishment of ESG-related and other management targets and to completing the measures prescribed for the final year of E-Plan 2019.

### Risks and Opportunities

#### Risks

- Curtailing of capital investment by customers ([entire FMS Business](#))
- Fierce price competition fueled by contraction of domestic market ([Pumps](#)) ([Chillers](#))
- Economic slowdown in China ([entire FMS Business](#))
- Growing prices of raw materials ([entire FMS Business](#))

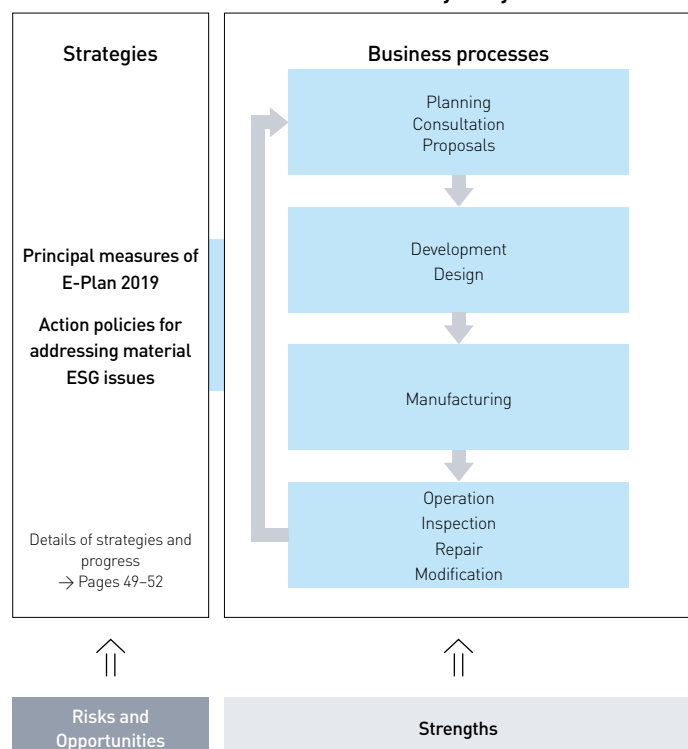
#### Growth Opportunities

- Increased infrastructure investment in emerging countries ([Pumps](#))
- Improvement of productivity and innovation in production processes ([entire FMS Business](#))
- Rising environmental awareness resulting in increased interest in energy-efficiency/renewable energy technologies ([entire FMS Business](#))
- Growing demand for advanced water infrastructure in emerging countries ([Pumps](#))

### Strengths

- Fundamental technologies cultivated over the years such as fluid/numerical/material analysis, etc. ([entire FMS Business](#))
- Proficiency at developing highly efficient, high-quality, and highly reliable products ([entire FMS Business](#))
- Sophisticated insight, technologies, and skills ([entire FMS Business](#))
- Diverse, global employee base ([entire FMS Business](#))
- Global sales and S&S network ([Pumps](#)) ([Compressors and Turbines](#))
- Strong, enduring partnerships with business partners ([entire FMS Business](#))

## Business Model of the Fluid Machinery & Systems Business



## Progress and Targets of Fluid Machinery & Systems Business Strategies

### Major KPIs for Action Policies which Address Material ESG Issues

#### Action Policy 1 Provide products and services that minimize the use of energy and resources

KPI: Reduce electricity consumption of certain products in comparison to prior offerings	Progress toward Target
KPI: Reduce the weight of certain products in comparison to prior offerings	Progress toward Target

#### Major Outputs

- Reductions to the amounts of energy and resources consumed during production/product use

#### Major Outcomes

- Contributions to resilient social infrastructure and reductions in energy and resource use

#### Action Policy 2 Expand the service and support (S&S) business, maximize product life, and minimize any product downtime

KPI: Increase S&S sales	Progress toward Target
KPI: Increase number of S&S bases	Progress toward Target

Other KPIs → Pages 49 and 51

#### Major Outputs

- Longer product lives • Prevention of malfunctions and halted operations

#### Major Outcomes

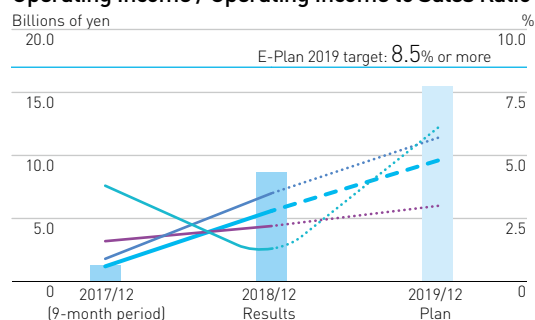
- Contributions to customer business continuity and protection of water and other lifelines through stable operation of social and industrial infrastructure

### Numerical Targets of E-Plan 2019 (Consolidated)

#### Operating income to sales ratio **8.5%** or more

Pumps Business	8.0% or more
Compressors and Turbines Business	11.0% or more
Chillers Business	7.0% or more

#### Operating Income / Operating Income to Sales Ratio

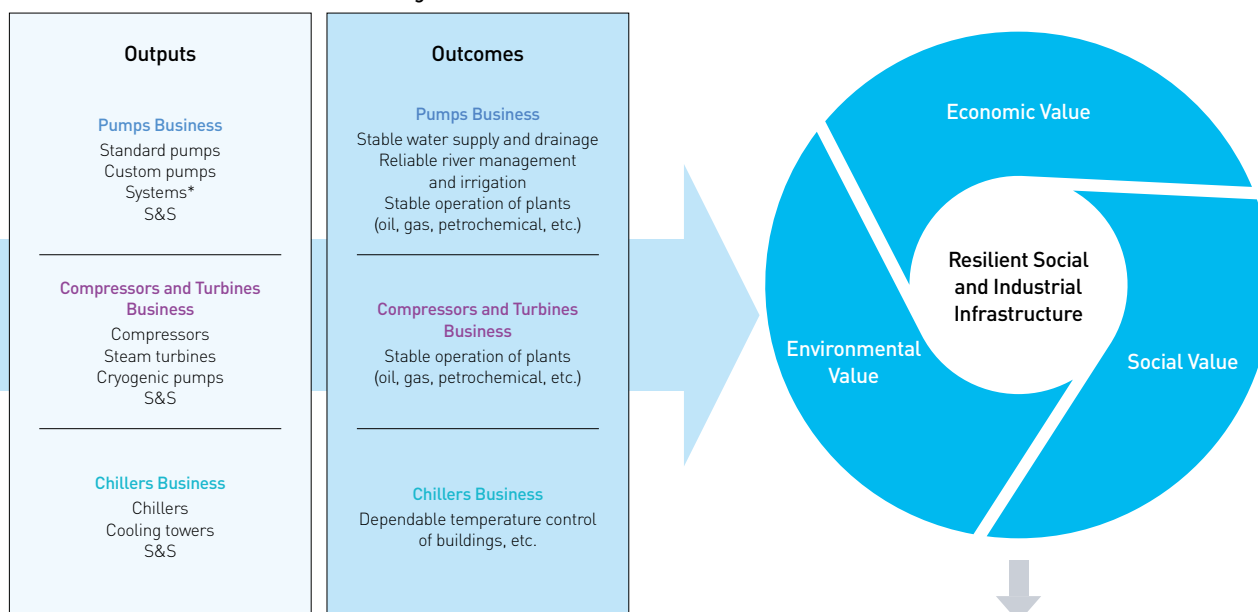


Bar graph: Operating income (left scale)

Line graph: Operating income to sales ratio (right scale)

Fluid Machinery & Systems Business — Pumps  
Compressor and Turbines — Chillers

## Value Created through Customers' Business Activities





\* Systems operations include the construction, maintenance, and management of water infrastructure-related pump plants.

### SDGs Highly Relevant to Business Activities



## Progress of E-Plan 2019 and Material ESG Issues

## Fluid Machinery &amp; Systems Business

KPIs & Targets for Fiscal Year Ending December 31, 2019	Strategies Underway	Accomplishments in Fiscal Year Ended December 31, 2018
<b>E-Plan 2019</b>		
Operating income to sales ratio for standard and custom pumps <b>8.0% or more</b>	<b>Standard Pumps</b>	
	<b>Principal Measures</b> <ol style="list-style-type: none"> <li>1. Consolidate existing models to reduce management costs, shorten product lead times, and lower manufacturing costs</li> <li>2. Fundamentally reconstruct production system by building automated assembly lines utilizing IoT, AI, and robotics technology and boost product competitiveness through shorter product lead times and lower manufacturing costs</li> <li>3. Improve work efficiency through reinvention of production and sales operation systems</li> <li>4. Continue to launch products for the global market in addition to products that meet region-specific needs</li> </ol>	<b>POINT</b> In the domestic market, smooth progress is being made in the consolidation of model lineups, the establishment of automated plants, and the improvement of sales efficiency. Overseas, strong performance was achieved through ongoing launches of core global products. In the fiscal year ending December 31, 2019, these initiatives will be continued. Another focus will be the expansion of overseas bases.
	<b>Custom Pumps</b>	
	<b>Principal Measures</b> <ol style="list-style-type: none"> <li>1. Revise domestic production systems to implement reforms aimed at enabling flexible response to production increases</li> <li>2. Shorten product lead times and reduce manufacturing costs by revising production systems and standardizing products</li> <li>3. Expand overseas S&amp;S operations and bolster overseas sales and technical support systems to place bases closer to local customers</li> </ol>	<b>POINT</b> Major factory functions were consolidated to create a streamlined domestic production system. Meanwhile, local sales bases in S&S operations were reinforced through human resource development at overseas bases. Measures for improving profitability through product standardization, shortened lead times, and reduced manufacturing costs will be continued in the fiscal year ending December 31, 2019.
<b>Material ESG Issues</b>		
Reduce electricity consumption of certain products in comparison to prior offerings <b>2%–15%</b>  Reduce the weight of certain products in comparison to prior offerings <b>8%–40%</b>	<b>Action Policy 1</b>  <b>Provide products and services that minimize the use of energy and resources</b>	<ul style="list-style-type: none"> <li>• Progress toward applicable products' electricity consumption reduction target (Delivered products only) <b>57.5%</b></li> <li>• Progress toward applicable products' weight reduction target (Delivered products only) <b>79.8%</b></li> </ul> <b>POINT</b> Five applicable pump models were chosen for these KPIs and efforts were advanced to reduce their energy consumption during operation in comparison to prior offerings. The progress toward targets is measured only in products delivered, which allows us to quantify our contribution to lower greenhouse gas emissions of our customers. We also promoted raw material conservation by setting and meeting targets to reduce the weight of certain products.
Increase S&S sales <b>44%</b> (compared to nine-month period ended December 31, 2017)  Reduce standard pump on-call processing time* to <b>4.5 minutes</b>  Increase number of countries with custom pump S&S bases to <b>14</b>	<b>Action Policy 2</b>  <b>Expand the service and support (S&amp;S) business, maximize product life, and minimize any product downtime</b>	<ul style="list-style-type: none"> <li>• Progress toward S&amp;S sales target <b>94.6%</b></li> <li>• Progress toward standard pump on-call processing time* target <b>87.4%</b></li> <li>• Number of countries with custom pump S&amp;S bases <b>13</b></li> </ul> <b>POINT</b> Our network of sales and service bases are being bolstered to provide swift and comprehensive S&S to customers. New bases were established in Brazil and other locations in the fiscal year ended December 31, 2018.

\* On-call processing time is the time required to document and relay requests to relevant divisions after conclusion of inquiry.



## TOPICS

### Examples of Initiatives Pertaining to E-Plan 2019 and Material ESG Issues

#### Standard Pumps Business

##### Commencement of Operations for Automated Pump Assembly Line

Operation of an automated assembly line for horizontal multi-stage pumps commenced at the Fujisawa District in September 2018. The installation of this line entailed replacing the production processes from assembly to inspection with four robots. The result is a production system that requires less human labor and is able to respond flexibly to changes in demand. In the fiscal year ending December 31, 2019, we plan to construct a new automated submerged pump assembly line and to commence mass production of these pumps thereafter. Additionally, the number of models handled by the existing automated horizontal multi-stage pump assembly line will be expanded from one to four. Going forward, further improvements to productivity will be pursued through fully automated assembly lines as the Group endeavors to establish systems for supplying products that are more acutely matched to customer needs.



Automated assembly line

Relevant E-Plan 2019 Principal Measures

2. Fundamentally reconstruct production system by building automated assembly lines utilizing IoT, AI, and robotics technology and boost product competitiveness through shorter product lead times and lower manufacturing costs



#### Custom Pumps Business

##### Reinforcement of Custom Pump S&S Network

The EBARA Group has a robust track record of delivering custom pumps to oil and gas, water infrastructure, electricity, and other markets around the world. An important initiative in E-Plan 2019 and for our material ESG issues is to reinforce our S&S systems to ensure that delivered products can operate reliably with little to no downtime, and we are taking action to accomplish this objective. One example would be the service shop in Saudi Arabia we established in the nine-month period ended December 31, 2017. We are also moving forward with efforts to develop service systems that are more closely connected to customers at existing overseas service bases. At these bases sales staff and engineers perform proposal-based sales activities while local field service engineers supply parts and conduct overhaul services. Going forward, we will continue to respond to customer needs for parts supply, repairs, and maintenance as we seek to enhance S&S offerings throughout all areas of product lifecycles.



Service shop in Saudi Arabia

Relevant E-Plan 2019 Principal Measures

3. Expand overseas S&S operations and bolster overseas sales and technical support systems to place bases closer to local customers


Relevant Material ESG Issues **Action Policy 2**

Expand the service and support (S&S) business, maximize product life, and minimize any product downtime





## Progress of E-Plan 2019 and Material ESG Issues

### Compressors and Turbines

KPIs & Targets for Fiscal Year Ending December 31, 2019	Strategies Underway	Accomplishments in Fiscal Year Ended December 31, 2018
<b>E-Plan 2019</b>		
Operating income to sales ratio <b>11.0% or more</b>	<b>Principal Measures</b> <ol style="list-style-type: none"> <li>1. Boost competitiveness in existing markets and enter into new segments and markets through M&amp;A and proprietary development</li> <li>2. Thoroughly improve profitability in product and S&amp;S operations</li> <li>3. Deepen integration of global management in order to overcome international competition</li> </ol>	<ul style="list-style-type: none"> <li>• Operating income to sales ratio <b>2.2%</b></li> </ul> <p><b>POINT</b></p> <p>Multiple projects are underway to reduce costs and shorten lead times between order receipt and shipment. Meanwhile, the expansion of S&amp;S operations is being targeted through the enhancement of service bases and the provision of services for products other than those supplied by us. In addition, business units were organized on a product and service basis to reinforce operating foundations and create an operation system that encompasses all steps from order receipt to shipment. Measures will be continued throughout the fiscal year ending December 31, 2019.</p>
<b>Material ESG Issues</b>		
Increase S&S sales <b>67%</b> (compared to nine-month period ended December 31, 2017)  Achieve shipment rate of <b>98%</b> for pre-contract shipments in global service operations (parts sales)	<p><b>Action Policy 2</b> </p> <p><b>Expand the service and support (S&amp;S) business, maximize product life, and minimize any product downtime</b></p>	<ul style="list-style-type: none"> <li>• Progress toward S&amp;S sales target <b>88.8%</b></li> <li>• Progress toward pre-contract shipment rate in global service operations (parts sales) target <b>100%</b></li> </ul> <p><b>POINT</b></p> <p>Nearly all targets set for KPIs have been accomplished. Closer communication with customers will continue to be pursued in the future in order to enable timely parts supply.</p>

### Chillers

KPIs & Targets for Fiscal Year Ending December 31, 2019	Strategies Underway	Accomplishments in Fiscal Year Ended December 31, 2018
<b>E-Plan 2019</b>		
Operating income to sales ratio <b>7.0% or more</b>	<b>Principal Measures</b> <ol style="list-style-type: none"> <li>1. Designate turbo chillers and cooling towers as most important models and develop and promote sales of competitive products in the Chinese market</li> <li>2. Maintain S&amp;S operations for chillers and expand cooling tower S&amp;S operations, which promise growth, in Japanese market</li> <li>3. Promptly establish bases and build production, sales, and service systems in order to expand operations in countries other than Japan and China</li> </ol>	<ul style="list-style-type: none"> <li>• Operating income to sales ratio <b>1.2%</b></li> </ul> <p><b>POINT</b></p> <p>In China, we were able to participate in the industrial market for cooling towers, a segment of the cooling tower market in which we were previously not involved. However, development of turbo chillers fell behind schedule. At the same time, we developed and launched new eco-friendly chillers while consolidating cooling tower production bases in Japan. In the fiscal year ending December 31, 2019, we will continue the steady implementation of measures for expanding the scale of our operations in overseas markets and for heightening profitability in Japan.</p>
<b>Material ESG Issues</b>		
Reduce electricity consumption of certain products in comparison to prior offerings <b>5%</b>  Reduce the weight of certain products in comparison to prior offerings <b>9%</b>	<p><b>Action Policy 1</b> </p> <p><b>Provide products and services that minimize the use of energy and resources</b></p>	<ul style="list-style-type: none"> <li>• Progress toward applicable products' electricity consumption reduction target (Delivered products only) <b>100%</b></li> <li>• Progress toward applicable products' weight reduction target (Delivered products only) <b>0%</b></li> </ul> <p><b>POINT</b></p> <p>The EBARA Group is moving ahead with the development of new products that respond to customer needs while being considerate of the environment.</p>
Increase S&S sales <b>17%</b> (compared to nine-month period ended December 31, 2017)  Increase number of countries with S&S bases to <b>10</b>	<p><b>Action Policy 2</b> </p> <p><b>Expand the service and support (S&amp;S) business, maximize product life, and minimize any product downtime</b></p>	<ul style="list-style-type: none"> <li>• Progress toward S&amp;S sales target <b>92%</b></li> <li>• Number of countries with S&amp;S bases <b>8</b></li> </ul> <p><b>POINT</b></p> <p>Operations will be established in overseas markets through collaboration with Group companies in China and Thailand. In addition, we are working to refine maintenance systems and develop service shops as necessary to provide services matched to the needs of each country and region of operation.</p>

## TOPICS

### Examples of Initiatives Pertaining to E-Plan 2019 and Material ESG Issues

#### Compressors and Turbines Business

##### Construction of New Factory in Bangalore, India

A new factory was constructed in February 2019 at a service center for large-scale compressors and steam turbines, established in Bangalore, India in 2015, with the goal of bolstering production of small and medium-sized steam turbines and enhancing after-sales services.

Small and medium-sized steam turbines are used as drivers and for power generation applications in a wide range of industries, including the petrochemical, food, general chemical, and biomass power industries. The new factory in India has made it possible to respond swiftly to the growing demand for these turbines in India and in East Asia.

Moreover, the facility is equipped with design, sales, and service divisions as well as a training center to be utilized in enhancing after-sales services in response to the diversification of energy supply systems and the growth of energy demand.



New factory constructed in Bangalore, India

Relevant E-Plan 2019 Principal Measures

**3. Deepen integration of global management in order to overcome international competition**

Relevant Material ESG Issues **Action Policy 2**

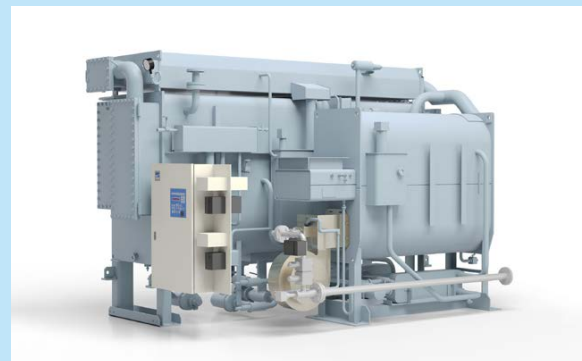
**Expand the service and support (S&S) business, maximize product life, and minimize any product downtime**



#### Chillers Business

##### Launch of New Model RHD Absorption Chiller Heater

We launched the model RHD absorption chiller heater, a new eco-friendly product in the Japanese market in the fiscal year ended December 31, 2018. This new product was designed with thorough consideration paid to energy efficiency and to customer needs. Features include quick start-up, an energy conservation mode, a wide range of operation variations, reduced use of refrigerants (fluorocarbons), and other superior capabilities to contribute to lower energy use and environmental impact. In particular, this model's quick start-up unlocks new possibilities for the applications of absorption chiller heaters. This makes it an ideal solution for environmentally conscious customers while also having the potential to make large contributions to addressing material ESG issues (specifically, Action Policy 1: provide products and services that minimize the use of energy and resources).



New Model RHD absorption chiller heater

Relevant Material ESG Issues **Action Policy 1**

**Provide products and services that minimize the use of energy and resources**



# Environmental Plants Business



**In addition to our main business of municipal solid waste treatment, we are expanding the scope and improving the quality of the services we provide to create safer, more secure, and invigorated communities.**

## Atsuo Ohi

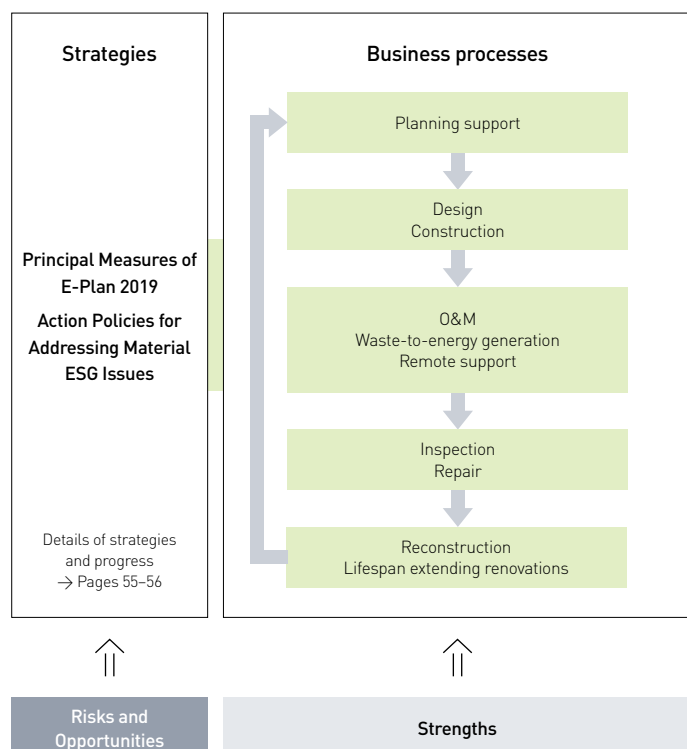
Senior Managing Executive Officer  
President, Environmental Engineering Company

In recent years, there has been a rise in the need for municipal solid waste (MSW) treatment facilities to create additional value for their communities, such as acting as a venue for environmental education, effectively utilizing heat energy generated from incinerating waste, or by being resilient infrastructure able to withstand natural disasters. This new value is required on top of fulfilling the primary function of safe and reliable MSW treatment. In response to these diversifying expectations, we are expanding the scope and improving the quality of the services we provide to create safer, more secure, and invigorated communities. We are doing this by promoting local production and consumption of electricity through waste-to-energy generation, offering remote operation support, stockpiling disaster response items on-site, conducting community environmental education activities, and providing other services.

In addition, we are embracing automation using AI and IoT technologies in order to bolster the functionality and reliability of our facilities. As a result of these efforts, we were able to complete the development of the industry's first automated waste crane system equipped with AI-powered waste identification features in 2018, and we have begun offering this service to our customers. Going forward, we will continue to coordinate closely with our customers in order to contribute to the realization of a sustainable society together with them.

Risks and Opportunities
<b>Risks</b> <ul style="list-style-type: none"> <li>• Facility accidents (adverse impacts on surrounding communities)</li> <li>• Consolidation and abolition of facilities due to population decline in Japan</li> <li>• Lack of operation staff</li> </ul>
<b>Growth Opportunities</b> <ul style="list-style-type: none"> <li>• Reconstruction and upgrade demand stemming from aging of MSW treatment facilities</li> <li>• Increase in outsourcing of facility operation to private-sector companies</li> <li>• Increased demand for renewable energy</li> <li>• Growing need for waste plastic processing</li> </ul>
Strengths
<ul style="list-style-type: none"> <li>• Technologies for realizing performance in line with customer requests</li> <li>• High-efficiency facility operation technologies</li> <li>• Operational expertise based on industry-leading operation contracting track record</li> <li>• Maintenance expertise for minimizing equipment burden and maximizing facility performance</li> <li>• Customer- and community-rooted support capabilities</li> <li>• Robust insight as a pioneer in offering comprehensive, long-term service contracts</li> <li>• Electric power management enabling the local production and consumption of surplus energy</li> <li>• Technologies for complete recycling of ash from incinerated MSW</li> </ul>

## Business Model of the Environmental Plants Business



## Progress and Targets of Environmental Plants Business Strategies

### Major KPIs for Action Policies which Address Material ESG Issues

#### Action Policy 1 Provide products and services that minimize the use of energy and resources

KPI: Waste-to-energy generation volume	Progress toward Target
KPI: Power generated by biomass-related power generation facilities	<div><div></div></div>

##### Major Outputs

- Generation of electricity at waste treatment facilities
- Generation of electricity from biomass

##### Major Outcomes

- Development of regional power supplies
- Local production and consumption of electricity
- Sustainable supply of energy

#### Action Policy 2 Expand the service and support (S&S) business, maximize product life, and minimize any product downtime

KPI: Increase number of Operation and Maintenance (O&M) contracting facilities	Progress toward Target
	<div><div></div></div>

##### Major Outputs

- Highly efficient waste treatment services
- Extended facility lifespans

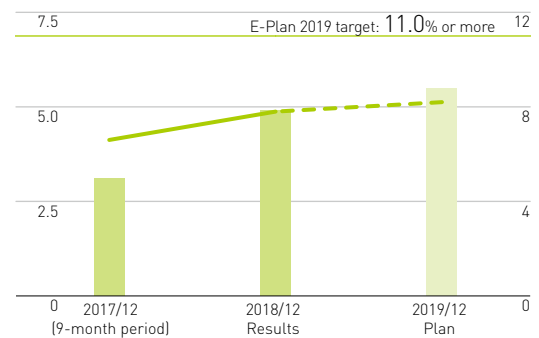
##### Major Outcomes

- Consistent waste treatment that is not impacted by waste qualities or amounts
- Energy-efficient waste treatment realized through sophisticated technologies
- Cleaner communities

### Numerical Targets of E-Plan 2019 (Consolidated)

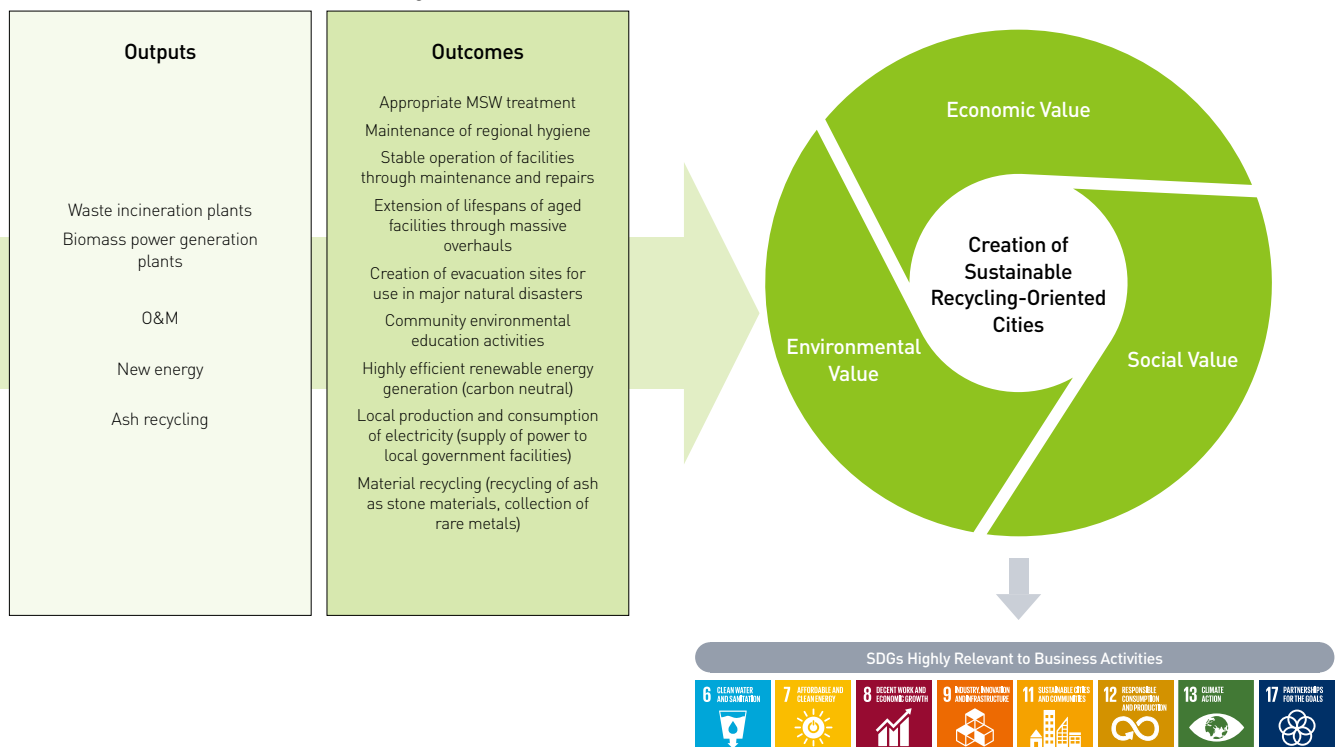
Operating income to sales ratio **11.0%** or more

**Operating Income / Operating Income to Sales Ratio**  
Billions of yen %  
10.0 16



Bar graph: Operating income (left scale)  
Line graph: Operating income to sales ratio (right scale)

## Value Created through Customers' Business Activities







## Progress of E-Plan 2019 and Material ESG Issues

The Environmental Plants Business has been promoting a variety of initiatives to both meet our E-Plan 2019 targets and address our material ESG issues, such as the introduction of AI and IoT services at municipal solid waste (MSW) facilities operated and managed by the Company, as well as other initiatives with the goal of improving waste-to-energy generation efficiency and reducing CO<sub>2</sub> emissions. These efforts are underpinned by operational know-how we have accumulated

over the years and are driven by our highly skilled operational engineers at the Fujisawa Remote Support Center and from design and maintenance technicians at the Haneda Technical Support Center.

In addition, the power created through waste-to-energy generation is utilized at public facilities, and we are proposing the use of MSW treatment facilities as community energy centers to contribute to the realization of sustainable communities.

KPIs & Targets for Fiscal Year Ending December 31, 2019	Strategies Underway	Accomplishments in Fiscal Year Ended December 31, 2018
<b>E-Plan 2019</b>		
Operating income to sales ratio <b>11.0% or more</b>	<b>Principal Measures</b> <ol style="list-style-type: none"> <li>1. Enhance and evolve operation and profit management</li> <li>2. Reinforce domestic customer base and strengthen presence as domestic O&amp;M business operator</li> <li>3. Pursue ongoing growth in new energy businesses and aggressively develop operations in the biomass power generation equipment market</li> </ol>	<ul style="list-style-type: none"> <li>• Operating income to sales ratio <b>7.8%</b></li> </ul> <p><b>POINT</b></p> <p>The long-term, trust-based relationships with customers fostered through the provision of high-quality services will be leveraged going forward as we seek to grow orders for extensions to existing facility lifespans, long-term comprehensive proposals, proposals for effectively utilizing electricity from waste-to-energy generation, and new projects. Furthermore, AI and IoT technologies will be utilized to improve business efficiency and thereby boost profitability.</p>
<b>Material ESG Issues</b>		
Waste-to-energy generation volume <b>700,000 MWh or more</b>	<b>Action Policy 1</b>  <p><b>Provide products and services that minimize the use of energy and resources</b></p>	<ul style="list-style-type: none"> <li>• Progress toward waste-to-energy generation volume target <b>100%</b></li> <li>• Progress toward biomass power generation facilities energy generation volume target <b>88.6%</b></li> </ul> <p><b>POINT</b></p> <p>In the fiscal year ending December 31, 2019, the Company will construct one biomass power generation plant as a result of the demand for building woody biomass generation facilities. This will allow us to meet our targets for these KPIs.</p>
Power generated by biomass-related power generation facilities <b>1,700,000 MWh or more</b>		
Increase number of O&M contracting facilities to <b>100</b>	<b>Action Policy 2</b>  <p><b>Expand the service and support (S&amp;S) business, maximize product life, and minimize any product downtime</b></p>	<ul style="list-style-type: none"> <li>• Progress toward O&amp;M contracting facilities target <b>80%</b></li> </ul> <p><b>POINT</b></p> <p>MSW treatment facilities provide various functions to communities, and social expectations for MSW treatment facilities are diversifying, with there now being demand for them to act as energy centers and resilient infrastructure in the face of natural disasters or to otherwise contribute to communities. We will seek to increase the number of contracting facilities that respond to this demand.</p>

## TOPICS

### Examples of Initiatives Pertaining to E-Plan 2019 and Material ESG Issues

#### Receipt of Order for Construction of Woody Biomass Power Generation Plant

EBARA has received an order for the construction of a woody biomass power generation plant from Soyano Wood Power Co., Ltd. The woody biomass power generation plant will be fueled using previously unutilized timber produced through thinning, which was often abandoned in mountain forests, as well as wood scraps left over after construction of wood structures and will boast one of Nagano Prefecture's highest generation capacities of 14,500 kW. Going forward, EBARA will seek to construct high-quality woody biomass power generation plants that capitalize on the characteristics of internally circulating fluidized-bed boilers, namely the ability to realize stable combustion using diverse fuel sources, and to deliver impeccable services related to these facilities. We can thereby help to fight global warming through spreading the use of renewable energy.

#### Specifications of Woody Biomass Power Generation Plant

Location: Shiojiri City, Nagano Prefecture

Fuel source: Domestically produced woody biomass (unused timber, wood scraps)


Boiler type: Internally circulating fluidized-bed boiler

Generation capacity: 14,500 kW

Scheduled start of operation: October 2020

Relevant E-Plan 2019 Principal Measures

**3. Pursue ongoing growth in new energy businesses and aggressively develop operations in the biomass power generation equipment market**

Relevant Material ESG Issues **Action Policy 1** 

**Provide products and services that minimize the use of energy and resources**



#### Reinforcement of Waste-to-Energy Operations through Partnership Agreement

EBARA Environmental Plant Co., Ltd., has concluded an agreement with MARTIN GmbH für Umwelt- und Energie-technik to engage in a cooperative partnership in the Japanese waste-to-energy market. MARTIN has a long history of nearly 100 years in the waste-to-energy business field and has made great achievements worldwide with proven technologies and a strong dedication to research and development. Under this agreement, we will have exclusive distributor rights to MARTIN reverse-acting grate stoker-type refuse incinerators for use in new projects and in upgrades to existing large-scale facilities. These rights will make it possible for us to respond to a wide range of diversifying needs in the waste-to-energy market, poising us to reinforce our position and portfolio in the Japanese market.



Signing ceremony

Relevant E-Plan 2019 Principal Measures

**1. Enhance and evolve operation and profit management**



# Precision Machinery Business



**We will increase our product competitiveness and improve profitability through the completion of an automated dry vacuum pump assembly line and greater coordination with suppliers.**

## Tetsuji Togawa

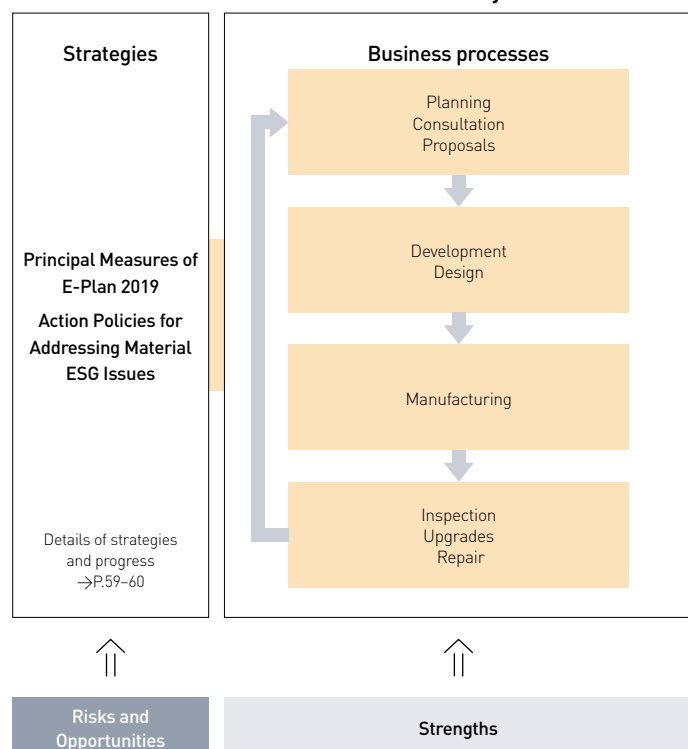
Senior Managing Executive Officer  
President, Precision Machinery Company

The Precision Machinery Business has proceeded to seize growth opportunities by fostering a reputation as a reliable partner through swift proposals that incorporate customer feedback and exhaustive support. In the fiscal year ended December 31, 2018, we responded to the brisk capital investment in Asia by catering to customer needs through increased coordination with suppliers. The result was record-breaking income. Market slowdown is being seen in the fiscal year ending December 31, 2019, due to factors such as the trade dispute between the United States and China. Nevertheless, we look to make steady progress in initiatives for addressing EBARA's material ESG issues and for achieving the targets of E-Plan 2019.

Eying the future growth of the semiconductor market, we built a new semiconductor manufacturing equipment factory in 2016 and plan to complete construction of an automated dry vacuum pump assembly line by the end of 2019. This will help us reinvent our production and work processes to realize increased product competitiveness and improved profitability. However, given the growth in demand, we realize that it will not be enough to simply boost our own production capacity; we will need to advance initiatives with a view of the entire supply chain. For this reason, we plan to pursue greater coordination with suppliers and construct ideal procurement systems. Looking ahead, we will augment our lineups of products along with our S&S offerings to match customer needs and contribute to the ongoing growth and development of both the Group and its stakeholders.

Risks and Opportunities
<b>Risks</b> <ul style="list-style-type: none"> <li>• Fluctuations in semiconductor demand and slowing pace of semiconductor capital investment</li> <li>• Diminishment of market share due to supply chain issues or other factors leading to insufficient production capacity</li> <li>• Impacts of trade dispute between the United States and China</li> </ul>
<b>Growth Opportunities</b> <ul style="list-style-type: none"> <li>• Increased semiconductor demand stemming from spread and advancement of IoT, AI, and automated driving technologies</li> <li>• Aggressive semiconductor investment in China</li> <li>• Consistent capital investment demand in Taiwan, South Korea, and Japan</li> </ul>
Strengths
<ul style="list-style-type: none"> <li>• Rotating machinery, fluid equipment, machine control systems, gas decomposition and abatement, and energy conservation technologies</li> <li>• Sophisticated manufacturing technologies that contribute to resource conservation</li> <li>• Bases positioned near customers worldwide</li> <li>• Flexible, high-quality customer support capabilities</li> <li>• Long-term employee retention contributing to technology accumulation and transfer</li> <li>• Diverse base of technically skilled employees around the world</li> <li>• Robust supply chain</li> </ul>

## Business Model of the Precision Machinery Business



## Progress and Targets of Precision Machinery Business Strategies

### Major KPIs for Action Policies which Address Material ESG Issues

#### Action Policy 1 Provide products and services that minimize the use of energy and resources

KPI: Reduce electricity consumption of certain products compared to 2017 models	Progress toward Target <div><div></div></div>
KPI: Reduce the weight of certain products compared to 2017 models	

Other KPIs → P.59

#### Major Outputs

- Reductions to the amounts of energy and resources consumed during production/product use

#### Major Outcomes

- Increased energy efficiency for customer production lines

#### Action Policy 2 Expand the service and support (S&S) business, maximize product life, and minimize any product downtime

KPI: Increase S&S sales	Progress toward Target <div><div></div></div>
KPI: Shorten overhaul delivery periods	

Other KPIs → P.59

#### Major Outputs

- Longer product life
- Prevention of malfunctions and halted operations

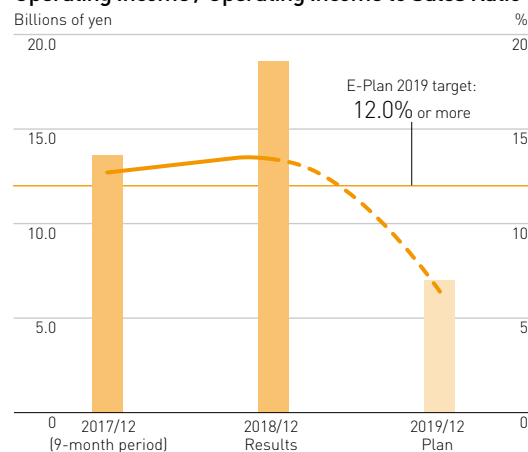
#### Major Outcomes

- Support for realizing a super-smart society by ensuring continuity of customer businesses

### Numerical Targets of E-Plan 2019 (Consolidated)

Operating income to sales ratio **12.0%** or more

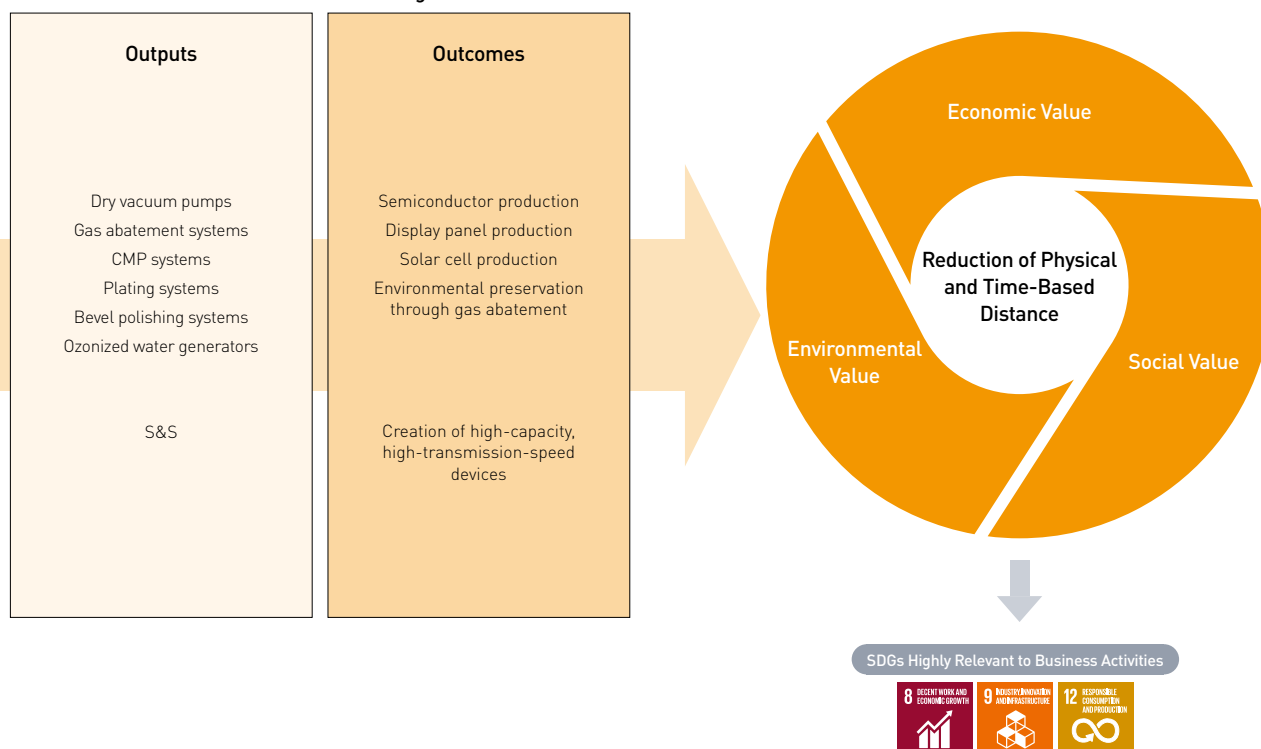
#### Operating Income / Operating Income to Sales Ratio



Bar graph: Operating income (left scale)

Line graph: Operating income to sales ratio (right scale)



## Value Created through Customers' Business Activities



## Progress of E-Plan 2019 and Material ESG Issues

In the fiscal year ended December 31, 2018, the Precision Machinery Business was able to achieve growth in net sales due to its system that enabled it to supply products in a timely manner through flexible responses to the robust demand for semiconductor-related capital investment. We thereby accomplished the target of an operating income to sales ratio of 12.0% or more set for the final year of E-Plan 2019 for the second consecutive year. In regard to material ESG issues, the targets for reducing the weight of and the number of parts in CMP systems were accomplished, and the greenhouse gas

emission reduction target was achieved ahead of schedule through increased sales of large-treatment-capacity gas abatement systems. Our efforts to bolster S&S operations resulted in S&S sales that grew in conjunction with the growth in semiconductor demand. Going forward, the development of products that contribute to energy and resource conservation will be pursued in this business as we also construct overhaul systems to accommodate higher demand and proactively address material ESG initiatives.

KPIs & Targets for Fiscal Year Ending December 31, 2019	Strategies Underway	Accomplishments in Fiscal Year Ended December 31, 2018
<b>E-Plan 2019</b>		
Operating income to sales ratio <b>12.0% or more</b>	<b>Principal Measures</b> <ol style="list-style-type: none"> <li>1. Improve production and work efficiency through automation and strengthen our competitiveness through shorter product lead times and reduced costs</li> <li>2. Grow sales from the equipment group centered on plating equipment, projected to become the third pillar of operations, with focus on packaging processes</li> <li>3. Implement open innovation policies to explore demand for new semiconductor manufacturing technologies and advance development targeting commercialization</li> <li>4. Pursue growth and stabilization of existing businesses and accelerate global strategies in all businesses</li> </ol>	<ul style="list-style-type: none"> <li>• Operating income to sales ratio <b>13.7%</b></li> </ul> <p><b>POINT</b></p> <p>The operating income to sales ratio exceeded the target for the final year of E-Plan 2019 for the second consecutive year. Going forward, improvements to production and work efficiency will be pursued through automation with the aim of minimizing the impacts of fluctuations in semiconductor-related capital investment as we develop and cultivate new technologies and businesses with a scope that extends beyond semiconductor manufacturing.</p>
<b>Material ESG Issues</b>		
Reduce electricity consumption (in comparison to 2017 dry vacuum pump and CMP system offerings) <b>10%–20%</b>  Reduce product weight (in comparison to 2017 CMP system offerings) <b>10%</b>  Reduce number of parts (in comparison to 2017 CMP system offerings) <b>20%</b>  Reduce greenhouse gas emissions from gas abatement systems by amount of <b>200</b> (2017 values indexed to 100)	<p><b>Action Policy 1</b> </p> <p><b>Provide products and services that minimize the use of energy and resources</b></p>	<ul style="list-style-type: none"> <li>• In comparison to products from 2017: Reduced electricity consumption <b>1–2%</b> Reduced product weight <b>10%</b> Reduced number of parts used <b>20%</b> Reduced greenhouse gas emissions from products by value of <b>200</b></li> </ul> <p><b>POINT</b></p> <p>We will continue to develop dry vacuum pumps boasting both durability and energy efficiency in addition to large-scale and light-weight dry vacuum pumps. Reductions to the weight of CMP systems will be targeted through improvements to the energy efficiency and functionality of the parts that comprise these systems. We will also work to increase the volume of greenhouse gas emissions treated through EBARA's gas abatement systems by boosting sales of these systems.</p>
Increase S&S sales <b>15%</b> (compared to 2017 values indexed to 100)  Increase number of overhauls performed <b>20%</b> (compared to 2017 values indexed to 100)  Reduce overhaul delivery periods by <b>20%</b> (compared to 2017 values indexed to 100)	<p><b>Action Policy 2</b> </p> <p><b>Expand the service and support (S&amp;S) business, maximize product life, and minimize any product downtime</b></p>	<ul style="list-style-type: none"> <li>• Increased S&amp;S sales by <b>10%</b></li> <li>• Reduced overhaul delivery periods by <b>1%</b></li> </ul> <p><b>POINT</b></p> <p>The Precision Machinery Business will conduct capital investment as necessary to respond to increasing demand going forward. At the same time, process improvements will be implemented to streamline and optimize processes in order to increase number of overhauls performed and shorten delivery periods.</p>



## TOPICS

### Examples of Initiatives Pertaining to E-Plan 2019 and Material ESG Issues

#### Release of New Air-Cooled Dry Vacuum Pump Model

There is a rising need for clean vacuum environments and for dry vacuum pumps that require less maintenance in the analytical instrument, medical equipment, food, and coating industries. We have developed and released our new Model EV-PA air-cooled dry vacuum pump to meet these growing market demands through the utilization of the unique dry vacuum pump technologies we have cultivated over our history of responding to the sophisticated specification demands of the semiconductor industry. This product boasts user-friendly characteristics such as a non-contact seal that eliminates the need for seal replacement and extends maintenance intervals and an exceptionally light weight of 9 kg to 21 kg, allowing for easy movement. We will increasingly focus on the development of products and services that contribute to increasing productivity for customers while simultaneously reducing costs.



Model EV-PA air-cooled dry vacuum pump

Relevant E-Plan 2019 Principal Measures

**1. Improve production and work efficiency through automation and strengthen our competitiveness through shorter product lead times and reduced costs**

Relevant Material ESG Issues

**Action Policy 1**



**Provide products and services that minimize the use of energy and resources**



### Recognition from Customers

#### Receipt of Excellent Performance Award from TSMC for Seven Consecutive Years

EBARA has received the Excellent Performance in CMP Equipment award from Taiwan Semiconductor Manufacturing Co., Ltd., (TSMC) for seven consecutive years for a total of nine times overall. At the award ceremony held during the 18th Annual Supply Chain Management Forum on December 6, 2018, nine companies were presented with awards from among the more than 700 suppliers in attendance.

Each year, TSMC presents select suppliers that have exhibited outstanding performance through the provision of service and support with an Excellent Performance award. Three achievements were cited as reasons for EBARA winning the most recent award: remarkable support for research and development, comprehensive and thorough planning for mass production using

state-of-the-art technologies, and a dedicated executive task force specializing in production yield improvement.

EBARA remains committed to supplying customers with products and services that contribute to improvements in productivity and reductions in total costs for customers.



Masao Asami (left), then President of the Precision Machinery Company, receiving award plaque from TSMC CEO Dr. C.C. Wei (right)

## Composition of the Board of Directors

To ensure the Board of Directors effectively fulfills its roles and responsibilities, the Company shall make up the Board with directors of sufficient knowledge and experience inside and outside the Company in areas related to business management. Knowledge and experience important to the Company are defined as the areas of “legal affairs and risk management,” “personnel and human resource development,” “finance, accounting, and capital policy,” “auditing,”

“management of individual businesses (in the Company),” “corporate management and management strategy,” “research and development,” “the environment,” “social,” and “internal control and governance.” In addition to having appropriate knowledge in all of these areas, the Company appoints nominees for Director positions by specifying areas in which the Company particularly expects them to contribute.

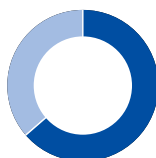
The chart below details the areas in which the Company

### Corporate Governance System at a Glance (As of March 28, 2019)

Format	Company with Three Committees
Chairman of Board of Directors	Independent Director
Number of Directors	11
Of whom are Independent Directors	7
Number of Independent Directors	7
Term of Directors	1 year

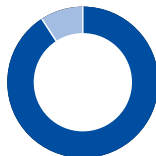
### Ratio of Independent Directors to Total Directors

Independent Directors	7
Inside Directors	4



### Ratio of Non-Executive Directors to Total Directors

Directors not concurrently serving as Executive Officers	10
Of whom are Independent Directors	7
Directors concurrently serving as Executive Officers	1



### Number of Female Directors

Female Directors	1
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### Composition of Three Committees

	Nomination Committee	Compensation Committee	Audit Committee
Number of members	3	3	5
Of whom are Independent Directors	2	3	3
Of whom are Inside Directors	1	0	2

Non-Executive	Non-Executive Inside Director
Independent	Independent Director with notification submitted to Tokyo Stock Exchange
Nomination Committee	Member of the Nomination Committee
Compensation Committee	Member of the Compensation Committee
Audit Committee	Member of the Audit Committee

### Overview of the Board of Directors (As of March 28, 2019)

Name		Classification	Committee positions
Toichi Maeda	Director Chairman of the Company Member of the Nomination Committee	Non-Executive	Nomination Committee
Masao Asami	NEW Director President and Representative Executive Officer		
Sakon Uda	Independent Director Chairman of the Board of Directors Member of the Nomination Committee	Independent	Nomination Committee
Shiro Kuniya	Lead Independent Director Chairperson of the Compensation Committee	Independent	Compensation Committee
Hajime Sawabe	Independent Director Member of the Compensation Committee	Independent	Compensation Committee
Shozo Yamazaki	Independent Director Member of the Audit Committee	Independent	Audit Committee
Hiroshi Oeda	Independent Director Chairperson of the Nomination Committee	Independent	Nomination Committee
Masahiro Hashimoto	Independent Director Member of the Compensation Committee and the Audit Committee	Independent	Compensation Committee Audit Committee
Junko Nishiyama	NEW Independent Director Member of the Audit Committee	Independent	Audit Committee
Tetsuji Fujimoto	Director Chairperson of the Audit Committee	Non-Executive	Audit Committee
Shusuke Tsumura	Director Member of the Audit Committee	Non-Executive	Audit Committee

\*1 The above table does not represent all of the areas in which Directors possess expertise.

expects the Directors appointed for the fiscal year ending December 31, 2019, to contribute based on these policies. From the fiscal year ending December 31, 2019, an Independent Director has been appointed as the Chairman of the Board of Directors, and the number of Directors that serve

concurrently as Executive Officers has been reduced from three to one. Of the current 11 Directors, seven are Independent Directors. This membership enables the Board of Directors to exhibit greater levels of transparency and impartiality in its oversight.

REFERENCE Reasons for the selection of individual Directors can be found in the proposal for the election of Directors contained in the Notice of the 154th Ordinary General Meeting of Shareholders

[https://www.ebara.co.jp/en/about/ir/stock/shareholdersmeeting/\\_icsFiles/afieldfile/2019/03/05/E6361\\_154\\_1.pdf](https://www.ebara.co.jp/en/about/ir/stock/shareholdersmeeting/_icsFiles/afieldfile/2019/03/05/E6361_154_1.pdf)

	Attendance at Board of Directors and committee meetings in the fiscal year ended December 31, 2018 (Meetings attended / Total meetings)				Areas in which Directors (Non-Executive Directors) are expected to contribute*1								
	Board of Directors	Nomination Committee	Compensation Committee	Audit Committee	Legal affairs and risk management	Personnel and human resource development	Finance, accounting, and capital policy	Auditing	Corporate management and management strategy	Research and development	The environment	Social	Internal control and governance
	14/14	Appointed in March 2019											
	Appointed in March 2019				—	—	—	—	—	—	—	—	—
	14/14	13/13	6/6										
	12/14		6/6										
	14/14		5/6										
	13/14			13/14									
	10/10 <sup>*2</sup>	12/12 <sup>*2</sup>											
	10/10 <sup>*3</sup>		Appointed in March 2019	10/10 <sup>*3</sup>									
	Appointed in March 2019			Appointed in March 2019									
	14/14			14/14									
	14/14			14/14									

\*2 Hiroshi Oeda was newly nominated and appointed as a Director and as a member of the Nomination Committee at the 153rd Ordinary General Meeting of Shareholders and the meeting of the Board of Directors held on March 28, 2018, and his attendance to meetings of the Board of Directors and committees held since that date is provided above.

\*3 Masahiro Hashimoto was newly nominated and appointed as a Director and as a member of the Audit Committee at the 153rd Ordinary General Meeting of Shareholders and the meeting of the Board of Directors held on March 28, 2018, and his attendance to meetings of the Board of Directors and committees held since that date is provided above.



## Board of Directors

(As of March 28, 2019)



**Shozo Yamazaki** ●  
Member of the Audit  
Committee

**Hiroshi Oeda** ●  
Chairperson of the  
Nomination Committee

**Shiro Kuniya** ●  
Lead Independent Director  
Chairperson of the  
Compensation Committee

**Sakon Uda** ●  
Chairman of the Board of  
Directors  
Member of the Nomination  
Committee

**Toichi Maeda**  
Chairman of the Company  
Member of the  
Nomination Committee

**Hajime Sawabe** ●  
Member of the  
Compensation Committee





**Masao Asami**  
President and  
Representative Executive  
Officer

**Junko Nishiyama** ●  
Member of the Audit  
Committee

**Shusuke Tsumura**  
Member of the Audit  
Committee

**Masahiro Hashimoto** ●  
Member of the Compensation  
Committee and the Audit  
Committee

**Tetsuji Fujimoto**  
Chairperson of the Audit  
Committee

● Independent Director



# Brief Personal History of Directors

(As of March 28, 2019)



## Toichi Maeda Director, Chairman of the Company, Member of the Nomination Committee

Apr. 1981 Joined the Company  
 Apr. 2007 Executive Officer  
 Apr. 2010 Managing Executive Officer  
 Apr. 2011 Head of Business Unit, Custom Pump Business Unit, Fluid Machinery & Systems Company  
 Jun. 2011 Director (to present)  
 Apr. 2012 President, Fluid Machinery & Systems Company  
 Apr. 2013 President and Representative Director  
 Jun. 2015 President and Representative Executive Officer\*  
 Mar. 2019 Chairman & Director (to present)  
 Member of the Nomination Committee (to present)

## Masao Asami Director, President and Representative Executive Officer

Apr. 1986 Joined the Company  
 Apr. 2010 Executive Officer  
 Apr. 2011 Division Executive, Sales and Marketing Division, Precision Machinery Company  
 Apr. 2014 Managing Executive Officer  
 Jun. 2015 Managing Executive Officer\*  
 Apr. 2016 President, Precision Machinery Company  
 Mar. 2019 Director (to present)  
 President and Representative Executive Officer (to present)

## Sakon Uda Independent Director, Chairman of the Board of Directors, Member of the Nomination Committee

Apr. 1981 Joined Nippon Kokan K.K. (currently JFE Holdings, Inc.)  
 Aug. 1989 Joined McKinsey & Company  
 Feb. 2006 Executive Officer, Japan Post Holdings Co., Ltd.  
 Oct. 2007 Senior Managing Executive Officer, Japan Post Holdings Co., Ltd.  
 First Executive Officer, Japan Post Service Co., Ltd. (currently Japan Post Co., Ltd.)  
 May 2010 Professor, Kenichi Ohmae Graduate School of Business (to present)  
 Jul. 2010 Executive Officer, Chief Operating Officer, The Tokyo Star Bank, Limited  
 Jun. 2011 Director (to present)  
 Sep. 2012 Counselor, Nuclear Damage Liability Facilitation Fund (currently Nuclear Damage Compensation and Decommissioning Facilitation Corporation)  
 Apr. 2014 Dean, Faculty of Business Administration Professor, Business Breakthrough University (to present)  
 Jun. 2014 Director, Business Breakthrough, Inc. (to present)  
 Jun. 2015 Director, Public Utility Fund Japan-North America Medical Exchange Foundation  
 Chairperson of the Nomination Committee  
 Jul. 2015 Lead Independent Director  
 Apr. 2016 Vice President, Business Breakthrough University (to present)  
 Sep. 2016 Advisor to Tokyo Metropolitan Government  
 Special advisor to the Tokyo Metropolitan Government Political Reform Headquarters  
 Jun. 2017 Member of the Compensation Committee  
 Jul. 2017 Executive Director, Public Utility Fund Japan-North America Medical Exchange Foundation (to present)  
 Mar. 2019 Chairman of the Board of Directors (to present)  
 Member of the Nomination Committee (to present)

## Shiro Kuniya Lead Independent Director, Chairperson of the Compensation Committee

Apr. 1982 Registered as an attorney (to present)  
 Joined Oh-Ebashi Law Offices (currently Oh-Ebashi LPC & Partners)  
 May 1987 Registered as an attorney at law, New York Bar Association (to present)  
 Jun. 1997 Outside Audit & Supervisory Board Member, Sunstar Inc.  
 Aug. 2002 Managing Partner, Oh-Ebashi LPC & Partners (to present)  
 Jun. 2006 Outside Audit & Supervisory Board Member, NIDEC CORPORATION  
 Mar. 2012 Outside Director, NEXON Co., Ltd. (to present)  
 Jun. 2012 Director (to present)  
 Jun. 2013 Outside Director, Sony Financial Holdings Inc. (to present)  
 Outside Audit & Supervisory Board Member, Takeda Pharmaceutical Company Limited  
 Jun. 2015 Chairperson of the Compensation Committee (to present)  
 Jun. 2016 Outside Director, Takeda Pharmaceutical Company Limited (to present)  
 Mar. 2019 Lead Independent Director (to present)

## Hajime Sawabe Independent Director, Member of the Compensation Committee

Apr. 1964 Joined Tokyo Denki Kagaku Kogyo K.K. (currently TDK Corporation)  
 Jun. 1996 Director, Executive Vice President of Recording Device Business, TDK Corporation  
 Jun. 1998 President & Representative Director, TDK Corporation  
 Jun. 2006 Chairman & Representative Director, TDK Corporation  
 Mar. 2008 Outside Director, Asahi Glass Co., Ltd. (currently AGC, Inc.)  
 Jun. 2008 Outside Director, TEIJIN LIMITED  
 Outside Director, Nomura Securities Co., Ltd.  
 Jun. 2009 Outside Director, Nomura Holdings, Inc.  
 Mar. 2011 Outside Audit & Supervisory Board Member, Nikkei Inc. (to present)  
 Jun. 2011 Director, Chairman of the Board & Directors, TDK Corporation  
 Oct. 2011 Councilor, Waseda University  
 Apr. 2012 Executive Advisor, Japan Management Association  
 Jun. 2012 Executive Advisor, TDK Corporation (to present)  
 Jul. 2014 Vice President, Board of Trustees, Waseda University  
 Jun. 2015 Outside Director, Japan Display Inc.  
 Director (to present)  
 Member of the Compensation Committee (to present)  
 Jul. 2018 President, Board of Trustees, Waseda University (to present)

## Shozo Yamazaki Independent Director, Member of the Audit Committee

Nov. 1970 Entered Tohmatsu Awoki & Co. (currently Deloitte Touche Tohmatsu LLC)  
 Sep. 1974 Registered as a certified public accountant (to present)  
 Jul. 1991 Representative Partner, Tohmatsu & Co. (currently Deloitte Touche Tohmatsu LLC)  
 Jul. 2010 Chairman and President, The Japanese Institute of Certified Public Accountants  
 Jul. 2013 Advisor, The Japanese Institute of Certified Public Accountants (to present)  
 Apr. 2014 Professor, Tohoku University Accounting School  
 Feb. 2015 Outside Audit & Supervisory Board Member, Tohoku University Venture Partners Co., Ltd. (to present)  
 Jun. 2015 Director (to present)  
 Member of the Audit Committee (to present)  
 Outside Audit & Supervisory Board Member, Regional Economy Vitalization Corporation of Japan (to present)  
 Jun. 2017 Outside Director, Sumitomo Mitsui Financial Group, Inc. (to present)



**Hiroshi Oeda** Independent Director, Chairperson of the Nomination Committee

Apr. 1980 Joined Nisshin Flour Milling Inc. (currently Nisshin Seifun Group Inc.)  
Jun. 2009 Director, Nisshin Seifun Group Inc.  
Apr. 2011 Director and President, Nisshin Seifun Group Inc.  
Apr. 2015 Member of Management Council, Hitotsubashi University (to present)  
Apr. 2017 Director and Executive Advisor, Nisshin Seifun Group Inc.  
Jun. 2017 Corporate Special Advisor, Nisshin Seifun Group Inc. (to present)  
President, Seifun Kaikan Inc. (to present)  
Dec. 2017 Member of the Japanese National Commission for UNESCO (to present)  
Mar. 2018 Director (to present)  
Member of the Nomination Committee  
Jun. 2018 Outside Director, SEKISUI CHEMICAL CO., LTD. (to present)  
Mar. 2019 Chairperson of the Nomination Committee (to present)

**Masahiro Hashimoto** Independent Director, Member of the Compensation Committee and the Audit Committee

Apr. 1972 Joined The Daiwa Bank, Limited (currently Resona Bank, Limited)  
Nov. 1998 President, Bank Daiwa Perdania (Indonesia)  
Jul. 1999 General Manager of International Division, The Daiwa Bank, Ltd.  
Jun. 2001 Managing Director and General Manager of Financial Department, Dainippon Screen Mfg. Co., Ltd. (currently SCREEN Holdings Co., Ltd.)  
Jun. 2004 Senior Managing Director, Dainippon Screen Mfg. Co., Ltd.  
Jun. 2005 Representative Director, President and Chief Operating Officer, Dainippon Screen Mfg. Co., Ltd.  
Apr. 2014 Vice Chairman, Dainippon Screen Mfg. Co., Ltd.  
Jun. 2015 Senior Advisor (part-time), Dainippon Screen Mfg. Co., Ltd.  
Apr. 2016 Industrial promotion advisor, Kumamoto Prefecture (to present)  
Mar. 2018 Director (to present)  
Member of the Audit Committee (to present)  
Mar. 2019 Member of the Compensation Committee (to present)

**Junko Nishiyama** Independent Director, Member of the Audit Committee

Apr. 1979 Joined Lion Fat & Oil Co., Ltd. (currently Lion Corporation)  
Mar. 2006 Director, Finished Product Department, Purchasing Headquarters, Lion Corporation  
Mar. 2007 Director, Finished Product Purchasing, Production Coordinating Department No. 2, Production Headquarters, Lion Corporation  
Jan. 2009 Director, Packaging Engineering Research Laboratories, Research & Development, Headquarters, Lion Corporation  
Jan. 2014 Director, CSR Promotion Department, Lion Corporation  
Mar. 2015 Audit & Supervisory Board Member, Lion Corporation  
Mar. 2019 Director (to present)  
Member of the Audit Committee (to present)

**Tetsuji Fujimoto** Director, Chairperson of the Audit Committee

Apr. 1976 Joined the Company  
Apr. 2004 Executive Officer  
Division Executive, Financing & Corporate Accounting, Corporate Group  
Jun. 2007 Director (to present)  
Apr. 2008 Managing Executive Officer  
Apr. 2011 Responsible for Group Management, Finance & Accounting and Internal Control  
Apr. 2012 President and Representative Director of EBARA Environmental Plant Co., Ltd.  
Jun. 2012 Senior Managing Executive Officer  
Apr. 2013 President, Environmental Engineering Company  
Jun. 2015 Chairperson of the Audit Committee (to present)

**Shusuke Tsumura** Director, Member of the Audit Committee

Apr. 1981 Joined the Company  
Jul. 2009 General Manager, Finance & Accounting Department, Finance & Corporate Accounting Division  
Apr. 2012 General Manager, Group Management Department  
Apr. 2013 Deputy Division Executive, Finance & Accounting Division  
Jun. 2014 Full-Time Audit & Supervisory Board Member  
Jun. 2015 Director (to present)  
Member of the Audit Committee (to present)

\* Indicates *shikkou-yaku*, a Japanese legal term which refers to executive officers who are appointed by the Board of Directors to execute company policy and strategy. The role and legal title of such executive officers are described in the Japanese Companies Act, and as such they bear fiduciary duties to the company.

## Discussion between the Chairman of the Board of Directors and the Chairman of the Company



SAKON UDA × TOICHI MAEDA

## Evolution of Corporate Governance System Propelled by Ongoing Pursuit of Effectiveness

EBARA has continued to evolve its corporate governance system in its ongoing pursuit of effectiveness. In the fiscal year ending December 31, 2019, the Company began implementing initiatives under its new corporate governance system. The following is a discussion between the Chairman of the Board of Directors and the Chairman of the Company in which they look at some of the key points of the most recent transformation, explain their commitments to improved effectiveness, and reflect on initiatives conducted to date.



**Sakon Uda**

Chairman of the Board of Directors,  
Member of the Nomination Committee



**Toichi Maeda**

Chairman & Director of the Company,  
Member of the Nomination Committee

**Uda:** The most recent transformation to EBARA's corporate governance system drew a clear divide between the oversight function and the execution function. The prior transition to the Company with Three Committees format described in the Companies Act of Japan resulted in the delegation of additional authority to Executive Officers while also reinforcing the oversight function of the Board of Directors, thereby evolving the Company's corporate governance system to increase the effectiveness of both functions.

Now, there is only one Director serving concurrently as an Executive Officer, and that is President and Representative Executive Officer Masao Asami. As President, Mr. Asami represents the execution function at meetings of the Board, providing explanations as such and shouldering the responsibility of answering any questions raised during discussion with the seven Independent Directors and the three Non-Executive Inside Directors. This change further solidified the structure of the executive function with the President as the head while clarifying the division between the oversight function and the executive function.

Up until now, in-house company presidents had also been appointed as Directors. However, as the role expected of a Director is oversight, which is fundamentally different from the execution role expected of an Executive Officer, I suspect that when an in-house company president served concurrently as a Director, they may have often found it difficult to fulfill the oversight function toward other Directors also in charge of



in-house companies. The new system eliminates such issues.

**Maeda:** EBARA's corporate governance system is not merely an adopted template. Rather, it has continued to evolve based on our history. In 2008, we appointed our first two Independent Directors, and the number of Independent Directors was increased gradually to steadily develop and reinforce an oversight framework based around these individuals. When the Company transitioned to the Company with Three Committees format in 2015, the number of Independent Directors grew to seven, representing a majority of the Board. Meanwhile, we had failed to sufficiently discuss the role of Inside Directors that also had executive responsibilities. When deliberating on the topic of the effectiveness of the Board in 2018, we reached the conclusion that only one Director with executive responsibilities would be sufficient for effective deliberation: the President. The resulting change in the corporate governance system narrowed the scope of the Board's roles to focus on oversight, and thus allows for more effective discussions at Board meetings. Although the President is the only Director on the Board with execution responsibilities, we ask Executive Officers to attend if we expect to have discussions pertinent to their area of responsibility. Moreover, Executive Officers make quarterly reports on the execution of their duties to the Board so we can periodically review progress made on important executive issues.

**Uda:** It was not as though we began considering the new system last year out of the blue. Quite the contrary, the idea of such a system was nurtured over the course of many years through ongoing discussions on how to improve the effectiveness of the Board. It might be more accurate to say that the current system is a checkpoint on the road of our ongoing discussion of corporate governance systems, and that an important foundation of these systems is the need for all members of the EBARA Group, particularly management, to hold a constant sense of urgency and awareness of potential risks. This is true even in times when the management base is stable. One example of this mindset coming to fruition is the recently announced succession plan. We did not merely think about the succession plan for the President and Representative Executive Officer in response to questions directed toward us, but rather seriously delved into this subject with years-long discussions resulting in us now being able to explain EBARA's plans to external stakeholders transparently. All of management shares the belief that increasing the effectiveness of the Board and the committees will be positive for the Company as a whole. For this reason, management does not merely look to change the form of the Company's corporate governance system to fit expectations. Instead, earnest effort is made based on thorough discussion to pursue real improvements in the functionality of the Board.

**Maeda:** I became a Director in 2011, and I remember how fresh the opinions of the Independent Directors felt at that time. It was an eye-opening experience hearing their objective and logical input, which was very different from the discussions in prior Board meetings without Independent Directors. After that, we continued to increase the number of Independent Directors while moving ahead with corporate governance reforms based on the discussions and successes thus far. This ongoing progress was rooted in our

desire to realize genuine improvements in the effectiveness of the Board, not simply an attempt to conform with trends of the time, such as the move to respond to the establishment of Japan's Corporate Governance Code.

### Background and Reason for Appointing an Independent Director to be Chairman of the Board of Directors

**Uda:** Previously, the Chairman of the Company, who did not have execution responsibilities, served concurrently as the Chairman of the Board of Directors. However, these two positions are generally meant to fulfill different roles. It is common for the chairman of a company to play a role in which they interact with outside stakeholders and provide advice based on their execution experience while the chairman of the board of directors is responsible for the effective operation of the board. EBARA assigned these positions to different individuals to establish a clear division between these roles. Another reason for making an Independent Director the Chairman of the Board of Directors was to help invigorate discussions among the Board. An important characteristic of EBARA's Board of Directors is that the Chairman of the Board of Directors, now an Independent Director, is responsible for the meeting agendas. The Chairman of the Board of Directors is thus charged with choosing the matters to be discussed by the Board from an objective standpoint, as opposed to merely focusing on the matters raised in-house. Fulfilling this role as an Independent Director, who is not constantly immersed in the internal circumstances of the Company in the manner that previous chairmen were, requires a strong commitment. If I do not familiarize myself with the discussions going on at the Management Meetings and with the fundamental issues faced by the Company, there will be no point in me being involved in the process of deciding the agenda items for Board meetings. I will also be unable to gain the trust of those inside the Company. However, as I cannot be inside the Company on a full-time basis, I would like to ask you, Chairman Maeda, for your assistance in fulfilling this role.

**Maeda:** I see the act of assigning the role of Chairman of the Board of Directors to an Independent Director to be a step forward in the evolution of the Company's corporate governance. The idea of this assignment was identified as an important item for discussion by the Board of Directors in 2018 and during this discussion it was decided that the Chairman of the Company would fill a supportive role of offering consultation regarding agenda items and helping liaise with Executive Officers.

### Activities of the Nomination Committee that Selected the New President

**Uda:** EBARA established its voluntary Nomination Committee in 2008, and this committee began interviewing possible successors to the President long before it was time for the change. The committee was therefore able to discuss succession plans for the President and Representative Executive Officer based on the understanding of the Company's human resources that had been obtained through interviews and questions at meetings of the Board up until that point. The biggest issue, however, was the fact that as the chairperson of the

## Discussion between the Chairman of the Board of Directors and the Chairman of the Company

Nomination Committee was an Independent Director, there was no guarantee that the rest of the Company would be accepting of the committee's decision. The Nomination Committee had, in fact, been preparing for the leadership change for a period of between three and six years, during which members had met with a substantial number of candidates, learning about their dispositions, while also receiving information from Inside Directors and through external evaluations. Accordingly, the committee had a working understanding of the thinking, leadership style, and other qualities required of the President of EBARA.

**Maeda:** When the new President was announced, there were those who asked if I had made the decision. However, I was not a member of the Nomination Committee at that time, and I therefore did not know who was selected until just before the announcement. Of course, I had heard the names of the candidates, but thoroughly respected that it was the duty of the Nomination Committee to recommend candidates to the Board. In this manner, the Nomination Committee and the succession plan did not merely exist in form but were able to fully achieve their intended function. This fact filled me with pride for EBARA's corporate governance.

**Uda:** There are still very few cases among Japanese companies in which independent and transparent succession plans function as intended. Much more common are cases in which the plans existed in form, but were not put into effect, and cases in which it cannot be clearly stated who or what organization actually truly nominated the president. EBARA, however, is very effectively exercising the functions of the Company with Three Committees format. The evaluation of the Nomination Committee for this succession plan is left to be made five to 10 years from now based on the performance of the new management team.

### Review and Evaluation of Past Corporate Governance System Evolutions

**Uda:** Compared to 2011, when I became an Independent Director, the substance of discussions at EBARA's Board of Directors has changed greatly. When I first joined, the impacts of the harsh reforms conducted previously were still lingering, and there was a very significant need to provide checks on management. Over the years, the topics of discussion have gradually shifted to more forward-looking subjects aimed at future growth. In addition, whereas prior discussions were largely focused on compliance and the progress of business plans, a great deal of time has been dedicated to the medium-to-long-term enhancement of corporate value over the past two or three years. We are also starting to see Independent Director-only meetings. These meetings precede Board meetings and serve as venues for productive discussion among Independent Directors, enabling us to enhance our capacity to pose questions based on the specialized perspectives and insights of individual Independent Directors. This has led to discussions that are more substantial, and I truly believe initiatives of this nature contribute to increased effectiveness of the Board. I am sure the investors will also have praise for this system, which will help increase EBARA's corporate value.

**Maeda:** I became President in 2013 while former President

Natsunosuke Yago assumed the position of Chairman. He was strongly committed to making governance reforms due to experiencing a crisis that threatened the existence of the Company caused by the overreach of EBARA's top management. I too experienced this crisis, and am committed to building strong frameworks—in other words, governance systems—to prevent such crises from occurring in the future. As the number of employees that do not know of this past increases, it is even more important for management to build unshakeable frameworks. Our various initiatives to build these frameworks have led EBARA to be praised for the advanced governance initiatives it is implementing today. However, these frameworks are not perfect and it is crucial we maintain our commitment to preventing management overreach and continue to evolve our corporate governance frameworks.

**Uda:** It is common for the chairman of a company to become a consultant or advisor after resigning. Former Chairman Yago, however, resigned completely when his term was up out of a desire for EBARA to arrive at the corporate governance systems it has currently. The terms of the President and the Chairman are both limited to six years and I think that these limits are reflective of the wisdom EBARA has accumulated. Former Chairman Yago adhered to this precedent, rather than trying to create an exception for himself. I hope to encourage management to maintain this mindset and to continue to communicate the background behind the current system going forward.

### Recent Issues and Future Initiatives

**Uda:** I believe that the Board of Directors has two roles: to perform checks for preventing damage to corporate value and to drive the Company toward future growth. Concerning the latter, while the Board is unable to draft growth strategies on its own, it is important for it to recognize that it too has to take responsibility for the growth of the Company. Another responsibility of the Board is to nominate the President. After a new President is nominated, one cannot help but wonder how this individual will contribute to the growth of the Company through their execution duties over the duration of their term. By sharing this sentiment among all Directors, I hope to create a framework through which the Board goes beyond just performing checks and even takes initiative to encourage the endeavors of the executive team with the ultimate goal of boosting corporate value.

**Maeda:** The change in our corporate governance system has simultaneously resulted in a change in the atmosphere of the Board, making meetings more conducive to discussions of how EBARA should pursue future growth. Every single report made by the executive team to the Board is met with stern comments, but this allows opportunities to examine measures from new perspectives or at deeper levels. I have high praise for the fact that discussions at the Board have been adding new levels of depth to the plans of the executive team.

**Uda:** Currently, I am in a position in which I coordinate with you, Chairman Maeda, to decide which management issues should be raised as agenda items at meetings of the Board. The most important among these issues is the formulation of the next medium-term management plan. A critical point in



## Discussion between the Chairman of the Board of Directors and the Chairman of the Company

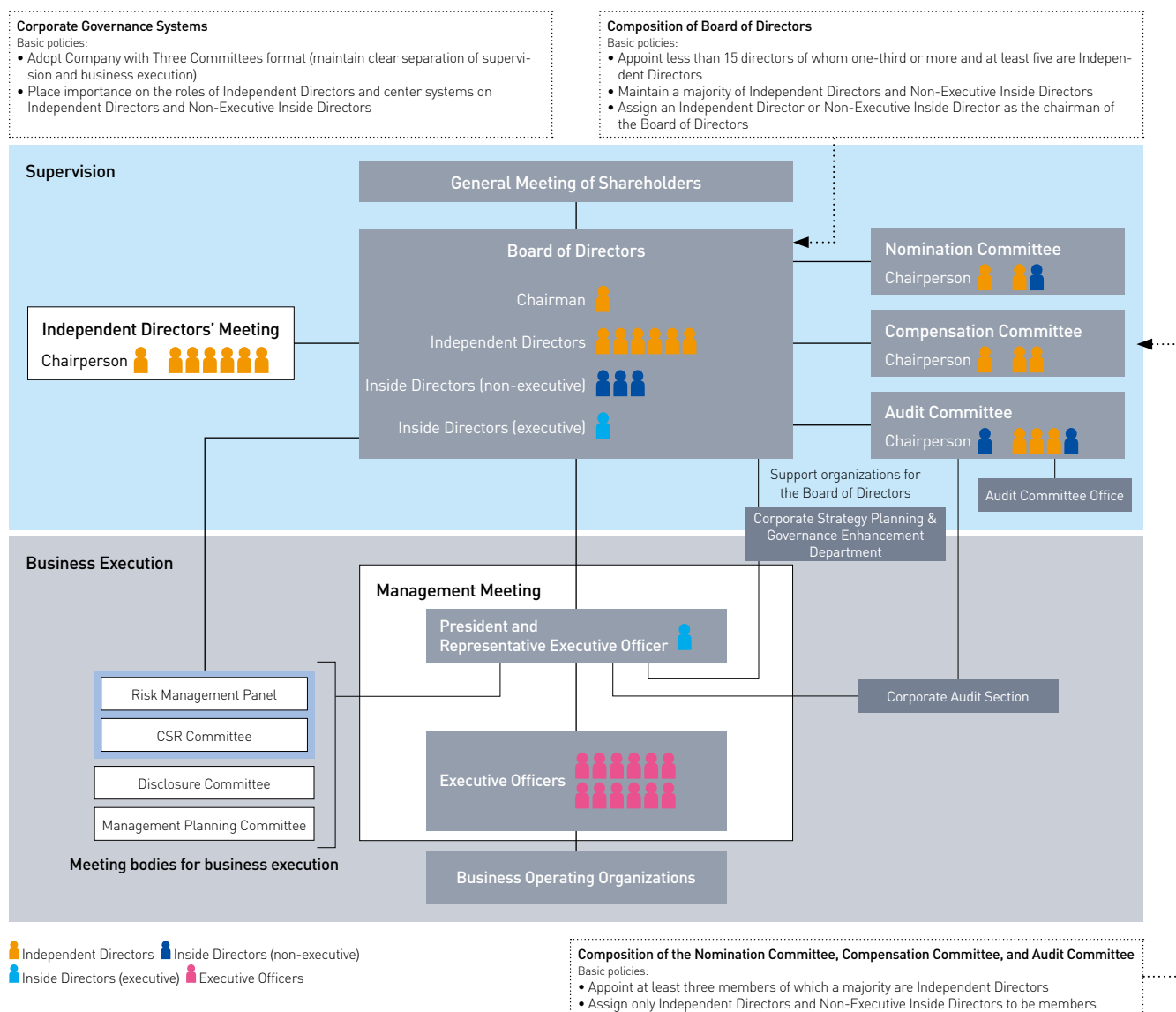
formulating this plan will be projecting the trends that will be seen in society a decade from now and considering how to incorporate these into medium-term strategies. The Board and other relevant parties are engaged in deep discussion with this regard.

**Maeda:** The process for formulating medium-term management plans at EBARA has improved significantly in comparison to when I was appointed President six years ago. At that time, it was customary for the President to be the central figure responsible for compiling plans. We have since broken away from this custom, and plans have come to be forged through an ongoing process of discussion by the Board. EBARA has already furnished the necessary governance system and financial base for the creation of a successful plan, and looking

ahead, I hope to use my position as Chairman to spur the President and the other Executive Officers forward toward future growth.

**Uda:** Now, the Board is pressed to support the President as he seeks to navigate the currently opaque social trends. Should a large wave of change strike, the Board and its seven Independent Directors with diverse backgrounds will need to be prepared to assist the President in swiftly adjusting course. I also hope to create a greater range of opportunities for individual Directors to voice their opinions to Executive Officers in order to help them improve upon their plans. I aim to realize genuine improvements to the effectiveness of the Board of Directors and thereby create an organization that is committed to driving aggressive growth.

## Corporate Governance Systems (As of March 28, 2019)



## Corporate Governance

The EBARA Group has established the “EBARA Way,” composed of its Founding Spirit, Corporate Philosophy, and CSR Policy, as the EBARA Group’s identity and set of values to be shared across the Group. Under the “EBARA Way,” the enhancement of corporate value through sustainable business development and sharing the results with all stakeholders, including shareholders, are EBARA’s most important management objectives. To achieve such objectives, we constantly seek the best possible corporate governance systems and strive toward further enhancement.

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### Basic Policies

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- 1) The Company respects shareholders’ rights and fosters an environment for shareholders to effectively exercise their rights while ensuring equality among shareholders.
  - 2) The Company strives to appropriately cooperate with various stakeholders, including customers, business partners, employees, and local communities. The Company also strives to develop a corporate culture and climate in which such stakeholders’ rights and viewpoints are respected and business is effectively executed.
  - 3) The Company strives to ensure management transparency through adequate disclosure of its corporate information.
  - 4) The Company incorporates the organizational form of a Company with Three Committees to ensure the clear separation between supervision and business execution. This system is centered on the objective perspectives gained from Independent Directors and Non-Executive Inside Directors and the pivotal roles they play in supervision.
  - 5) The Company engages in constructive dialogue with shareholders and investors on the basis of its IR Basic Policy, with a view to contributing to sustainable growth and the medium-to-long-term enhancement of corporate value.
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### Major Initiatives Taken in the Fiscal Year Ended December 31, 2018

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The Board of Directors is charged with three major responsibilities: indicating the directions for important corporate strategies, establishing frameworks to allow for appropriate risks to be taken in business execution, and providing highly effective oversight of business execution from an objective and independent standpoint. In addition, the Board of Directors is expected to exercise both leadership from the perspectives of defensive functions and growth-oriented functions. In terms of defensive functions, the Board will work to establish regulatory frameworks for preventing the occurrence of scandals and the materialization of other downside risks. From the perspective of growth-oriented functions, the Board will ensure that systems are in place to allow management to take bold action to prevent the loss of upside risk (such as business opportunities).

In the fiscal year ended December 31, 2018, based on the results of the evaluation of the effectiveness of the Board of Directors, time was devoted to discussing the progress and challenges faced with regard to growth strategies and the medium-term management plan, E-Plan 2019, in all of EBARA’s business segments. Also, an additional Independent Director was appointed in March 2018. With experience as a corporate manager, this individual brought the number of directors with management experience to four out of seven

Independent Directors, enabling new depth in discussions. Furthermore, brisk discussions were held on the ideal form (scale, composition, etc.) of the Board of Directors and the Company’s committees. The Nomination Committee reflected the opinions raised during these discussions into its deliberations on the Director candidate nomination policies for the fiscal year ending December 31, 2019.

#### Major Items Discussed by the Board of Directors in the Fiscal Year Ended December 31, 2018

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- Establishment of annual management plan and key performance indicators for business segments
- Reports on medium-term management plan progress and growth strategies by business
- Examination of measures for improving investment efficiency
- Standards for selecting successor for President and Representative Executive Officer
- Composition of the Board of Directors
- Evaluation of the Board of Directors’ effectiveness
- Cross-shareholdings policies
- Investor relations activity policies
- Response to Japan’s Revised Corporate Governance Code

## Initiatives for Strengthening Corporate Governance

Around the turn of the century, the Company re-acknowledged the importance and necessity of corporate governance systems. Since then, we have been introducing improvements to our governance systems in phases to facilitate the Company's sustainable growth and fulfill its social responsibilities. We will continue to improve our governance systems as necessary to achieve further improvements and move them toward the ideal state in which the Board of Directors can fully exercise its functions.

### Evolution of EBARA's Corporate Governance System

	Start of corporate governance initiatives	Commencement of governance reforms	Development of frameworks to improve effectiveness	Pursuit of further transparency and impartiality
	April 2002–March 2007	April 2007–March 2015	April 2015–December 2018	January 2019–
Governance				
Organizational format	Company with Board of Company Auditors	Company with Board of Company Auditors	06/15: Company with Three Committees	
Committees		08/08: Voluntary establishment of Nomination/Compensation Advisory Committee 02/09: Membership of: • Nomination Advisory Committee: 2 Inside, 2 Independent • Compensation Advisory Committee: 2 Inside, 2 Independent	06/15: Establishment of Nomination/Compensation/Audit Committee as statutory committees under the Board of Directors 06/17: Membership of: • Nomination Committee: 2 Independent, 1 Inside • Compensation Committee: 3 Independent • Audit Committee: 3 Independent, 2 Inside	
Chairman of the Board of Directors	President of the Company	06/13: Director, Chairman (Non-Executive Inside Director)		03/19: Independent Director
Separation of supervision and business execution	05/02: Introduction of Executive Officer System 06/02: Reduction of the number of Directors stipulated in the Articles of Incorporation (35 → 20) 06/05: Reduction of the number of Directors stipulated in the Articles of Incorporation (20 → 12)		06/15: Revision of rules of the Board of Directors to delegate greater authority to the business executive team	03/19: Reduction of the number of Executive Inside Directors (3 → 1)
Number of Members of the Board of Directors				
Directors	06/02: 20 → 06/05: 12	06/08: 12 → 06/11: 12	06/15: 14 → 06/17: 13	03/19: 11
Independent Directors (of which, female)		06/08: 2 → 06/11: 4	06/15: 7 (2) → 06/17: 7 (1)	03/19: 7 (1)
Outside Audit & Supervisory Board members	06/01: 2	06/07: 3		
Directors' and Executive Officers' nomination	06/02: Shortening of term of directors from two years to one year	03/08: • Establishment of standards for evaluating independence of Independent Directors • Establishment of basic policies for Directors' and Executive Officers' nominations • Set of tenure limit of Directors and Executive Officers		
Directors' and Executive Officers' compensation		05/09: • Establishment of Basic Policy on Directors' and Executive Officers' Compensation • Abolition of officer retirement benefit system • Introduction of share-based payment stock options	03/18: • Abolition of stock option system • Introduction of restricted stock compensation plan and performance-linked stock compensation plan	
Advisors			06/15: Abolition of the provision regarding advisors in Articles of Incorporation	
Evaluation of Board of Directors' effectiveness			06/16: Start of evaluations of the effectiveness of the Board of Directors 06/17: Addition of individual interviews into procedures for evaluating the effectiveness of the Board of Directors	
EBARA Corporate Governance Basic Policy			11/15: Establishment 11/18: Revision (addition of regulations regarding non-reappointment of President, etc.)	

## Evaluation of the Board of Directors Effectiveness

The Company believes it is necessary to work toward the best possible corporate governance systems and strive for improvement at all times. Annual evaluations of the contributions and effectiveness of the Board of Directors are conducted and the results are disclosed. The Company simultaneously works to resolve any issues that come to light.

### Timeline of Effectiveness Evaluations and Areas Identified as Needing Improvement

	2016/3	2017/3	2017/12	2018/12
Evaluation system	■ Self-evaluation by Board of Directors (with assistance by third-party institution)			
Evaluation method	■ Questionnaire (Scope: All directors)	■ Questionnaire and interviews by third-party institution (Scope: All directors)		
	■ Benchmark analysis			
Evaluation scope	■ Board of Directors & All Three Committees (Nomination Committee, Compensation Committee, and Audit Committee)			
Areas identified as needing improvement	■ Enhancement of discussions regarding medium-to-long-term management issues	■ Enhancement of identification and discussion of long-term issues contributing to the improvement of corporate value		
	■ Expansion of discussion regarding ideal methods of disclosing information to capital markets	■ Increasing monitoring of the progress of E-Plan 2019		■ Increased support for monitoring and follow-up efforts post-deliberation by the Board of Directors
	■ Efficiency of proceedings in Board of Directors meetings	■ Periodic reviews of the size and composition of the Board of Directors		
		■ Enhancement of discussion on succession planning	■ Enhancement of discussions on succession planning for the President and Representative Executive Officer, the Chairman of the Board of Directors, and Independent Directors	

## Evaluation of the Board of Directors Effectiveness in the Fiscal Year Ended December 31, 2018

### Analysis and Evaluation Process

With the cooperation of a third-party organization, the Company had each Director complete a questionnaire and then held individual interviews with all of the Directors based on their responses to the questionnaire. The state and effectiveness of the Board of Directors was analyzed based on the results, and meetings were held in February 2019 to confirm the evaluation and future action items.

### Contents of Questionnaires

The Company formulates questions concerning the effectiveness of the Board of Directors and the Committees.

#### Major Questionnaire Items

- Roles and functions of the Board of Directors
- Size and composition of the Board of Directors
- Status of operation of the Board of Directors
- Composition and roles of the three committees
- Status of operation of the three committees
- Support systems for Independent Directors
- Relationships with investors and shareholders
- Self-evaluations

#### Major Topics of Individual Interviews

- View of Board of Directors
- Succession planning for Independent Directors
- Sharing of information between Nomination Committee and Board of Directors

### Summary of the Results of Analysis and Evaluation

It was found that the evaluation of the current state of operation of the Board of Directors and the Company's committees were generally high and that adequate discussion is being carried out on important issues at meetings of the Board of Directors and the committees, indicating that they are being operated appropriately. It was confirmed that issues identified during the nine-month period ended December 31, 2017 (enhancement of identification and discussion of long-term issues (growth strategies, etc.); increasing monitoring of the state of progress of E-Plan 2019; periodic reviews of the size and composition of the Board; enhancement of discussions on succession planning for the President and Representative Executive Officer, the Chairman of the Board of Directors, and Independent Directors) are being addressed and improvements are being made, although issues still remain. Furthermore, it was confirmed that the quality of discussion in Board meetings has improved due to the efforts of both Independent Directors and Inside Directors and the increase in Independent Directors

with management experience. It was also found that Independent Directors made substantial contributions to discussions by making statements based on their experience and expertise while remaining aware of the importance of their roles.



However, it was found that it is necessary to continuously engage in the enhancement of identification and discussion of long-term issues contributing to the improvement of corporate value and in the monitoring of the progress of the medium-term management plan. Another area identified as needing improvement was increased support for monitoring and follow-up efforts post-deliberation by the Board of Directors.

### Action to Be Taken

The evaluation of the Board conducted in the fiscal year ended December 31, 2018, identified a need for ongoing action in the following four areas.

- Enhancement of discussion of long-term issues contributing to the improvement of corporate value along with progress of and issues with the medium-term management plan
- Increasing support for monitoring and follow-up efforts post-deliberation by the Board of Directors
- Periodic reviews of the size and composition of the Board of Directors
- Enhancement of discussion on succession plans for Independent Directors

## Nomination Committee

Members	3	2 Independent Directors  1 Non-Executive Inside Director 
Chairperson	Hiroshi Oeda (Independent Director)	
Reason for appointment of chairperson	Hiroshi Oeda possess a wealth of general corporate management experience, and he was appointed as chairperson of the Nomination Committee so that his substantial insight can be utilized.	
Meetings in the fiscal year ended December 31, 2018	13	

The Nomination Committee is mainly responsible for deciding on the proposals to be submitted to the General Meeting of Shareholders concerning the appointment and dismissal of Directors, recommendations to the Board of Directors concerning the appointment and dismissal of Executive Officers, and recommendations to the Board of Directors concerning the appointment and dismissal of Directors with special titles and Executive Officers with special titles, in addition to succession planning for the President and Representative Executive Officer.

### Succession Plan for the President and Representative Executive Officer

The establishment and implementation of the succession plan for the President and Representative Executive Officer is one of the most important tasks for the Nomination Committee. In March 2019, a new President and Representative Executive Officer was appointed. However, the process of cultivating and selecting candidates by the Nomination Committee began three years prior.

The Company's succession plan has two major characteristics. The first characteristic is that this plan is formulated primarily by the Nomination Committee, of which the current President is not a member. The second characteristic is that no separation exists between human resource development and the selection of the next President, but rather that the

Nomination Committee coordinates with the executive team to systematically cultivate human resources while narrowing down the scope of candidates for the position of President. This approach means that, as opposed to choosing the next President at the end of the current President's term, potential candidates are gradually cultivated and evaluated before the Nomination Committee makes the final decision of who to nominate to be the next President.

The Nomination Committee is comprised of three Non-Executive Directors, including two Independent Directors and the Chairman of the Company. This membership ensures the objective selection of ideal candidates.

The Company has a policy stating that excessive terms should be avoided for members of senior management (the President and the Chairman of the Company) and that individuals in these positions should be changed periodically. The term of the President is six years and we plan to implement an executive development plan over the course of the term of each President to cultivate future candidates.

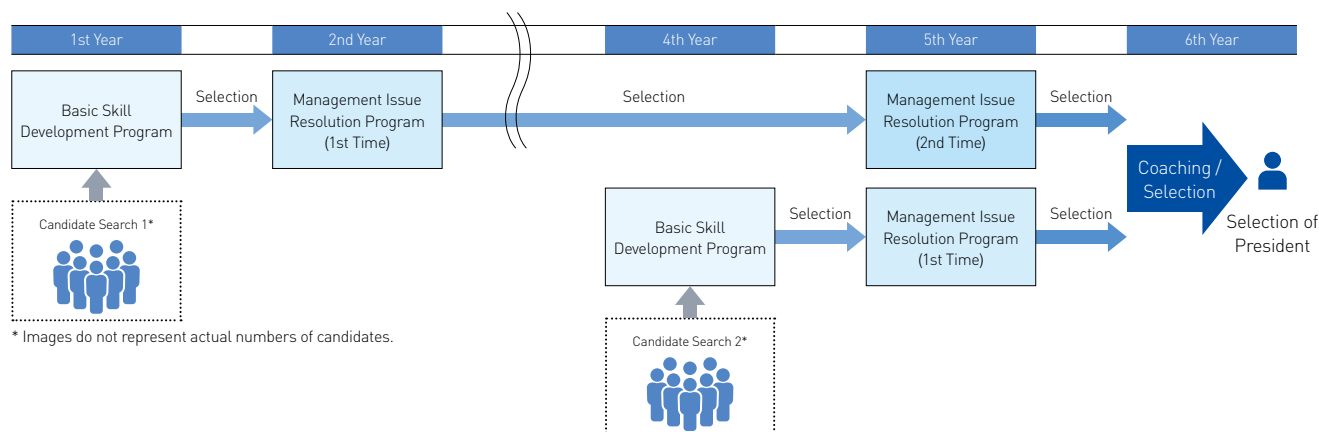
### Cultivation and Selection Process

EBARA's succession plan begins with searching for candidates with the potential to fill the position of President in the future. A development program is then conducted to instill in candidates the basic skills expected of executives. This basic skill development program includes discussions with managers from Japan and from overseas, coaching from external specialists on introspective thinking, and other provisions designed to cultivate the sense of commitment required of an executive while improving the viability of candidates. During this process, the individuals that will be advanced to the next step are chosen.

The next step of the plan is to have candidates address specific business issues via the management issue resolution program. Candidates who proceed to this stage are placed in positions that take them out of the area in which they have experience or have previously been responsible for through means such as transfer to another division. They are then



## Six-Year Cultivation and Selection Process



expected to work to address actual management issues while experiencing various new aspects of business. The candidates to be submitted to final consideration are selected from among the individuals that have excelled at this step.

Final consideration candidates receive coaching on the mindset and thought processes necessary of the President from a professional executive coach and are expected to apply what they learn accordingly. Candidates are evaluated during the coaching process, and the results of these evaluations are reported to the Nomination Committee.

The qualities required in the President include perseverance and passion in addition to other qualities expected of executives. Additional requirements are also defined based on the management circumstances at a given time. The final

decision of who will become the next President is made by the Nomination Committee based on the degree to which the required qualities are possessed as well as on qualities such as flexibility and growth potential as decided based on the extent to which the candidate grew before and after receiving coaching.

### Future Succession Plans

EBARA will continue efforts to create the most ideal process for selecting future Presidents going forward. At the same time, we will endeavor to construct integrated management candidate development and selection programs that begin with junior employees in order to cultivate a corporate culture that encourages competition and embraces challenge.

## Message from the Chairperson of the Nomination Committee

The Nomination Committee selected the new President through a three-year process leading up to 2018. To determine whether or not candidates fully embodied the necessary qualities, members of the Nomination Committee sat down to talk with candidates on several occasions. Based on these discussions, exhaustive deliberations were held among the members of the Nomination Committee before we finally chose the next President. This approach made for a transparent and impartial selection process while also ensuring that others would trust and be accepting of our selection.

In addition to the selection of the current President, 2018 also saw us draft a succession plan for systematically cultivating management candidates and selecting new Presidents every six years. The plan was enacted in 2019. I believe this plan to be cutting-edge in terms of systematic management candidate development, and I expect the benefits to be immense.

Going forward, the Nomination Committee will continue


to discuss themes as necessary to improve the effectiveness of EBARA's corporate governance system.



**Hiroshi Oeda**

Independent Director  
Chairperson of the Nomination Committee

## Compensation Committee

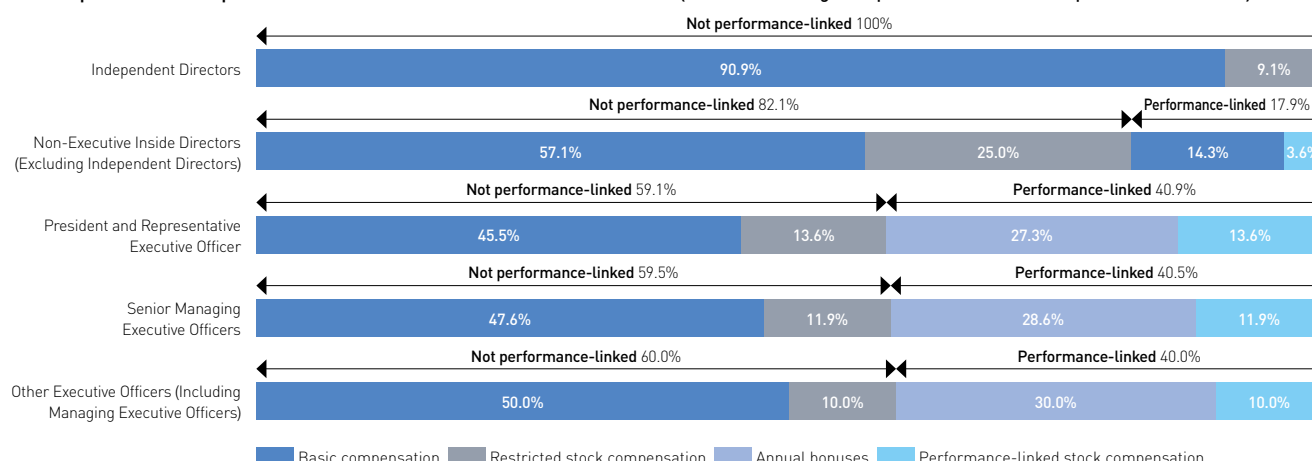
Members	3	3 Independent Directors  0 Non-Executive Inside Directors
Chairperson	Shiro Kuniya (Independent Director)	
Reason for appointment of chairperson	Shiro Kuniya is an expert on international legal affairs and has accumulated a wealth of experience and deep insight while serving as a director and auditor at various companies. He was appointed as chairperson of the Compensation Committee so that he can utilize his experience and expertise as he exercises leadership from a broad, global perspective.	
Meetings in the fiscal year ended December 31, 2018	6	

The Compensation Committee decides on policies and amounts of compensation for individual Directors and Executive Officers in addition to making recommendations to the Board of Directors concerning officer compensation systems at affiliates and other companies.

### Introduction of Restricted Stock Compensation Plan and Performance-Linked Stock Compensation Plan

In 2018, the Company introduced a restricted stock compensation plan and a performance-linked stock compensation plan for Directors, Executive Officers, and certain employees of the Company as well as for certain directors and employees of subsidiaries. The restricted stock compensation plan is conditional on applicable officers and employees remaining in their position for a defined period of time. The performance-linked stock compensation plan is also conditional on the aforementioned period of ongoing service, and the issuance of compensation under this system is predicated on the accomplishment of targets set in advance by the Board of Directors. These systems are designed to serve as incentive for applicable officers and employees to pursue ongoing improvements in the corporate value of the Company and better share that value with shareholders.

### Composition of Compensation Paid to Directors and Executive Officers (If 100% of the target for performance-linked compensation is achieved)



### Overview of Compensation Types

#### Annual Bonuses

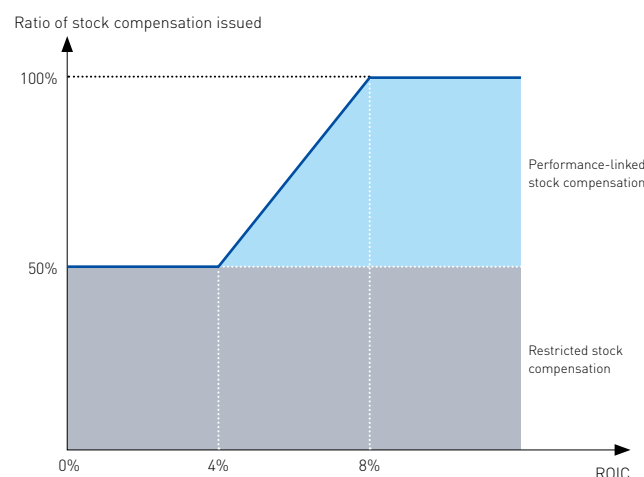
Annual bonuses employ a framework in which bonus amounts are determined directly based on the degree of accomplishment of targets for Company and individual performance.

#### Long-Term Incentives (Stock Compensation)

The Company offers two kinds of stock compensation, the value of which is tied to its stock price, as long-term incentives.

- **Restricted stock compensation:** In principle, shares of the Company's stock are allocated during the first year of a medium-term management plan with a defined transfer restriction period coinciding with the period of the medium-term management plan.
- **Performance-linked stock compensation:** Common shares of the Company's stock are allocated to applicable officers and employees in amounts calculated based on their rank at the end of a performance evaluation period, which is set to coincide with the period of the current medium-term management plan, and in correspondence with the rate of accomplishment of targets set in advance for given performance indicators upon the conclusion of the period.

### Ratio of Stock Compensation Issued Based on Rate of Accomplishment of ROIC Target





## Total Amounts of Compensation for Directors and Executive Officers for the Fiscal Year Ended December 31, 2018

Position	Total compensation (Millions of yen)	Total compensation by type (Millions of yen)									
		Basic compensation		Bonuses		Stock options		RS		PLS	
		Recipients	Amount	Recipients	Amount	Recipients	Amount	Recipients	Amount	Recipients	Amount
Directors of the Board (excluding Independent Directors)	177	3	131	—	—	3	14	3	28	3	3
Independent Directors	98	9	92	—	—	7	1	7	5	—	—
Executive Officers	610	15	310	13	172	14	37	13	47	13	42
Total	886	27	533	13	172	24	53	23	80	16	45

- Notes:
1. Compensation paid to Executive Inside Directors is included in the Executive Officers compensation column.
  2. The amount of compensation paid to Executive Officers includes ¥79 million in compensation paid by subsidiaries to Executive Officers that serve concurrently as officers at subsidiaries.
  3. The basic compensation (limited to performance-linked portion) of Non-Executive Inside Directors and bonuses of Executive Officers are calculated based on the performance of the EBARA Group, the performance of the relevant division, and an evaluation of the individual's performance in the fiscal year ended December 31, 2018, and amounts are determined individually after deliberation by the Compensation Committee.
  4. Basic compensation shown is the total amount of basic compensation paid to Directors and Executive Officers in office as of December 31, 2018, for the term of office of each Director and Executive Officer for the fiscal year ended December 31, 2018, and basic compensation paid to the two Non-Executive Directors among the three Directors who retired at the conclusion of the 153rd Ordinary General Meeting of Shareholders held on March 28, 2018, and the two Executive Officers who retired at the conclusion of the meeting of the Board of Directors held on the same day according to their terms of office during the fiscal year ended December 31, 2018.
  5. Bonuses shown are the total amount of bonuses paid in March 2019 to Executive Officers in office as of December 31, 2018, for the fiscal year ended December 31, 2018.
  6. The stock option system was abolished in the nine-month period ended December 31, 2017, and a restricted stock compensation (RS) plan and a performance-linked stock compensation (PLS) plan were introduced in the fiscal year ended December 31, 2018.
  7. No new stock options were issued in the fiscal year ended December 31, 2018. However, the amount recorded as expenses during the fiscal year ended December 31, 2018, in association with stock options issued in previous fiscal years is listed.
  8. Stock options shown is the total amount of stock options granted in previous fiscal years to Directors and Executive Officers in office as of December 31, 2018, for the term of office of each Director and Executive Officer for the fiscal year ended December 31, 2018, and stock options granted to the two Non-Executive Directors among the three Directors who retired at the conclusion of the 153rd Ordinary General Meeting of Shareholders held on March 28, 2018, and the two Executive Officers who retired at the conclusion of the meeting of the Board of Directors held on the same day according to their terms of office during the fiscal year ended December 31, 2018. Stock options are calculated at the fair value of subscription rights to shares and shown as the amount recorded as an expense in the fiscal year ended December 31, 2018.
  9. Restricted stock compensation shown is the amount of restricted stock compensation paid to Directors and Executive Officers in office as of December 31, 2018, recorded as expenses in the fiscal year ended December 31, 2018.
  10. Performance-linked stock compensation shown is the amount of performance-linked stock compensation paid in May 2020 to Directors and Executive Officers in office as of December 31, 2018, recorded as expenses in the fiscal year ended December 31, 2018.
  11. There were no Directors or Executive Officers to which total compensation paid in the fiscal year ended December 31, 2018, exceeded ¥100 million.

## Audit Committee

Members	5	3 Independent Directors 
		2 Non-Executive Inside Directors 
Chairperson	Tetsuji Fujimoto (Full-time Non-Executive Inside Director)	
Reason for appointment of chairperson	Tetsuji Fujimoto has been appointed as the chairperson and a full-time member of the Audit Committee with the expectation that he will be able to utilize the experience he gained in positions at the Company in accounting, finance, and business divisions as he maintains an up-to-date and accurate understanding of the circumstances within the Company and quickly reflects changes in the operating environment in the audit activities of the Company to heighten their effectiveness.	
Meetings in the fiscal year ended December 31, 2018	14	

The Audit Committee is responsible for conducting audits to assess whether or not Directors, Executive Officers, and employees of the Company and its subsidiaries are in compliance with legal obligations and internal regulations. In addition, the Audit Committee endeavors to monitor Executive Officers and verify whether they execute their duties in a sound, fair, appropriate, and efficient manner in accordance with basic policies for management and medium- and long-term management plans established by the Board of Directors.

## Major Areas Assessed by the Audit Committee

- The Audit Committee investigates the status of operations and assets at the head office and at major operating sites and subsidiaries as described below to verify the implementation and operational status of internal control systems at the Company and at Group companies.
- The Audit Committee confirms that the Independent Auditor maintains a position of independence and conducts audits appropriately. The committee also receives reports from the Independent Auditor on a regular and as-needed basis on the status execution of its duties. Based on the results of annual evaluations of the suitability of the Independent Auditor for reappointment as well as of the eligibility, independence, and overall capabilities of the Independent Auditor, the Audit Committee decided to reappoint Ernst & Young ShinNihon LLC as the Company's Independent Auditor for the fiscal year ending December 31, 2019.
- In addition to the items audited every fiscal year based on annual audit plans, the Audit Committee also designates other items requiring particularly intensive audits. In the fiscal year ended December 31, 2018, intensive audits of the following items were performed.
  - i) Appropriateness of accounting procedures pertaining to notes and accounts receivable-trade / inventories and of investment revaluations / impairment losses associated with business reorganizations

- ii) Implementation status of the medium-term management plan and annual budgets
- iii) Adherence to fair disclosure rules and appropriateness of information disclosure in consideration of stock exchange regulations

#### Activities of the Audit Committee

- The Audit Committee holds meetings with the President and Representative Executive Officer three times a year to share recognition of management issues and business and other risks with the executive team and to exchange information.
- Members of the Audit Committee attend meetings of the Management Meeting, the CSR Committee, the Risk Management Panel, and other important meetings to improve the effectiveness and efficiency of audits. In addition, exchanges of information and opinions are held with the Internal Audit Division and with divisions responsible for

internal control and risk management on a monthly and as-needed basis in order to maintain an accurate and up-to-date understanding of relevant information. Advice is also provided to the executive team as necessary.

- Documents of important resolutions are reviewed by the Audit Committee to confirm that decisions made are appropriate and in compliance with internal regulations.
- On-site audits are performed at domestic and overseas offices, operating sites, and subsidiaries (including observations of internal audits by executive teams and audits by the Independent Auditor) to confirm that internal control systems are functioning effectively across the Group.
- Group Auditor Conferences are held twice a year and attended by auditors of subsidiaries to share information. The Audit Committee also requests business reports from subsidiaries when necessary.

## Cross-Shareholdings

In principle, the Company does not hold cross-shareholdings. However, it is possible that the Company will hold shares of other companies only in cases in which it is determined that partnerships with investees through shareholding will contribute to the enhancement of the Group's corporate value. The rationale for cross-shareholding relationships is subject to regular examination by the Board of Directors based on the following items, and shareholdings deemed by the Board of Directors to no longer be rational shall be dissolved when appropriate by disposal or other means.

#### Matters Confirmed in Examination of Shareholding Rationale

- Importance of partnership with investee and necessity of continuation of relationship
- Appropriateness of returns and risks associated with the shareholding in comparison to cost of capital

In exercising voting rights attached to cross-shareholdings, the Company determines whether to vote for or against each individual agenda item after consideration of whether it contributes to the medium-to-long-term enhancement of the corporate value of the Group and investees. Discussions are held with investees on the content of agenda items as required with particular emphasis placed on the following items.

- Changes to articles of incorporation
- Nomination of directors
- Anti-takeover measures
- Appropriation of surplus

#### Number of Holdings and Total Amount on the Balance Sheet of Shares Held by the Company Not for Purely Investment Purposes

	2016/3	2017/3	2017/12	2018/12
Number of holdings	71	56	50	46
Of which, holdings of stocks of listed companies	29	14	9	9
Amount on the balance sheet (millions of yen)	16,620	14,487	13,973	10,551
Of which, amount of holdings of stocks of listed companies (millions of yen)	12,734	10,602	10,091	6,369

# Risk Management

## Basic Approach

EBARA's risk management divisions support the global development of Groupwide business activities by reinforcing Group governance and risk management systems to furnish frameworks for facilitating the accomplishment of business results.

Group administration regulations require that assessments be performed prior to exposure to serious risks with the potential to impact Group companies or the entire Group and that reports be submitted after risks have been assumed. In

addition, shared risk management and internal control guidelines have been established for the Group to further support Group companies in developing their risk management and internal control systems.

**REFERENCE** Risk Management Basic Policy and System

[https://www.ebara.co.jp/en/about/csr/social/risk\\_management/index.html](https://www.ebara.co.jp/en/about/csr/social/risk_management/index.html)

## Priority Strategies and Progress

### Main Risks and Countermeasures

The Risk Management Panel is one of the Company's meeting bodies for business execution and is tasked with supporting risk-related deliberations and activities.

Compliance risks are combatted through education and monitoring by specialized corporate divisions via the Anti-Corruption Program and other measures. Countermeasures for risks associated with the reliability of financial reporting include developing, enhancing, and implementing internal control systems. Meanwhile, the Environmental Control Committee takes steps to improve the status of environmental management to counter environmental risks.

In addition, crisis response procedures have been defined, anticipated crises are assessed, and education and training programs have been implemented to ensure preparedness.

Main Risks Identified
1. Risks associated with ordinary business activities
1) Compliance risks
(1) Cartels and bid-rigging
(2) Bribery
(3) Antisocial forces
(4) Trade security management
(5) Compliance with Construction Business Act
(6) Compliance with Act against Delay in Payment of Subcontract Proceeds, Etc. to Subcontractors
2) Risks associated with the reliability of financial reporting
3) Sales project risks
4) Loan and investment risks
5) Environmental risks
6) Other operational risks
2. Crisis

### Priority Strategies and Progress

Priority Strategies	Progress
Internal control	<ul style="list-style-type: none"> <li>Head office internal control section conducted on-site evaluations</li> <li>Provided ongoing support for implementation at Group companies</li> </ul>
Deployment and continuous improvement of Risk Management*1 & Internal Control Guidelines*2 at Group companies	<ul style="list-style-type: none"> <li>Enhanced items on Internal Control Guidelines and revised contents of Risk Management Guidelines, which is scheduled for completion in December 2019</li> </ul>
Ongoing risk management and reinforcement of risk management systems centered on the Risk Management Panel	<ul style="list-style-type: none"> <li>Assessed policies based on the initiatives of the Business Continuity Management Subcommittee and the Information Security Subcommittee</li> <li>Made quarterly activity reports</li> <li>Held discussions on contract risks pertaining to individual projects</li> <li>Promoted deeper discussions of procurement activities and operational health and safety by dedicated committees</li> <li>Formulated response measures for country-specific personal information protection laws</li> <li>Improved environmental risk assessments of overseas manufacturing sites</li> </ul>
Risk assessment	<ul style="list-style-type: none"> <li>Performed risk-weighting in reflection of changes in risks</li> </ul>

\*1 Guidelines targeting improvements in risk management at overseas Group companies that were formulated by having each company conduct self-evaluations of their risk management level based on 12 areas, including the environment, anti-corruption, occupational safety, and human rights, and then establish a plan for the development of risk management systems to be implemented by the fiscal year ending December 31, 2019.

\*2 Guidelines for self-inspections designed to help EBARA Group companies practice autonomy in establishing, implementing, and improving internal controls.



## Initiatives Pertaining to Priority Strategies

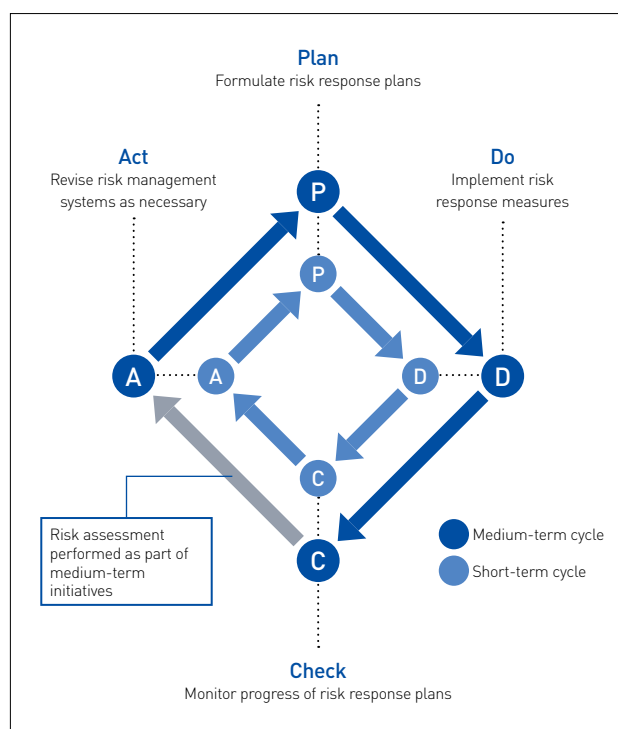
### Risk Assessment

We conduct risk management centered on the Risk Management Panel which holds regular quarterly meetings along with special meetings when necessary (seven meetings held in 2018) to implement a single-fiscal-year-basis risk management PDCA (plan-do-check-act) cycle. As part of EBARA's medium-term initiatives for risk management systems, a risk assessment was performed in 2018.

The assessment compiled the projected risks into around 100 items and was carried out through surveys and interviews with the individuals responsible for relevant businesses and divisions to reassess the amount of risk exposure, probability of risk materialization, and adequacy of response measures for each item. Risks warranting Companywide responses were assigned and risk owners and other response systems were decided upon by the Risk Management Panel.

Going forward, the Company plans to conduct risk assessments in three-year cycles to continuously implement improvements to its risk management systems.

### Risk Management Cycle



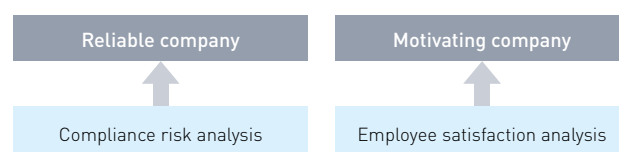
### Employee Awareness Survey Based on Compliance Risk and Employee Satisfaction Analyses

In the fiscal year ended December 31, 2018, an employee awareness survey was conducted with a third-party institution to ensure objectivity. This survey combined conventional compliance risk analysis that looks at the compliance awareness of employees and overall corporate culture with employee satisfaction analysis. We decided to integrate these analyses out of recognition of the importance of employee satisfaction and the provision of comfortable working environments on overall compliance risks.

The compliance risk analysis was focused on determining whether EBARA is a reliable company. This analysis entailed attaching quantitative scores to various compliance risks by organization and employee group and mapping the issues that surfaced.

The employee satisfaction analysis identified issues through questions designed to measure the levels of motivation among employees on an individual, organizational, and company level.

### Examination of Combined Risk and Employee Satisfaction Analyses



### Results of Employee Awareness Survey in the Fiscal Year Ended December 31, 2018

The employee awareness survey was designed to track yearly changes not only in comparison to data from within the Group but also in comparison to external benchmarks and on an individual question basis. The relative positions of the Company and of Group companies were shared with management via the CSR Committee to establish an objective understanding of the circumstances within the Group. Issues were addressed through follow-up initiatives driven by coordination between compliance divisions as well as human resources divisions and various other relevant divisions.

The employee awareness survey implemented in the fiscal year ended December 31, 2018, indicated that there were no pressing issues on a Groupwide basis. Group companies with scores that fell below the overall average were provided with feedback and corrective measures were requested. Meanwhile, meetings with line managers and other investigations were performed at divisions in which specific issues were identified. In this manner, the head office was also involved in follow-up measures.

# Compliance

## Basic Approach

The EBARA Group strives to act as a good corporate citizen that earns the trust of stakeholders. For this reason, the “EBARA Way” and the EBARA Group Code of Conduct are shared among all employees to form a common identity and set of values. With this as the foundation, it is our basic policy to practice legal compliance along with faithful adherence to internal rules, social norms, and common sense and to act with good intentions and integrity.

Our company policies, rules, and regulations relating to risk management, which are based on the principle of spreading

compliance awareness, guide us in creating systems for detecting risks and preventing their realization and in establishing comfortable and open workplace environments.

REFERENCE EBARA Group Code of Conduct

[https://www.ebara.co.jp/en/about/csr/ethics/corporate\\_ethics/index.html](https://www.ebara.co.jp/en/about/csr/ethics/corporate_ethics/index.html)

REFERENCE The EBARA Group's Compliance System

<https://www.ebara.co.jp/en/about/ir/Governance/governance/index.html>

## Priority Strategies and Progress

Resolution of Material Issues: Action Policy 5



In the fiscal year ended December 31, 2018, various measures were instituted at overseas Group companies along with initiatives at domestic Group companies. Overseas measures were focused on entrenching compliance and included the

introduction of anti-corruption e-learning programs, the institution of new guidelines, the expansion of overseas EBARA Group hotlines, and the implementation of compliance surveys (in China).

Priority Strategies	Principal Measures	Progress
Establish frameworks and implement measures for ensuring compliance	• Implement Anti-Corruption Program across the Group	<ul style="list-style-type: none"> <li>• Monitored status of relevant regulations at Group companies and provided guidance</li> <li>• Introduced comprehensive anti-corruption e-learning programs at 21 companies, prioritizing Group companies located in countries with low anti-corruption awareness</li> <li>• Instituted new guidelines at Group companies that incorporated policies for managing third-party entities from the perspective of anti-corruption</li> </ul>
	• Establish overseas EBARA Group hotlines	• Expanded application of whistle-blowing hotlines with external consultation venues at overseas Group companies (10 companies as of December 31, 2017 → 15 companies as of December 31, 2018 [nine in China, one in Vietnam, two in Indonesia, two in Thailand, and one in the Philippines])
	• Entrench compliance awareness throughout the Group	<ul style="list-style-type: none"> <li>• Transmitted and shared information through EBARA Group Compliance Network (domestic and Chinese subsidiaries)</li> <li>• Performed employee engagement survey (targeting approximately all 9,000 domestic Group employees) to analyze compliance awareness, corporate culture, and risks, as well as satisfaction</li> <li>• Conducted compliance surveys at overseas Group companies (targeting all of the more than 3,000 employees at 10 Chinese companies)</li> </ul>
Implement ongoing initiatives for improving capability of Group companies to independently manage and improve compliance and risk mitigation activities	• Prevent and quickly detect and address improper activity through swift response to reports	<ul style="list-style-type: none"> <li>• Processed 42 reports received in the fiscal year ended December 31, 2018</li> <li>• Experienced sharp increase in non-compliance related consultations</li> </ul>
	• Enhance compliance liaison member system to provide familiar workplace consultation venues	<ul style="list-style-type: none"> <li>• Trained compliance liaison members (50 at EBARA CORPORATION, 46 at Group companies)</li> <li>• Stepped up communication with compliance liaison members               <ol style="list-style-type: none"> <li>1. Integrated responses to reported incidents (9 in fiscal year ended December 31, 2018)</li> <li>2. Upward trend of resolutions for consultation issues spearheaded by liaison members</li> </ol> </li> </ul>
Foster comfortable workplace environment founded on respect for human rights and diversity	• Promote respect for human rights and diversity in workplaces through activities of specialized divisions and compliance liaison members	<ul style="list-style-type: none"> <li>• Posted human rights-related educational content on Company intranet (regarding Human Rights Week, requests for human rights slogans, educational materials, etc.)</li> <li>• Continued to participate in Global Compact Network Japan, the Industrial Federation for Human Rights, Tokyo, and other external organizations</li> </ul>

## Priority Strategies and Progress

### Respect for Human Rights

#### ■ Harassment Prevention Measures

The Company is establishing compliance consultation hotlines and spreading understanding regarding these hotlines and their use in order to foster comfortable workplace environments and to heighten its in-house capacity to address issues.

REFERENCE Human Rights System

[https://www.ebara.co.jp/en/about/csr/social/human\\_rights/1209153\\_3116.html](https://www.ebara.co.jp/en/about/csr/social/human_rights/1209153_3116.html)

In Japan, whistle-blowing hotlines have been installed at Group companies, and we are transitioning to a system in which reported incidents are addressed by the site at which the issue was reported (head office, Group company). At overseas Group companies, we continue to reinforce overseas EBARA Group hotlines, which are designed to contribute to increasing transparency across Group companies, to bolster the internal whistle-blowing hotlines of these companies, and to support healthy and autonomous operation.

#### Compliance Consultation Hotline Policies

1. Prevent improper activity from occurring
2. Quickly detect improper activity that may have occurred
3. Create comfortable workplace environments
4. Foster internal capabilities for resolving issues
5. Maintain the confidentiality of and protect those who report

In the fiscal year ended December 31, 2018, 42 reports were processed through compliance consultation hotlines, relatively unchanged from 39 in the previous fiscal period. Nine of these consultations involved suspicion of harassment, while 26, or more than 60% of all consultations, were related to workplace environment or other issues with the potential to lead to compliance risks.

#### Reports Processed through Compliance Consultation Hotlines

	Reports processed in the fiscal year ended December 31, 2018
New consultations	42
Consultations continuing from the previous fiscal year	12

■ Issues to continue being investigated in next fiscal year	10
■ Issues closed in the fiscal year ended December 31, 2018	44



Going forward, the Company will continue efforts to gather information on various risks as quickly as possible in order to prevent the spread of damages, particularly through the expansion of opportunities to rectify legal violations through internal compliance.

Measures	
	Expansion of workplace training by compliance liaison members
	Enhancement of coordination and communication with compliance liaison members

### Anti-Corruption

■ Implementation of Anti-Corruption Program Across the Group  
The Anti-Corruption Program is moving beyond its previous stage, which was primarily focused on the establishment of regulations and compliance consultation hotlines, to a stage of deploying and implementing various measures across the Group. These measures will include exhaustive anti-corruption training, improvement of employee compliance awareness, and enhancement of management of sales agents and other third-party entities.

#### 1. Anti-Corruption Training Based on Anti-Corruption Risks

In the fiscal year ended December 31, 2018, anti-corruption e-learning programs were implemented in a total of 21 countries in Asia and South America, where anti-corruption awareness is low. These programs comprehensively targeted the members of management and employees of sales and other divisions to which corruption risk awareness was most pertinent and offered education on risks, such as those associated with interactions with government officials.

#### Number of Participants in Anti-Corruption Training

	Asia	South America
Applicable employees	1,575	70
Rate of participation (fiscal year ended December 31, 2018)	98.9%	100.0%

Note: Employees that did not participate were primarily those on long-term leave.

#### 2. Improvement of Compliance Awareness Among Overseas Group Employees

Surveys were conducted in the fiscal year ended December 31, 2018, in China to measure the degree of awareness regarding compliance as well as corruption and other risks. The EBARA Group will continue to conduct surveys going forward in order to facilitate the regular provision of information and the sharing of risk awareness.

Applicable companies	Applicable employees	Response rate
10	3,200	Approx. 95%

#### 3. Guidelines for Managing Sales and Other Agents

New internal guidelines have been established for preventing involvement in bribery schemes. These guidelines will be deployed throughout the Group beginning in 2019.

#### ■ Expansion of Overseas EBARA Group Hotlines

The number of companies with access to overseas EBARA Group hotlines was raised to 15 in the fiscal year ended December 31, 2018, and we intend to expand the scope of applicable areas and enhance the operational status of these hotlines going forward.

#### Number of Overseas EBARA Group Hotlines

	2016/3	2017/3	2017/12	2018/12	2019/12 (plan)
Total number of companies with hotline access	3	7	10	15	17

## Executive Officers

(As of March 28, 2019)



### Masao Asami

President and Representative Executive Officer

Apr. 1986 Joined the Company  
 Apr. 2010 Executive Officer  
 Apr. 2011 Division Executive, Sales and Marketing Division, Precision Machinery Company  
 Apr. 2014 Managing Executive Officer  
 Jun. 2015 Managing Executive Officer\*  
 Apr. 2016 President, Precision Machinery Company  
 Mar. 2019 Director (to present)  
 President and Representative Executive Officer (to present)



**Tetsuji Togawa** Senior Managing Executive Officer,  
 President, Precision Machinery Company

Apr. 1986 Joined the Company  
 Apr. 2013 New Business Development Department, Precision Machinery Company  
 Apr. 2014 Executive Officer  
 Mar. 2019 Senior Managing Executive Officer\* (to present)  
 President, Precision Machinery Company (to present)



**Atsuo Ohi** Senior Managing Executive Officer,  
 President, Environmental Engineering Company,  
 Chairman and Representative Director of  
 EBARA Environmental Plant Co., Ltd.

Apr. 1981 Joined the Company  
 Apr. 2008 Executive Officer  
 Oct. 2008 Division Executive, Corporate Strategy Planning Division  
 Apr. 2010 Managing Executive Officer  
 Apr. 2011 Head of Business Unit, Global Marketing & Sales Business Unit, Fluid Machinery & Systems Company  
 Apr. 2012 Vice President, Fluid Machinery & Systems Company, Head of Business Unit, Global Pump Business Unit, Fluid Machinery & Systems Company  
 Jun. 2012 Director (to present)  
 Apr. 2013 President, Fluid Machinery & Systems Company  
 Apr. 2014 Senior Managing Executive Officer  
 Jun. 2015 Senior Managing Executive Officer\* (to present)  
 Mar. 2018 President, Environmental Engineering Company (to present)  
 President and Representative Director of EBARA Environmental Plant Co., Ltd.  
 Jan. 2019 Chairman and Representative Director of EBARA Environmental Plant Co., Ltd. (to present)



**Norio Kimura** Managing Executive Officer,  
 Division Executive, Custom Pump Division,  
 Fluid Machinery & Systems Company, Chairman,  
 EBARA MACHINERY ZIBO CO., LTD.

Jul. 1990 Joined the Company  
 Apr. 2009 Executive Officer  
 Apr. 2011 Division Executive, New Business Drive Division, Precision Machinery Company  
 Apr. 2013 Division Executive, Components Division, Precision Machinery Company  
 Apr. 2014 Managing Executive Officer  
 Jun. 2015 Managing Executive Officer\* (to present)  
 Mar. 2016 Chairman, EBARA MACHINERY ZIBO CO., LTD. (to present)  
 Apr. 2016 Head of Custom Pump Business Unit, Fluid Machinery & Systems Company  
 Apr. 2017 Division Executive, Custom Pump Division, Fluid Machinery & Systems Company (to present)



**Nobuharu Noji** Senior Managing Executive Officer,  
 President, Fluid Machinery & Systems Company,  
 Responsible for Chillers Business,  
 Fluid Machinery & Systems Company

Apr. 1984 Joined the Company  
 Apr. 2006 Division Executive, Components Division, Precision Machinery Company  
 Apr. 2008 Executive Officer  
 Apr. 2011 Managing Executive Officer  
 Apr. 2013 Division Executive, Standard Pump Business Division, Operations of Technology and Production, Fluid Machinery & Systems Company  
 Jun. 2013 Director  
 Apr. 2014 Division Executive, Standard Pump Business Division, Fluid Machinery & Systems Company  
 Jun. 2015 Managing Executive Officer, Responsible for Chillers Business, Fluid Machinery & Systems Company (to present)  
 Apr. 2017 Division Executive, Standard Pump Business Unit, Fluid Machinery & Systems Company  
 Mar. 2018 Director  
 Senior Managing Executive Officer\* (to present)  
 President, Fluid Machinery & Systems Company (to present)



**Yoshiaki Okiyama** Managing Executive Officer,  
 Division Executive, Standard Pump Business Division,  
 Fluid Machinery & Systems Company, Chairman,  
 Ebara Machinery (China) Co., Ltd.

Apr. 1983 Joined the Company  
 Apr. 2011 Executive Officer  
 Apr. 2017 Division Executive, Strategy and Technology Management Division, Fluid Machinery & Systems Company  
 Mar. 2018 Executive Officer\*  
 Division Executive, Standard Pump Business Division, Fluid Machinery & Systems Company (to present)  
 Chairman, Ebara Machinery (China) Co., Ltd. (to present)  
 Mar. 2019 Managing Executive Officer\* (to present)



**Akihiko Nagamine** Executive Officer,  
 Division Executive, Finance & Accounting Division

Apr. 1982 Joined EBARA DENSA LTD.  
 Jun. 2006 Director of EBARA DENSA LTD.  
 Jul. 2010 Joined the Company  
 General Manager, Investment and Affiliates Supervision Department, Finance & Corporate Accounting Division  
 Apr. 2014 Division Executive, Finance & Accounting Division (to present)  
 Apr. 2015 Executive Officer  
 Jun. 2015 Executive Officer\* (to present)  
 Responsible for Finance & Accounting, Group Management, and Internal Control



**Toshihiko Miyashita** Executive Officer, Responsible for Compressors and Turbines Business, Fluid Machinery & Systems Company, Deputy CEO of Elliott Group Holdings, Inc.

Apr. 1975 Joined the Company  
 Mar. 2011 President and Representative Director of Elliott Ebara Turbomachinery Corporation  
 Feb. 2014 Deputy COO of Elliott Group Holdings, Inc.  
 Jun. 2015 Executive Officer\* (to present)  
 Responsible for Compressors and Turbines Business, Fluid Machinery & Systems Company (to present)  
 Apr. 2016 Deputy CEO of Elliott Group Holdings, Inc. (to present)



**Shu Nagata** Executive Officer, Division Executive, Corporate Strategic Planning Division and Human Resources Division

Apr. 1990 Joined the Company  
 Oct. 2008 Managing Director of Ebara Pumps Europe S.p.A  
 Apr. 2017 General Manager, Global Sales and Marketing Department, Standard Pump Business Division, Fluid Machinery & Systems Company  
 Mar. 2018 Executive Officer\* (to present)  
 Division Executive, Corporate Strategic Planning Division (to present)  
 Mar. 2019 Division Executive, Human Resources Division (to present)



**Seiji Katsuoka** Executive Officer, Division Executive, CMP Division, Precision Machinery Company

Apr. 1994 Joined the Company  
 Apr. 2009 Executive Officer  
 Division Executive, Semiconductor Equipment Division, Precision Machinery Company  
 Apr. 2011 Division Executive, CMP Division, Precision Machinery Company (to present)  
 Jun. 2016 Executive Officer\* (to present)



**Toru Nakayama** Executive Officer, Division Executive, Legal, Internal Control and Risk Management and General Affairs Division

Sep. 2014 Joined the Company  
 Jan. 2018 Division Executive, Internal Control and Risk Management Division  
 Mar. 2018 Executive Officer\* (to present)  
 Division Executive, Legal, Internal Control and Risk Management and General Affairs Division (to present)



**Akihiro Kida** Executive Officer, Division Executive, System Business Division, Fluid Machinery & Systems Company

Apr. 1984 Joined the Company  
 Apr. 2011 Executive Officer  
 Deputy Head of Domestic Sales, Marketing & Service Business Unit, Fluid Machinery & Systems Company  
 Jun. 2016 Executive Officer\* (to present)  
 Head of Domestic Sales, Marketing & Service Business Unit, Fluid Machinery & Systems Company  
 Apr. 2017 Division Executive, System Business Division, Fluid Machinery & Systems Company (to present)



**Hiroshi Sobukawa** Executive Officer, Responsible for Technologies, R&D & Intellectual Property, Division Executive, Advanced Technology Division, Precision Machinery Company

Apr. 1987 Joined the Company  
 Apr. 2015 Executive Officer  
 Division Executive, Advanced Technology Division, Precision Machinery Company (to present)  
 Apr. 2017 Division Executive of Technologies, R&D Division  
 Mar. 2019 Executive Officer\* (to present)  
 Responsible for Technologies, R&D & Intellectual Property (to present)

\* Indicates *shikkou-yaku*, a Japanese legal term which refers to executive officers who are appointed by the Board of Directors to execute company policy and strategy. The role and legal title of such executive officers are described in the Japanese Companies Act, and as such they bear fiduciary duties to the company.





# 11-Year Financial Summary



EBARA CORPORATION and consolidated subsidiaries (Fiscal year ended March 31, 2009–Fiscal year ended December 31, 2018)  
The occurrence of the irregular nine-month period ended December 31, 2017, is the result of a change in the settlement date used by the Company.  
Please find 12-month reference figures on the right, which include performance data from January to March of the fiscal year ended March 31, 2017.

	2009/3	2010/3	2011/3	2012/3	2013/3
<b>Financial Results:</b>					
Orders	¥481,398	¥426,622	¥430,992	¥394,921	¥428,540
Net sales	501,149	485,889	401,675	412,076	426,302
Operating income	637	18,953	31,541	23,266	25,084
Ordinary income (loss)	(2,383)	16,749	28,750	21,086	25,663
Profit (loss) attributable to owners of parent	(13,113)	5,441	28,191	2,889	15,303
Depreciation and amortization	15,179	15,274	13,523	12,764	12,355
Capital expenditures	23,560	19,484	8,189	12,316	12,302
R&D expenses	8,829	4,977	4,066	3,827	5,025
<b>Financial Position:</b>					
Total assets* <sup>4</sup>	¥562,456	¥522,540	¥507,898	¥488,964	¥504,576
Total net assets	124,263	132,665	154,939	154,653	191,788
Shareholders' equity* <sup>5</sup>	121,411	129,805	151,950	151,060	186,885
Interest-bearing debt	181,555	177,859	160,412	143,617	138,914
Retained earnings	7,315	12,567	40,759	41,750	53,886
<b>Cash Flows:</b>					
Cash flows from operating activities	¥ 17,438	¥ 23,581	¥ 26,604	¥ 12,588	¥ 34,014
Cash flows from investing activities	(2,774)	(17,127)	10,996	(8,837)	(33,130)
Cash flows from financing activities	(3,233)	(5,436)	(14,096)	(19,997)	3,265
Free cash flow	14,664	6,454	37,601	3,750	883
Cash and cash equivalents at the end of the fiscal year	77,194	81,711	104,002	87,294	93,792
<b>Share Data*<sup>6</sup>:</b>					
Number of issued shares (1,000 shares)	422,725	422,725	459,245	422,899	465,118
Cash dividends (yen and U.S. dollars)	—	—	5.00	5.00	5.00
Total return ratio (%)* <sup>7</sup>	—	—	7.5	73.0	13.9
Earnings per share (EPS) (yen and U.S. dollars)* <sup>8</sup>	¥ (31.04)	¥ 12.89	¥ 66.78	¥ 6.85	¥ 35.93
Book value per share (BPS) (yen and U.S. dollars)* <sup>8</sup>	287.44	307.46	360.01	357.79	402.41
<b>Financial Indicators:</b>					
ROIC (%)* <sup>9</sup>	(4.1)	1.8	9.1	1.0	4.9
ROE (%)* <sup>10</sup>	(9.6)	4.3	20.0	1.9	9.1
Debt/equity ratio (times)	1.50	1.37	1.06	0.95	0.74
Operating income to sales ratio (%)	0.1	3.9	7.9	5.6	5.9
Equity ratio (%)	21.6	24.8	29.9	30.9	37.0
Overseas sales ratio (%)	36.1	39.3	44.1	44.0	50.6
<b>Major Non-Financial Indicators:</b>					
Number of employees (persons)	16,102	13,800	14,007	14,695	15,170
Number of overseas employees	5,144	5,894	6,081	6,816	7,264
Overseas employee ratio (%)	32	43	43	46	48
CO <sub>2</sub> emissions (thousands of tons)* <sup>11, 12</sup>	46.6	41.3	41.5	40.7	38.6
Material recycling rate (%)* <sup>11</sup>	95.0	95.8	96.7	98.6	98.6
Landfill disposal rate (%)	3.5	3.6	2.6	1.2	1.2
Water consumption (thousands of m <sup>3</sup> )* <sup>11</sup>	587	642	576	574	608

\*1 The U.S. dollar amounts are included solely for convenience and have been translated as a matter of arithmetical computation only at the rate of ¥111.00=US\$1, the rate of exchange prevailing on December 28, 2018.

\*2 At the General Meeting of Shareholders held on June 23, 2017, it was resolved to change the Company's settlement date from March 31 to December 31. As a result, 2017/12 represents an irregular nine-month period aggregating performance from April 1 to December 31, 2017, for EBARA CORPORATION and consolidated subsidiaries that previously had a settlement date of March 31, and from January 1 to December 31, 2017, for consolidated subsidiaries that previously had a settlement date of December 31.

\*3 Figures for the 12-month period from January 1 to December 31, 2017, have been prepared to allow for performance to be compared across periods of the same length (figures are unaudited).

\*4 The provisional accounting treatment concerning business combinations implemented in the fiscal year ended March 31, 2016, was finalized in the fiscal year ended March 31, 2017, and the finalized details of the provisional accounting treatment have been reflected in total assets for the fiscal year ended March 31, 2016.

\*5 Shareholders' equity: Total net assets – (Subscription rights to shares + Non-controlling interests)

\*6 EBARA CORPORATION conducted a consolidation of common shares at a rate of one share for every five shares with an effective date of October 1, 2016.

Millions of yen						Thousands of U.S. dollars	
2014/3	2015/3	2016/3	2017/3	2017/12*2	12-Month Period Ended December 31, 2017 (Reference Figures)*3	2018/12	2018/12
¥512,276	¥487,553	¥491,280	¥ 477,956	¥ 413,569	¥506,082	¥ 575,576	\$5,185,369
448,657	482,699	486,235	476,104	381,993	507,809	509,175	4,587,162
32,194	34,567	38,011	29,995	18,115	36,649	32,482	292,630
31,311	36,258	36,471	28,464	16,529	35,481	31,281	281,810
18,973	23,580	17,254	20,587	9,531	22,785	18,262	164,522
12,117	13,038	11,610	13,739	11,923	—	15,266	137,531
18,152	15,846	15,729	22,675	12,386	—	19,364	174,450
6,465	6,754	7,632	8,758	7,218	—	10,698	96,378
¥530,211	¥570,392	¥579,860	¥ 588,457	¥ 612,919	—	¥ 591,592	\$5,329,657
215,048	247,553	250,444	277,509	284,788	—	286,778	2,583,585
208,037	239,058	241,016	271,356	277,955	—	279,640	2,519,279
119,672	121,500	120,126	96,531	114,592	—	79,137	712,945
70,629	91,815	102,446	117,883	121,321	—	135,715	1,222,657
¥ 26,615	¥ 11,296	¥ 21,528	¥ 33,816	¥ 44,157	—	¥ 34,610	\$ 311,801
3,540	(15,894)	(14,344)	(18,563)	(7,906)	—	(15,927)	(143,486)
(25,336)	(7,044)	(9,655)	(15,102)	11,296	—	(46,412)	(418,126)
30,155	(4,597)	7,184	15,252	36,250	—	18,682	168,306
102,341	95,604	91,185	90,683	139,102	—	110,556	996,000
465,187	465,644	466,044	101,736	101,783	—	101,957	
7.50	12.00	12.00	36.00	45.00	—	60.00	0.540
18.4	23.6	32.3	28.1	48.0	—	60.5	
¥ 40.86	¥ 50.77	¥ 37.12	¥ 213.71	¥ 93.84	—	¥ 179.94	\$ 1.621
448.05	514.38	518.16	2,672.19	2,735.94	—	2,795.72	25.186
5.8	6.9	4.8	5.6	2.5	—	4.9	
9.6	10.5	7.2	8.0	3.5	—	6.6	
0.58	0.51	0.50	0.36	0.41	—	0.28	
7.2	7.2	7.8	6.3	4.7	7.2	6.4	
39.2	41.9	41.6	46.1	45.3	—	47.3	
52.8	53.6	52.2	52.7	60.1	—	55.0	
15,168	16,030	16,270	16,317	16,219	—	16,556	
7,336	8,165	8,438	8,319	8,343	—	8,678	
48	51	52	51	51	—	52	
37.4	39.0	38.3	39.3	29.9	41.2	38.8	
92.6	98.7	97.2	98.8	98.0	98.1	96.3	
7.0	1.1	2.3	0.9	1.6	1.6	2.8	
628	555	631	623	462	627	524	

\*7 When the annual dividend of ¥36.00 for the fiscal year ended March 31, 2017 (including an interim dividend of ¥6.00), is converted after the consolidation of shares, it is equivalent to ¥60.00 per share, consisting of an interim dividend of ¥30.00 and a year-end dividend of ¥30.00. Accordingly, the total return ratio is calculated based on an annual dividend of ¥60.00 per share.

\*8 EPS is based on the average number of shares outstanding (excluding treasury stock) during the fiscal year. BPS is calculated using the number of shares outstanding (excluding treasury stock) as of the end of the fiscal years.

\*9 ROIC: Profit attributable to owners of parent / (Interest-bearing debt (Average between beginning and end of period) + Shareholders' equity (Average between beginning and end of period))

\*10 ROE: Profit attributable to owners of parent / Shareholders' equity (Average between beginning and end of period)

\*11 Figures are for EBARA CORPORATION and domestic consolidated subsidiaries.

\*12 The Company uses the emissions coefficient of 0.357 kg/kWh set in 2000.

# Consolidated Financial Statements

## Consolidated Balance Sheets

	Millions of yen				
	2015/3	2016/3	2017/3	2017/12	2018/12
<b>ASSETS</b>					
Current Assets					
Cash and deposits	¥ 94,323	¥ 89,589	¥ 90,381	¥138,475	<b>¥110,610</b>
Notes and accounts receivable-trade	209,864	216,310	202,874	169,298	<b>176,895</b>
Electronically recorded monetary claims	156	727	4,511	6,021	<b>6,990</b>
Securities	5,186	4,599	2,498	2,411	<b>1,668</b>
Merchandise and finished goods	12,851	13,060	12,716	15,191	<b>18,082</b>
Work in process	41,848	47,163	56,569	60,993	<b>65,845</b>
Raw materials and supplies	25,491	28,740	28,041	33,353	<b>38,731</b>
Deferred tax assets	13,100	12,505	11,644	10,484	<b>8,309</b>
Others	14,628	13,994	17,419	14,954	<b>14,714</b>
Allowance for doubtful accounts	(2,370)	(3,233)	(3,250)	(3,694)	<b>(3,308)</b>
Total current assets	415,080	423,458	423,407	447,491	<b>438,540</b>
Fixed Assets					
Tangible fixed assets					
Buildings and structures, net	43,247	41,781	46,431	47,005	<b>44,269</b>
Machinery and equipment, net	24,850	26,823	28,974	28,632	<b>28,599</b>
Land	21,083	21,265	21,153	20,904	<b>19,810</b>
Construction in progress	6,633	7,960	5,207	5,830	<b>7,558</b>
Others, net	6,454	7,341	8,364	7,853	<b>7,640</b>
Total tangible assets	102,270	105,171	110,131	110,227	<b>107,879</b>
Intangible assets					
Goodwill	1,426	2,638	2,279	1,831	<b>1,148</b>
Software	5,813	5,755	8,275	7,370	<b>6,584</b>
Others	2,356	2,806	2,679	2,879	<b>2,937</b>
Total intangible assets	9,596	11,200	13,234	12,080	<b>10,670</b>
Investments and other assets					
Investment securities	28,609	26,662	26,202	25,226	<b>22,301</b>
Long-term loans receivable	850	802	263	262	<b>153</b>
Defined benefit asset	29	31	118	3,202	<b>3,038</b>
Deferred tax assets	7,594	5,921	2,660	1,742	<b>4,572</b>
Others	10,077	11,411	17,237	17,088	<b>9,623</b>
Allowance for doubtful accounts	(3,717)	(4,800)	(4,799)	(4,403)	<b>(5,187)</b>
Total investments and other assets	43,445	40,029	41,683	43,120	<b>34,503</b>
Total fixed assets	155,311	156,401	165,049	165,428	<b>153,052</b>
Total Assets	¥570,392	¥579,860	¥588,457	¥612,919	<b>¥591,592</b>

	Millions of yen				
	2015/3	2016/3	2017/3	2017/12	2018/12
<b>LIABILITIES</b>					
Current Liabilities					
Notes and accounts payable-trade	¥ 81,121	¥ 68,905	¥ 64,155	¥ 61,756	¥ 63,320
Electronically recorded obligations	29,944	47,550	55,922	57,869	62,854
Current portion of bonds	—	—	—	10,000	—
Short-term loans payable	64,906	77,714	62,789	70,470	46,766
Income taxes payable	1,792	4,128	4,598	1,697	4,598
Deferred tax liabilities	0	—	3	0	—
Bonus payment reserve	9,036	9,200	9,172	5,460	6,263
Directors' bonus payment reserve	273	311	314	250	344
Reserve for losses on construction completion guarantees	4,346	3,889	3,836	3,279	4,873
Reserve for product warranties	2,906	3,506	3,481	4,086	5,118
Reserve for construction losses	6,326	7,748	8,666	10,038	12,374
Reserve for expenses related to the sales of land	1,843	254	254	254	254
Others	41,729	36,391	41,022	45,529	51,782
Total current liabilities	244,228	259,600	254,217	270,691	258,550
Long-Term Liabilities					
Bonds payable	10,000	10,000	10,000	10,000	10,000
Bonds with share acquisition rights	19,994	19,988	—	—	—
Long-term loans payable	24,644	9,870	21,520	22,161	20,730
Deferred tax liabilities	341	745	808	1,898	25
Reserve for directors' retirement benefits	208	160	153	122	116
Provision for loss on litigation	—	6,457	6,464	6,464	—
Defined benefit liability	17,197	16,681	12,556	11,841	10,681
Asset retirement obligations	1,857	1,899	1,969	2,214	2,245
Others	4,367	4,011	3,257	2,734	2,464
Total long-term liabilities	78,610	69,815	56,730	57,439	46,264
Total Liabilities	322,838	329,416	310,948	328,131	304,814
<b>NET ASSETS</b>					
Shareholders' Equity					
Common stock	68,697	68,760	78,764	78,815	79,066
Capital surplus	72,627	72,691	81,205	81,256	80,296
Retained earnings	91,815	102,446	117,883	121,321	135,715
Treasury stock	(397)	(408)	(425)	(431)	(5,439)
Total shareholders' equity	232,742	243,490	277,428	280,962	289,639
Accumulated Other Comprehensive Income					
Net unrealized gains (losses) on investment securities	5,324	2,739	2,692	2,564	381
Deferred gains (losses) on hedges	73	(12)	(1)	10	(57)
Translation adjustments	10,742	5,878	745	2,628	(1,226)
Remeasurements of defined benefit plans	(9,824)	(11,080)	(9,507)	(8,210)	(9,096)
Total accumulated other comprehensive income	6,316	(2,473)	(6,071)	(3,007)	(9,999)
Subscription Rights to Shares	730	952	1,361	1,163	1,152
Non-Controlling Interests	7,764	8,475	4,791	5,668	5,985
Total Net Assets	247,553	250,444	277,509	284,788	286,778
Total Liabilities and Net Assets	¥570,392	¥579,860	¥588,457	¥612,919	¥591,592

## Consolidated Statements of Income

	Millions of yen				
	2015/3	2016/3	2017/3	2017/12*	2018/12
Net Sales	¥482,699	¥486,235	¥476,104	¥381,993	<b>¥509,175</b>
Cost of Sales	356,424	353,344	350,032	285,261	<b>376,021</b>
Gross Profit	126,275	132,891	126,072	96,732	<b>133,154</b>
Selling, General and Administrative Expenses					
Sales commission	4,056	3,954	3,578	2,503	<b>3,385</b>
Packing and transportation	5,538	5,904	5,554	4,575	<b>6,909</b>
Sales promotion	1,920	1,827	1,781	1,620	<b>1,510</b>
Provision of allowance for doubtful accounts	606	2,147	447	185	<b>616</b>
Personnel expenses	41,468	40,929	40,584	33,847	<b>43,373</b>
Bonus payment reserve expenses	3,573	3,499	3,572	2,106	<b>2,263</b>
Directors' bonus payment reserve expenses	246	291	280	233	<b>324</b>
Retirement benefit expenses	1,217	1,146	1,380	1,107	<b>1,543</b>
Provision for directors' retirement benefits	72	40	30	25	<b>34</b>
Traveling and transportation expenses	4,222	3,881	3,671	3,253	<b>3,945</b>
Taxes and dues	1,900	2,183	3,011	2,446	<b>2,931</b>
Depreciation and amortization	4,012	3,819	4,188	3,656	<b>4,704</b>
Amortization of goodwill	345	351	587	416	<b>345</b>
R&D expenses	6,754	7,632	8,758	7,218	<b>10,698</b>
Others	15,771	17,271	18,646	15,420	<b>18,087</b>
Total selling, general and administrative expenses	91,708	94,879	96,076	78,616	<b>100,672</b>
Operating Income	34,567	38,011	29,995	18,115	<b>32,482</b>
Non-Operating Income					
Interest income	219	223	216	273	<b>311</b>
Dividends income	482	489	559	169	<b>752</b>
Share of profit of entities accounted for using equity method	871	1,108	796	—	<b>565</b>
Foreign exchange gains	1,597	—	—	—	<b>—</b>
Others	920	535	509	495	<b>1,000</b>
Total non-operating income	4,090	2,357	2,082	937	<b>2,629</b>
Non-Operating Expenses					
Interest expenses	1,281	1,205	1,184	1,136	<b>1,517</b>
Share of loss of entities accounted for using equity method	—	—	—	148	<b>—</b>
Foreign exchange losses	—	1,845	1,070	49	<b>1,452</b>
Taxes and dues related to overseas projects	221	—	—	—	<b>—</b>
Others	896	846	1,358	1,188	<b>861</b>
Total non-operating expenses	2,399	3,897	3,613	2,523	<b>3,830</b>
Ordinary Income	36,258	36,471	28,464	16,529	<b>31,281</b>
Extraordinary Income					
Gain on sales of fixed assets	656	77	409	2,209	<b>401</b>
Gain on sales of investment securities	251	380	1,978	1,352	<b>804</b>
Reversal of reserve for expenses related to the sales of land	—	1,589	—	—	<b>—</b>
Gain on sales of investments in capital	—	—	289	—	<b>—</b>
Others	7	1	—	—	<b>—</b>
Total extraordinary income	916	2,049	2,677	3,561	<b>1,205</b>
Extraordinary Loss					
Loss on sales of fixed assets	45	15	25	176	<b>319</b>
Loss on retirement of fixed assets	218	99	126	269	<b>827</b>
Impairment loss	50	260	—	952	<b>2,627</b>
Loss on sales of investment securities	—	—	56	33	<b>0</b>
Loss on valuation of investment securities	—	—	435	103	<b>—</b>
Loss on valuation of investments in capital	70	—	—	—	<b>128</b>
Provision for loss on litigation	—	6,457	—	—	<b>1,257</b>
Others	0	2	0	1	<b>22</b>
Total extraordinary loss	385	6,834	645	1,537	<b>5,183</b>
Income Before Income Taxes	36,788	31,686	30,497	18,554	<b>27,303</b>
Income Taxes-Current	8,439	9,581	5,546	6,324	<b>7,148</b>
Income Taxes-Deferred	3,024	3,207	3,299	1,908	<b>468</b>
Total Income Taxes	11,463	12,789	8,845	8,232	<b>7,617</b>
Profit	25,324	18,896	21,651	10,322	<b>19,685</b>
Profit Attributable to Non-Controlling Interests	1,743	1,642	1,063	790	<b>1,423</b>
Profit Attributable to Owners of Parent	¥ 23,580	¥ 17,254	¥ 20,587	¥ 9,531	<b>¥ 18,262</b>

\* The occurrence of the irregular nine-month period ended December 31, 2017, is the result of a change in the settlement date used by the Company.

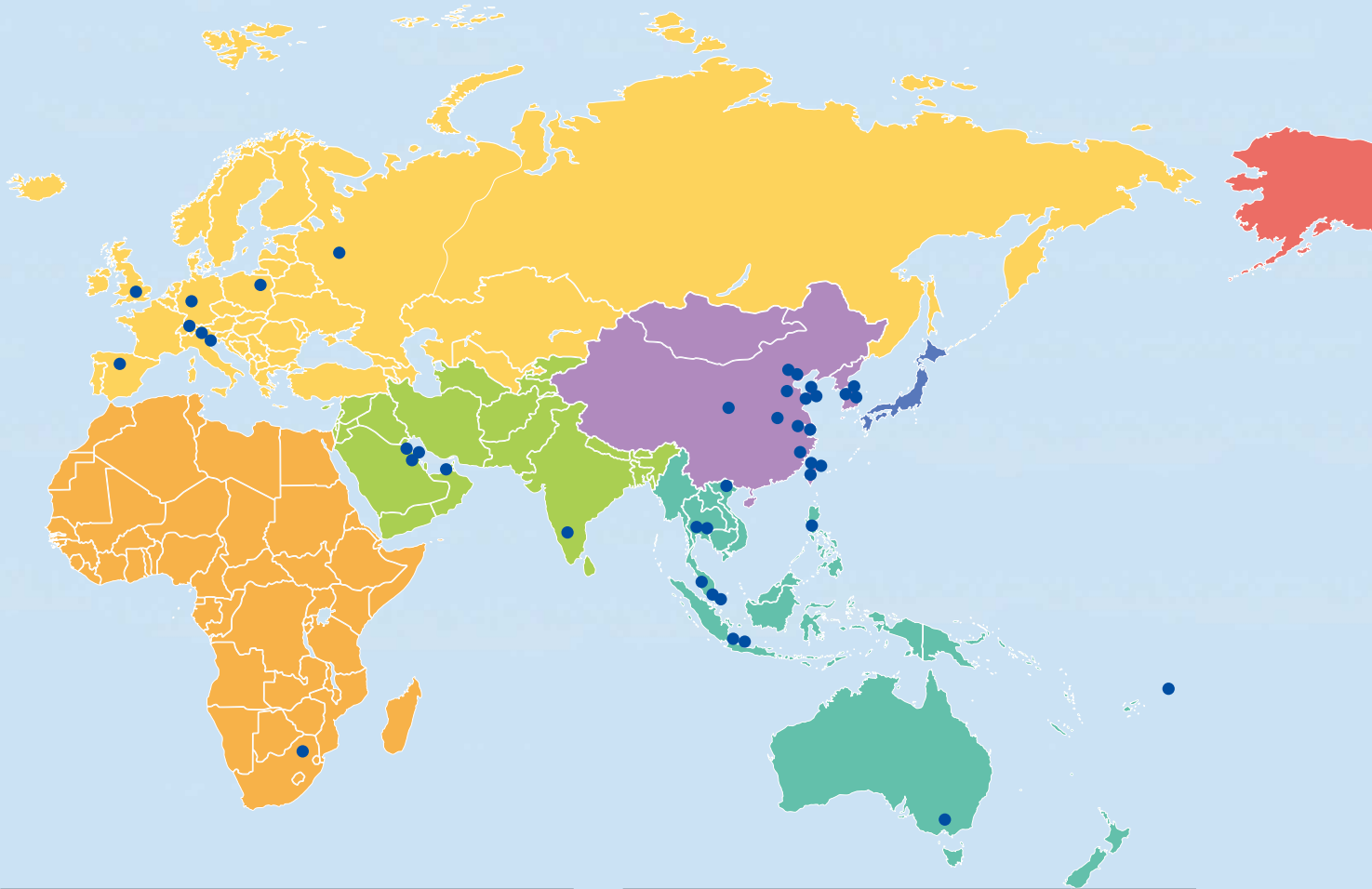


## Consolidated Statements of Cash Flows

	Millions of yen				
	2015/3	2016/3	2017/3	2017/12*	2018/12
<b>Cash Flows from Operating Activities</b>					
Income before income taxes	¥ 36,788	¥ 31,686	¥ 30,497	¥ 18,554	¥ 27,303
Depreciation and amortization	13,038	11,610	13,739	11,923	15,266
Impairment loss	50	260	—	952	2,627
Loss (gain) on sales of securities and investment securities	(251)	(380)	(1,922)	(1,318)	(803)
Loss (gain) on sales of investments in capital	—	—	(289)	—	—
Increase (decrease) in reserve	1,348	8,516	744	(2,339)	48
Increase (decrease) in net defined benefit liability	(1,810)	(3,594)	(2,242)	(3,456)	(2,571)
Loss (gain) on sales of fixed assets	(611)	(61)	(384)	(2,032)	(81)
Interest and dividends income	(700)	(713)	(775)	(442)	(1,064)
Interest expenses	1,281	1,205	1,184	1,136	1,517
Decrease (increase) in notes and accounts receivable-trade	(18,568)	(9,858)	7,344	33,728	(10,674)
Decrease (increase) in inventories	(5,766)	(10,071)	(9,136)	(11,403)	(14,854)
Increase (decrease) in notes and accounts payable-trade	3,118	6,126	3,430	(188)	6,774
Increase /decrease in other assets / liabilities	(5,968)	(5,951)	(3,784)	7,634	15,795
Other loss (gain)	1,833	(1,010)	771	1,049	563
<b>Subtotal</b>	<b>23,782</b>	<b>27,763</b>	<b>39,175</b>	<b>53,798</b>	<b>39,847</b>
Interest and dividends received	1,648	716	1,181	1,133	1,064
Interest expenses paid	(1,290)	(1,264)	(1,202)	(1,183)	(1,529)
Income taxes paid	(12,843)	(5,686)	(5,338)	(9,590)	(4,771)
<b>Net cash provided by operating activities</b>	<b>11,296</b>	<b>21,528</b>	<b>33,816</b>	<b>44,157</b>	<b>34,610</b>
<b>Cash Flows from Investing Activities</b>					
Purchase of fixed assets	(15,000)	(12,498)	(21,591)	(12,380)	(18,570)
Proceeds from sales of fixed assets	1,005	109	550	2,400	1,738
Purchase of securities and investment securities	(15,494)	(10,846)	(8,797)	(3,523)	(4,578)
Proceeds from sales and redemption of securities and investment securities	12,880	11,166	12,086	5,543	5,568
Payments into time deposits	(1,158)	(1,048)	(2,637)	(1,982)	(1,946)
Proceeds from withdrawal of time deposits	809	1,047	1,839	1,906	1,902
Payments of loans receivable	(1,688)	(317)	(117)	(19)	(155)
Collection of loans receivable	2,727	459	762	108	167
Purchase of shares of subsidiaries	(9)	—	—	—	—
Proceeds from or payments for purchase or sales of shares of subsidiaries resulting in change in scope of consolidation	—	(2,130)	—	—	—
Others	31	(285)	(661)	40	(54)
<b>Net cash used in investing activities</b>	<b>(15,894)</b>	<b>(14,344)</b>	<b>(18,563)</b>	<b>(7,906)</b>	<b>(15,927)</b>
<b>Cash Flows from Financing Activities</b>					
Net increase (decrease) in short-term loans payable	3,314	(1,349)	2,501	7,083	(22,498)
Proceeds from long-term loans payable	4,133	4,678	14,079	3,026	689
Repayment of long-term loans payable	(8,830)	(5,110)	(19,615)	(2,078)	(2,462)
Proceeds from issuance of bonds	—	—	—	10,000	—
Redemption of bonds	—	—	(22)	—	(10,000)
Proceeds from issuance of common stock	0	0	0	0	0
Proceeds from disposal or purchase of treasury shares	(10)	(10)	(17)	(5)	(5,008)
Cash dividends paid	(4,063)	(6,623)	(5,582)	(6,093)	(4,575)
Cash dividends paid to non-controlling interests	(868)	(465)	(458)	(4)	(414)
Payments from changes in ownership interests in subsidiaries that do not result in change in scope of consolidation	—	—	(5,169)	—	(1,333)
Others	(719)	(775)	(817)	(631)	(809)
<b>Net cash provided by (used in) financing activities</b>	<b>(7,044)</b>	<b>(9,655)</b>	<b>(15,102)</b>	<b>11,296</b>	<b>(46,412)</b>
<b>Effect of Exchange Rate Changes on Cash and Cash Equivalents</b>	<b>4,075</b>	<b>(1,948)</b>	<b>(1,187)</b>	<b>871</b>	<b>(1,324)</b>
<b>Increase (Decrease) in Cash and Cash Equivalents</b>	<b>(7,566)</b>	<b>(4,419)</b>	<b>(1,037)</b>	<b>48,419</b>	<b>(29,054)</b>
<b>Cash and Cash Equivalents at Beginning of Period</b>	<b>102,341</b>	<b>95,604</b>	<b>91,185</b>	<b>90,683</b>	<b>139,102</b>
<b>Increase (Decrease) in Cash and Cash Equivalents Resulting from Change in Scope of Consolidation</b>	<b>829</b>	<b>—</b>	<b>536</b>	<b>—</b>	<b>507</b>
<b>Cash and Cash Equivalents at End of Period</b>	<b>¥ 95,604</b>	<b>¥ 91,185</b>	<b>¥ 90,683</b>	<b>¥139,102</b>	<b>¥110,556</b>

# EBARA Group's Global Network

(As of December 31, 2018)



## Europe

- EBARA PUMPS IBERIA, S.A. □◇
- Elliott Turbomachinery Limited □△
- Elliott Turbomachinery S.A. □△
- Ebara Precision Machinery Europe GmbH □△
- Ebara Pumps Europe S.p.A. □◇△
- Sumoto S.r.l. □◇△
- Ebara Pompy Polska sp. z o.o. □
- EBARA Pumps RUS Limited Liability Company □△

## Africa

- EBARA PUMPS SOUTH AFRICA (PTY) LTD □△

## Middle East & South Asia

- ELLIOTT GAS Services Saudi Arabia Limited □△
- EBARA PUMPS SAUDI ARABIA LLC\* □△
- Elliott Ebara Middle East Maintenance S.P.C. △
- Ebara Pumps Middle East FZE □△
- Elliott Ebara Turbomachinery India Pvt. Ltd. □△

## Southeast Asia & Oceania

- Ebara (Thailand) Limited □△
- Ebara Thermal Systems (Thailand) Co., Ltd. □△
- Ebara Pumps Malaysia Sdn. Bhd. □△
- Ebara Engineering Singapore Pte. Ltd. □△
- Elliott Ebara Singapore Pte. Ltd. □△
- PT. Ebara Indonesia □◇△
- PT. Ebara Turbomachinery Services Indonesia\* △
- Ebara Vietnam Pump Company Limited □◇△
- Ebara Pumps Philippines, Inc. □◇△
- Ebara Pumps Australia Pty. Ltd. □△
- Ebara Densan (Taiwan) Samoa Mfg. Co., Ltd. ○

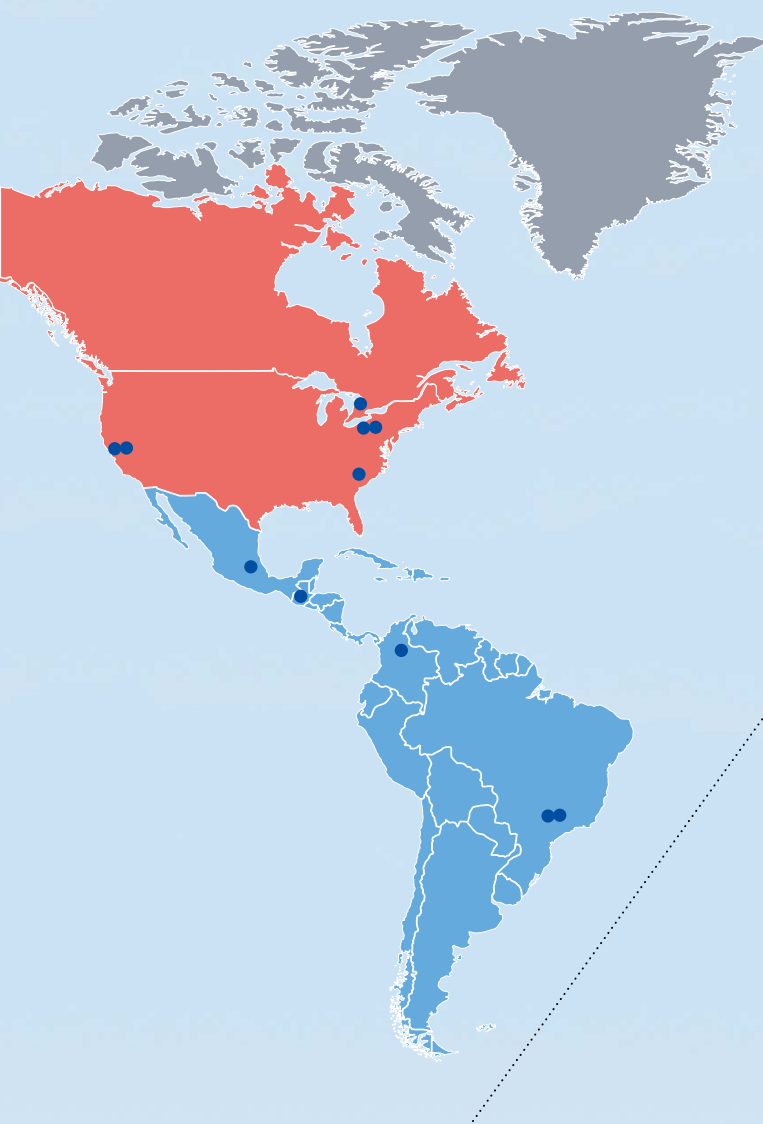
## East Asia

- Xian Ebara Precision Machinery □△
- Ebara Machinery (China) □◇△
- Elliott Turbomachinery Services (Tianjin) △
- HEFEI EBARA PRECISION MACHINERY □△
- Ebara Machinery Zibo □◇△
- Ebara Densan (Qingdao) Technology □◇△
- Ebara Densan (Kunshan) Mfg. ◇△
- Ebara Great Pumps □◇△
- Ebara Qingdao □◇△
- EBARA REFRIGERATION EQUIPMENT&SYSTEMS (CHINA) □◇△
- Shanghai Ebara Precision Machinery □△
- Ebara Precision Machinery Taiwan Incorporated □△
- Ebara-Elliott Service (Taiwan) △
- Ebara-Densan Taiwan Manufacturing □◇△
- Ebara Fluid Machinery Korea Co., Ltd. □△
- Elliott Korea Co., Ltd. □△
- Ebara Precision Machinery Korea Incorporated □△

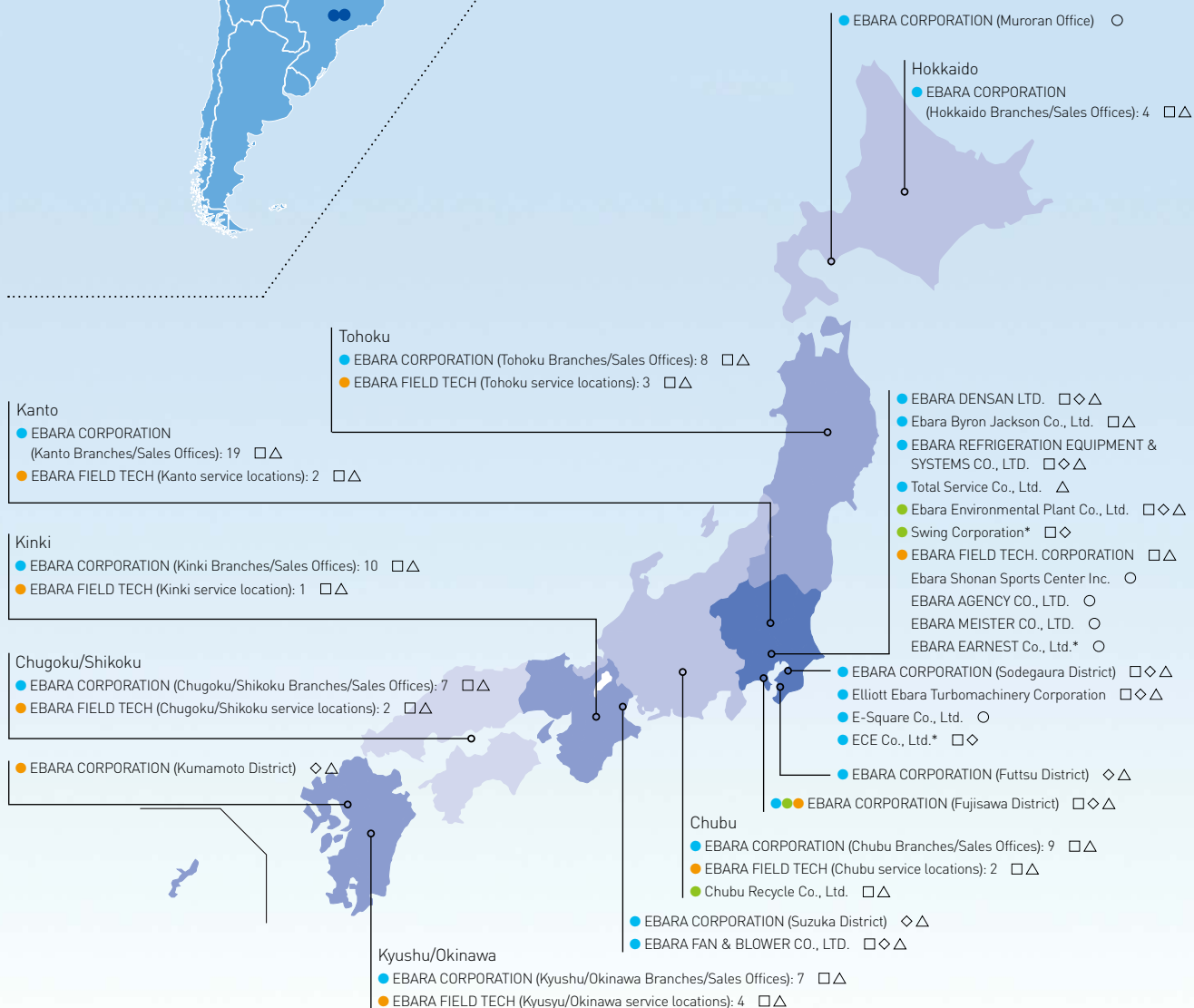
- Fluid Machinery & Systems Business
- Environmental Plants Business
- Precision Machinery Business

- Sales
- ◇ Manufacturing and engineering
- △ S&S
- Other

\* Non-consolidated



North America	
Ebara America Corporation	○
Ebara Technologies Incorporated	□△
EBARA PUMPS AMERICAS CORPORATION	□△
Elliott Company	□◇△
Elliott Overseas Corporation	○
Elliott Turbomachinery Canada, Inc.	△
Latin America	
Elliott Turbomachinery S.A. de C.V.	△
Elliott Turbocharger Guatemala, S.A.	△
Ebara Bombas Colombia S.A.S.*	□△
EBARA BOMBAS AMÉRICA DO SUL LTDA.	□◇△
Elliott Ebara Servicios para Equipamentos Rotativos Ltda.	□△



# News Topics in the Fiscal Year Ended December 31, 2018

This page provides a look at some of the major activities and achievements that were not covered in this report.

January	<b>Start of new fiscal year after change in settlement date</b>		
The President and Representative Executive Officer announced his commitment to the accomplishment of the targets of E-Plan 2019 and the themes for work style reforms. Details (in Japanese only) <a href="https://www.ebara.co.jp/about/corporate/news_media/news/details/1221152_2595.html">https://www.ebara.co.jp/about/corporate/news_media/news/details/1221152_2595.html</a>		1	
March	<b>Ordinary General Meeting of Shareholders for the nine-month period ended December 31, 2017</b>	2	
The Ordinary General Meeting of Shareholders was held on March 28, 2018. Details <a href="https://www.ebara.co.jp/en/about/ir/stock/shareholdersmeeting/index.html">https://www.ebara.co.jp/en/about/ir/stock/shareholdersmeeting/index.html</a>		3	
May	<b>Shipment of 150,000 dry vacuum pumps from Fujisawa Plant</b>	4	
This accomplishment was a product of our 32 years of diligent effort since the shipment of the first dry vacuum pump from the Fujisawa Plant in 1986. Details <a href="https://www.ebara.co.jp/en/about/corporate/news_media/news/details/1223302_2936.html">https://www.ebara.co.jp/en/about/corporate/news_media/news/details/1223302_2936.html</a>		5	
July	<b>Participation in TELESWORK DAYS</b>	6	
We participated in TELESWORK DAYS as one facet of work style reforms. Details (in Japanese only) <a href="https://www.ebara.co.jp/about/csr/social/environment/index.html#anc122751">https://www.ebara.co.jp/about/csr/social/environment/index.html#anc122751</a>		7	
September	<b>Receipt of special judges award for turbo chillers using new coolants in 21st Ozone Preservation and Global Warming Prevention Award sponsored by NIKKAN KOGYO SHIMBUN, LTD.</b>	8	
Factors considered when presenting EBARA with this award included the turbo chillers' use of coolants with low global warming potential and highly efficient operation. Details (in Japanese only) <a href="https://www.ebara.co.jp/about/corporate/news_media/news/details/1225601_2595.html">https://www.ebara.co.jp/about/corporate/news_media/news/details/1225601_2595.html</a>		9	
November	<b>Commencement of construction of dry vacuum pump and gas abatement system test development facilities in the Fujisawa District</b>	10	
These facilities are being constructed to help EBARA address the diverse needs of customers in the semiconductor industry. Details <a href="https://www.ebara.co.jp/en/about/corporate/news_media/news/details/1226452_2936.html">https://www.ebara.co.jp/en/about/corporate/news_media/news/details/1226452_2936.html</a>		11	
February	<b>CSR training for EBARA Group management</b>		
CSR training sessions have been held for EBARA Group management every year since 2005. The theme of the training held in the fiscal year ended December 31, 2018, was ESG investment and integrated thinking.			
April	<b>Pump production capacity increase in Italy (Transfer to new factory)</b>		
Pump production operations were transferred to a new factory with double the floor space of the previous factory. Details <a href="https://www.ebara.co.jp/en/about/corporate/news_media/news/details/1222851_2936.html">https://www.ebara.co.jp/en/about/corporate/news_media/news/details/1222851_2936.html</a>			
June	<b>First Company presentation meeting for private investors in 2018</b>		
The first of four Company presentation meetings for private investors conducted in 2018 took place in June. Details (in Japanese only) <a href="https://www.ebara.co.jp/about/ir/Shareholder/index.html">https://www.ebara.co.jp/about/ir/Shareholder/index.html</a>			
August	<b>Pump technology seminar in Thailand</b>		
A seminar funded by the EBARA Hatakeyama Memorial Fund (established 1989) was held. Seven such seminars took place in 2018.			
October	<b>Start of construction of Chubu Factory of EBARA FIELD TECH. (in Suzuka City)</b>		
The fourth dry vacuum pump overhaul factory was established to bolster S&S systems. Details <a href="https://www.ebara.co.jp/en/about/corporate/news_media/news/details/1225852_2936.html">https://www.ebara.co.jp/en/about/corporate/news_media/news/details/1225852_2936.html</a>			
December	<b>Start of operations at Otsuki Biomass Power Plant</b>		
EBARA will seek to construct high-quality woody biomass power generation plants and to deliver impeccable services related to these facilities. We hope to thereby help combat global warming through spreading the use of renewable energy.			

# Corporate Profile / Stock Information

(As of December 31, 2018)

## Corporate Profile

Company Name:	EBARA CORPORATION
Foundation:	November 1912
Head Office:	11-1, Haneda Asahi-cho, Ota-ku, Tokyo 144-8510, Japan
Phone:	81-3-3743-6111
URL:	<a href="https://www.ebara.co.jp/en">https://www.ebara.co.jp/en</a>
Paid-in Capital:	¥79,066 million
Number of Employees (Consolidated):	16,556

## Stock Information

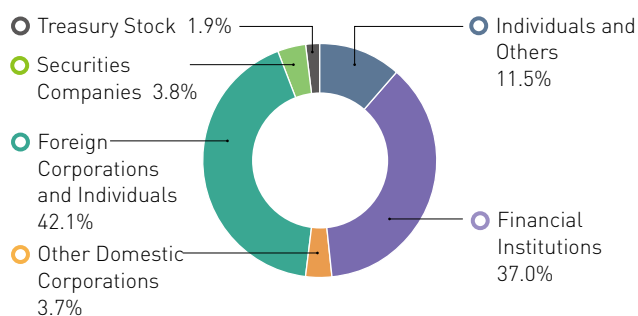
Securities Code:	6361 (Japan)
Number of Shares Issued:	101,957,853
Number of Shareholders:	22,234
Stock Listing:	Tokyo Stock Exchange
Number of Shares Constituting One Unit:	100
Transfer Agent and Registrar:	Sumitomo Mitsui Trust Bank, Limited 1-4-1, Marunouchi, Chiyoda-ku, Tokyo 100-8233, Japan
Accounting Auditor:	Ernst & Young ShinNihon LLC
Major Indices:	Nikkei 225, JPX-Nikkei Index 400

## Major Shareholders

Name	Shareholding ratio (%)
Japan Trustee Services Bank, Ltd. (Trust Account)	10.3
ICHIGO TRUST PTE. LTD.	8.0
Japan Trustee Services Bank, Ltd. (Trust Account)	6.5
THE BANK OF NEW YORK MELLON 140042	4.2
National Mutual Insurance Federation of Agricultural Cooperatives	2.1
Mizuho Bank, Ltd.	2.0
Japan Trustee Services Bank, Ltd. (Trust Account 5)	1.7
HSBC TRINKAUS AND BURKHARDT AG RE: DE-CLTS A/C RE AIF	1.7
Japan Trustee Services Bank, Ltd. (Trust Account 7)	1.5
JP MORGAN CHASE BANK 385151	1.5

Note: Treasury stock has been eliminated from the total number of shares issued in calculating the shareholding ratio.

## Composition of Shareholders



## External Recognition Based on ESG Factors

EBARA CORPORATION has been selected for inclusion in several ESG indexes by various domestic and overseas ESG ratings institutions.

### FTSE4Good Index Series



FTSE4Good

### FTSE Blossom Japan Index



FTSE Blossom  
Japan

### MSCI Japan Empowering Women Index (WIN)



MSCI Japan Empowering  
Women Index (WIN)

### MSCI Japan ESG Select Leaders Index



MSCI Japan ESG  
Select Leaders Index

Note: THE INCLUSION OF EBARA CORPORATION IN ANY MSCI INDEX, AND THE USE OF MSCI LOGOS, TRADEMARKS, SERVICE MARKS OR INDEX NAMES HEREIN, DO NOT CONSTITUTE A SPONSORSHIP, ENDORSEMENT OR PROMOTION OF EBARA CORPORATION BY MSCI OR ANY OF ITS AFFILIATES. THE MSCI INDEXES ARE THE EXCLUSIVE PROPERTY OF MSCI. MSCI AND THE MSCI INDEX NAMES AND LOGOS ARE TRADEMARKS OR SERVICE MARKS OF MSCI OR ITS AFFILIATES.



Looking ahead,  
going beyond expectations  
*Ahead* ➤ *Beyond*



**EBARA** CORPORATION

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Phone: 81-3-3743-6111 FAX: 81-3-5736-3105

URL: <https://www.ebara.co.jp/en>