

Looking ahead,  
going beyond expectations  
*Ahead Beyond*

EBARA Group Integrated Report 2018



## EBARA Group Integrated Report 2018



**EBARA** CORPORATION

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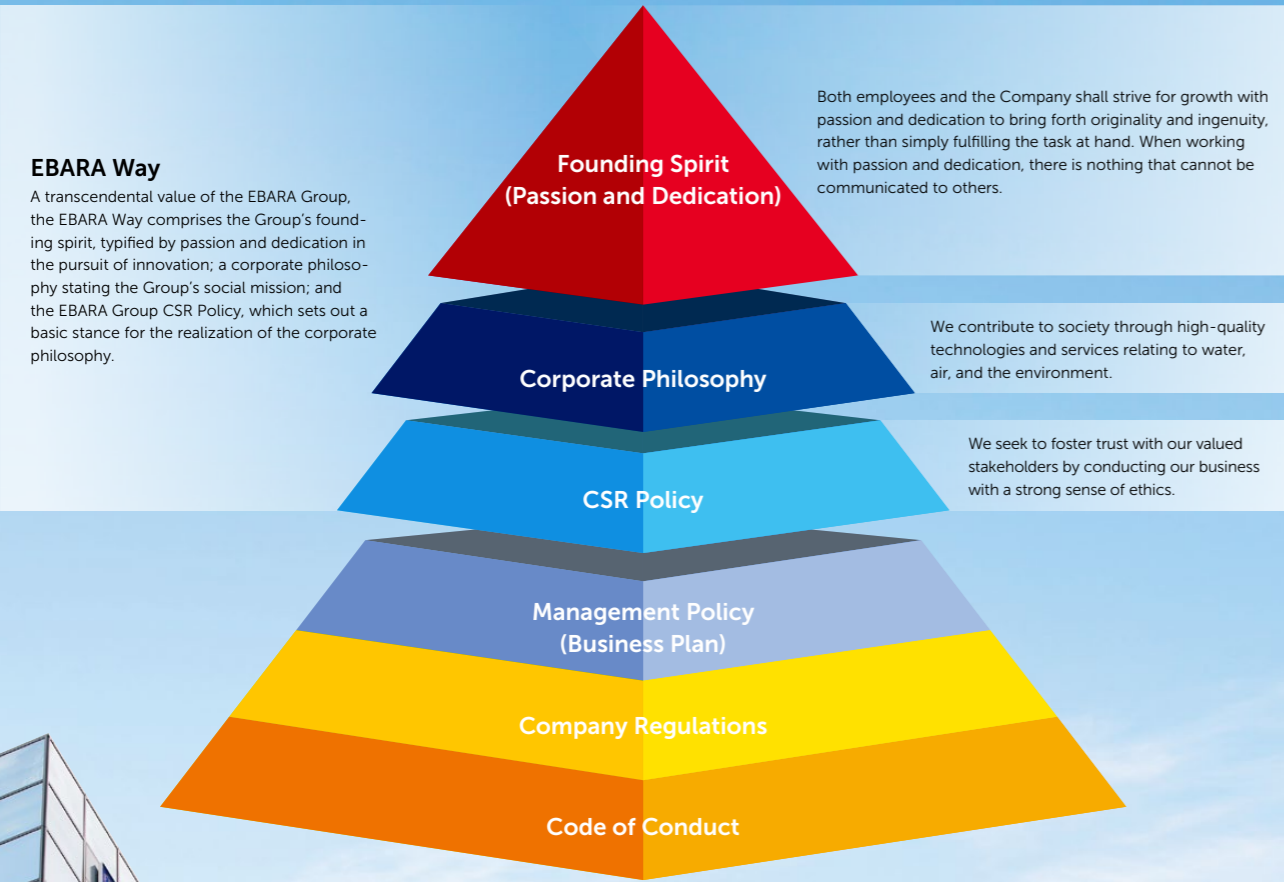


# EBARA Way

## 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,” the EBARA Group will create new value.

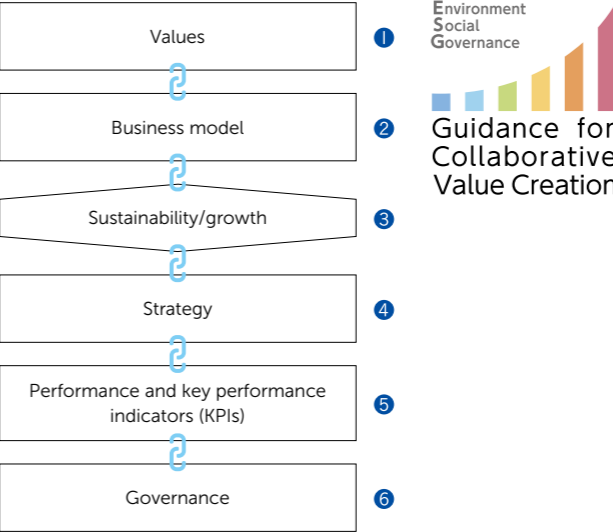
EBARA Group Business Ethics Framework



REFERENCE EBARA Group Business Ethics Framework  
<https://www.ebara.co.jp/en/about/corporate/about/ebara/index.html>

Information Regarding Integrated Report 2018

**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. We have created the report 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.



**Company References**  
“EBARA” and “the Company” refer to EBARA CORPORATION while “the EBARA Group” and “the Group” refer to EBARA CORPORATION and its domestic and overseas subsidiaries and affiliates

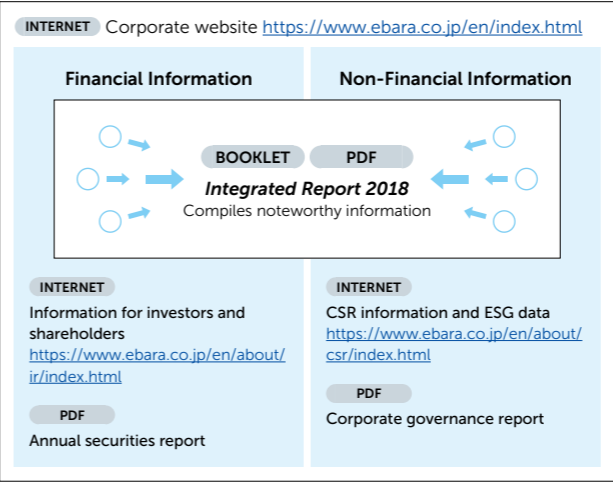
**Target Readers**  
All stakeholders of the EBARA Group

**Reporting Period**  
The nine-month period ended December 31, 2017 (April 1, 2017, to December 31, 2017)(The irregular nine-month period is the result of a change in the settlement date used by the Company. This report contains some information from after January 2018.)

**Scope of Reporting**  
EBARA CORPORATION and the 89 subsidiaries (of which 57 are consolidated subsidiaries) and eight affiliates that collectively comprise the EBARA Group (as of December 31, 2017); notice will be provided when the scope of data collection differs

**Publication Date**  
November 2018 (2017 edition: December 2017; 2019 edition: October 2019 (tentative))

**Communication Tools**



To contact EBARA CORPORATION, please click “Contact” on the upper righthand corner of the Company’s corporate website.

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## WHAT'S EBARA? EBARA'S SPIRIT

### FOUNDING SPIRIT

#### *"Netsu to Makoto"* (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.

आपल सर्वोत्तम देण्याकरिता स्वतःला  
नेहमीच आव्हान देण.  
Always challenging ourselves to  
give our best.

勇気をもって挑み、  
最後までやり抜く信念と姿勢があれば、  
どんなハードルも乗り越えることができる  
Moved by courage and a dedication to  
persevere, EBARA will overcome any  
obstacle.

Utilizing our over 100-year history  
to create and provide services and  
technologies that unfailingly  
support daily life.

複雑な課題に直面しても臆することなく、  
培った知識や経験をフルに活かし、  
チームプレーによって  
より大きな成果を導き出す  
Never faltering, even when faced with  
difficult issues, we harness our insight  
and experience to achieve great  
success as a team.

用诚意树立品牌形象，  
用最新的技术打造未来，  
让世界都知道荏原  
A drive to be known throughout the  
world for integrity and cutting-edge  
technology that shapes the future.

部門や職掌の垣根を越えて、  
一丸となって課題解決に邁進する  
Taking on challenges as a team that  
coordinates across division and  
organization lines to deliver results.

기업의 이익을 창출하여 사회의  
기반을 든든하게 받치고 모든 이들의  
삶을 풍요롭게 하고자 노력합니다.  
Helping build robust social infrastructure  
to enrich the lives of people around  
the world, committed to profit.

# WHAT'S EBARA? EBARA'S BUSINESS

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 urban waste incineration plants and other 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 through the provision of products and services to our customers.

Consolidated Net Sales  
**¥381.9 billion**  
(¥507.8 billion)

Consolidated Operating Income  
**¥18.1 billion**  
(¥36.6 billion)

Note: EBARA changed its settlement date to December 31, 2017, resulting in an irregular nine-month reporting period ended December 31, 2017. Figures in parentheses ( ) are twelve-month reference data and include January to March of the fiscal year ended March 31, 2017.

## Fluid Machinery & Systems Business

The Fluid Machinery & Systems Business supplies products and services that combine our world-class technological capabilities and extensive experience to address customer needs and support social and industrial infrastructure around the world.

### Pumps Business

The 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, and industrial facilities, etc.

### Compressors and Turbines Business

The compressors and turbines business provides compressors and turbines for oil refineries and petrochemical plants.

### Chillers Business

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

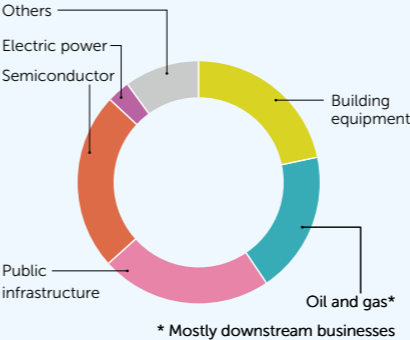
### Other Businesses

Other businesses include the provision of fans for use in applications such as tunnel ventilation as well as electricity, telecommunications, and energy control equipment.

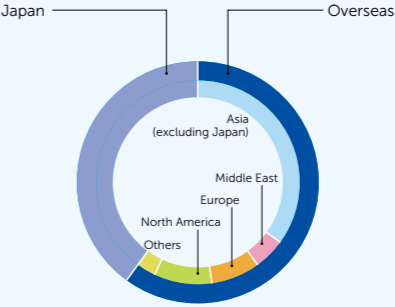
Net Sales Ratio	59%
1. Pumps	¥133.4 billion
2. Compressors and Turbines	¥53.8 billion
3. Chillers	¥29.2 billion
4. Others	¥9.3 billion
Total	¥225.7 billion



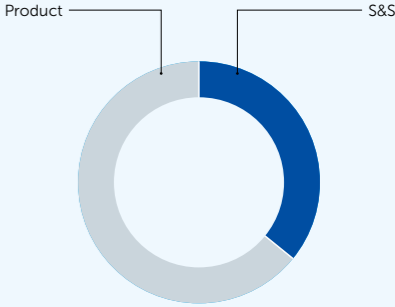
Net Sales Ratio by Industry



Net Sales Ratio by Region



Ratio of Service and Support (S&S) Sales to Product Sales



## Environmental Plants Business

The Environmental Plants Business uses EBARA's incinerator and gasification plant technologies to handle the design, construction, maintenance, and operation of urban waste incineration plants and other waste treatment facilities. This business helps support sanitary cities and safe and secure lifestyles.

Net Sales Ratio **12%**

5. Environmental Plants ¥47.6 billion

## Precision Machinery Business

The Precision Machinery Business contributes to the realization of more convenient and comfortable societies by providing dry vacuum pumps that create the vacuums used when manufacturing semiconductors, flat panels, LEDs, and other devices indispensable to today's information society as well as chemical mechanical polishing (CMP) systems that can polish semiconductor wafers with nano-level precision.

Net Sales Ratio **28%**

6. Components	¥51.7 billion
7. CMP Systems	¥49.8 billion
8. Others	¥5.8 billion
Total	¥107.3 billion

Others ¥1.2 billion

# WHAT'S EBARA?

## VALUE CREATED BY EBARA

The EBARA Group contributes to the enrichment of people's lives and the development of industries in various regions around the world with its technologies, products, and services. We boast many strengths, including our world-leading environment technologies and manufacturing capabilities that address the needs of customers and society, our consulting and sales capacities founded on abundant experience, and the services and support through which we perform fine-tuned repair and maintenance. With these strengths, we live up to the expectations of customers and meet the needs of society with superior technologies and impeccable service quality born out of the passion, dedication, and creativity that have driven us since our founding.

### Fluid Machinery & Systems Business Pumps

#### Wide-Ranging Support for Society and Infrastructure Ensuring Stable Water and Energy Supplies and Preventing Water Damage

EBARA supports society and infrastructure in a wide range of fields, including energy, river management, irrigation, and water supply/drainage. Specific examples of this support include facilitating optimal cycling of water in generator boilers to ensure stable power supplies and preventing damage from the water disasters that are growing ever more frequent as a result of global climate change.



One of the world's largest drainage pumps installed in a flood bypass on the outskirts of the Tokyo metropolitan area



### Fluid Machinery & Systems Business Compressors and Turbines

#### The Elliott Brand, Providing the Heart of Energy-Related Facilities Worldwide

Energy demand is rising in conjunction with global population growth and economic development. Under the Elliott brand, we supply products of proven quality along with services and support backed by outstanding technological prowess to the world. Elliott brand equipment acts as the heart of oil and gas production, LNG, shale gas, and other energy-related facilities worldwide.



Compressor of world-leading scale for propylene plants

### Fluid Machinery & Systems Business Chillers

#### Creation of Comfortable Environments while Combatting Climate Change

The need for comfortable spaces in large-scale buildings, commercial facilities, and factories is growing in step with urban and industrial development. By supplying high-efficiency chillers that use coolants with low global warming potential, EBARA contributes to the creation of comfortable spaces while protecting the global environment.



Chiller installed at the Kabukiza Theatre in Ginza, Tokyo



### Environmental Plants Business

#### Contributions to a Sustainable Society by Promoting Effective Resource Usage

Through its design, construction, and operation of general waste treatment facilities for local governments, EBARA realizes the hygienic treatment of waste while utilizing waste and wood materials as biomass for use in generating energy. In this manner, EBARA's waste treatment facilities are able to function as community energy centers, allowing communities to generate the energy they use. In addition, we recycle various materials, using ash from incinerated waste to make stone materials for use in buildings and extracting precious metals and other melted metal materials. EBARA also helps to ensure that its waste treatment facilities can operate safely and reliably over the long term by providing operation, inspection, repair, and other maintenance services.



Hiratsuka-city "Kankyoujigyou Center"  
(Environment Management Center)



### Precision Machinery Business

#### Support for the Development of the Information Society with Cutting-Edge Technologies

EBARA supports the development of the information society by supplying the CMP systems and dry vacuum pumps required for semiconductor manufacturing processes. Through the proposal of high-quality solutions that preemptively address customer needs and the speedy development of the necessary technologies, we work together with our customers to realize a super-smart society in which information is readily and equally accessible to all.



CMP system

11-Year Financial Summary

**i** EBARA CORPORATION and consolidated subsidiaries (fiscal year ended March 31, 2008–nine-month period ended December 31, 2017)  
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.

11-Year Financial Summary

Millions of yen											Thousands of U.S. dollars*1			
	2008/3	2009/3	2010/3	2011/3	2012/3	2013/3	2014/3	2015/3	2016/3	2017/3	2017/12*2	12-Month Period Ended December 31, 2017 (Reference Figures)*3	2017/12*2	12-Month Period Ended December 31, 2017 (Reference Figures)*3
<b>Financial Results:</b>														
Orders	¥597,944	¥481,399	¥426,622	¥430,992	¥394,922	¥428,540	¥512,276	¥487,554	¥491,280	¥ 477,956	¥ <b>413,569</b>	¥506,082	<b>\$3,659,903</b>	\$4,478,602
Net sales	567,191	501,149	485,889	401,676	412,077	426,302	448,658	482,700	486,235	476,105	<b>381,993</b>	507,809	<b>3,380,469</b>	4,493,888
Operating income	6,017	638	18,953	31,542	23,267	25,084	32,195	34,567	38,011	29,996	<b>18,115</b>	36,649	<b>160,310</b>	324,331
Ordinary income	2,757	(2,383)	16,774	28,750	21,087	25,663	31,311	36,258	36,472	28,465	<b>16,529</b>	35,482	<b>146,274</b>	313,998
Profit (loss) attributable to owners of parent	7,609	(13,113)	5,442	28,192	2,890	15,303	18,974	23,581	17,254	20,588	<b>9,531</b>	22,785	<b>84,345</b>	201,640
Depreciation and amortization	15,316	15,180	15,274	13,524	12,765	12,356	12,118	13,039	11,611	13,739	<b>11,924</b>	—	<b>105,522</b>	—
Capital expenditures	22,381	23,560	19,484	8,189	12,316	12,302	18,153	15,847	15,730	22,675	<b>12,387</b>	—	<b>109,618</b>	—
R&D expenses	10,812	8,829	4,977	4,067	3,827	5,026	6,465	6,754	7,633	8,759	<b>7,219</b>	—	<b>63,885</b>	—
<b>Financial Position:</b>														
Total assets*4	¥607,007	¥562,456	¥522,540	¥507,898	¥488,964	¥504,576	¥530,211	¥570,392	¥579,860	¥ 588,458	¥ <b>612,920</b>	—	<b>\$5,424,071</b>	—
Total net assets	155,263	124,264	132,665	154,938	154,656	191,786	215,047	247,553	250,445	277,509	<b>284,789</b>	—	<b>2,520,256</b>	—
Shareholders’ equity*5	151,243	121,411	129,806	151,951	151,063	186,883	208,036	239,059	241,017	271,357	<b>277,956</b>	—	<b>2,459,787</b>	—
Interest-bearing debt	184,459	181,556	177,859	160,413	143,617	138,914	119,673	121,501	120,127	96,531	<b>114,593</b>	—	<b>1,014,097</b>	—
Retained earnings	24,256	7,316	12,568	40,760	41,752	53,886	70,629	91,816	102,446	117,884	<b>121,321</b>	—	<b>1,073,637</b>	—
<b>Cash Flows:</b>														
Cash flows from operating activities	¥ (6,317)	¥ 17,439	¥ 23,582	¥ 26,604	¥ 12,589	¥ 34,014	¥ 26,615	¥ 11,296	¥ 21,528	¥ 33,816	¥ <b>44,158</b>	—	<b>\$ 390,779</b>	—
Cash flows from investing activities	31,771	(2,774)	(17,128)	10,997	(8,838)	(33,131)	3,539	(15,894)	(14,343)	(18,564)	<b>(7,907)</b>	—	<b>(69,973)</b>	—
Cash flows from financing activities	(21,807)	(3,233)	(5,437)	(14,096)	(19,998)	3,264	(25,337)	(7,045)	(9,655)	(15,102)	<b>11,297</b>	—	<b>99,973</b>	—
Free cash flow	25,454	14,664	6,454	37,601	3,751	883	30,154	(4,598)	7,185	15,252	<b>36,251</b>	—	<b>320,806</b>	—
Cash and cash equivalents at the end of the fiscal year	69,160	77,194	81,712	104,003	87,296	93,791	102,338	95,603	91,185	90,683	<b>139,103</b>	—	<b>1,231,000</b>	—
<b>Share Data*6:</b>														
Number of issued shares (1,000 shares)	422,725	422,725	422,725	459,245	422,899	465,118	465,187	465,644	466,045	101,736	<b>101,783</b>	—		
Cash dividends (yen and U.S. dollars)	7.50	—	—	5.00	5.00	5.00	7.50	12.00	12.00	36.00	<b>45.00</b>	—	<b>0.398</b>	—
Dividend payout ratio (%)*7	41.6	—	—	7.5	73.0	13.9	18.4	23.6	32.3	28.1	<b>48.0</b>	—		
<b>Per Share Data (yen and U.S. dollars)*6:</b>														
Profit (loss) attributable to owners of parent*8	¥ 18.01	¥ (31.04)	¥ 12.89	¥ 66.78	¥ 6.85	¥ 35.93	¥ 40.86	¥ 50.77	¥ 37.12	¥ 213.71	¥ <b>93.84</b>	—	<b>\$ 0.830</b>	—
Total net assets*8	358.01	287.44	307.46	360.01	357.79	402.41	448.05	514.38	518.16	2,672.19	<b>2,735.94</b>	—	<b>24.212</b>	—
<b>Financial Indicators:</b>														
ROIC (%)*9	2.2	(4.1)	1.8	9.1	1.0	4.9	5.8	6.9	4.8	5.6	<b>2.5</b>	—		
ROE (%)*10	5.0	(9.6)	4.3	20.0	1.9	9.1	9.6	10.5	7.2	8.0	<b>3.5</b>	—		
Debt/equity ratio (times)	1.22	1.50	1.37	1.06	0.95	0.74	0.58	0.51	0.50	0.36	<b>0.41</b>	—		
Operating income to sales ratio (%)	1.1	0.1	3.9	7.9	5.6	5.9	7.2	7.2	7.8	6.3	<b>4.7</b>	—		
Equity ratio (%)	24.9	21.6	24.8	29.9	30.9	37.0	39.2	41.9	41.6	46.1	<b>45.3</b>	—		
Overseas sales ratio (%)	37.5	36.1	39.3	44.1	44.0	50.6	52.8	53.6	52.2	52.7	<b>60.1</b>	—		
<b>Major Non-Financial Indicators:</b>														
Number of employees (persons)	16,074	16,102	13,800	14,007	14,695	15,170	15,168	16,030	16,270	16,317	<b>16,219</b>	—		
Overseas employee ratio (%)	31	32	43	43	46	48	48	51	52	51	<b>51</b>	—		
CO2 emissions (thousands of tons)*11	49.1	46.6	41.3	41.5	40.7	38.6	37.4	39.0	38.3	39.3	<b>29.9</b>	41.2		
Material recycling rate (%)*11	95.3	95.0	95.8	96.7	98.6	98.6	92.6	98.7	97.2	98.8	<b>98.0</b>	98.1		
Landfill disposal rate (%)*11	3.4	3.5	3.6	2.6	1.2	1.2	7.0	1.1	2.3	0.9	<b>1.6</b>	1.6		
Water consumption (thousands of m³)*11	616	587	642	576	574	608	628	555	631	623	<b>462</b>	627		

\*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 ¥113.00=US\$1, the rate of exchange prevailing on December 29, 2017.

\*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, the period under review is 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: Net assets excluding subscription rights to shares and 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.

\*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 dividend payout ratio is calculated based on an annual dividend of ¥60.00 per share.

\*8. Profit (loss) attributable to owners of parent per share is based on the average number of shares outstanding (excluding treasury stock) during the fiscal year. Total net assets per share 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))

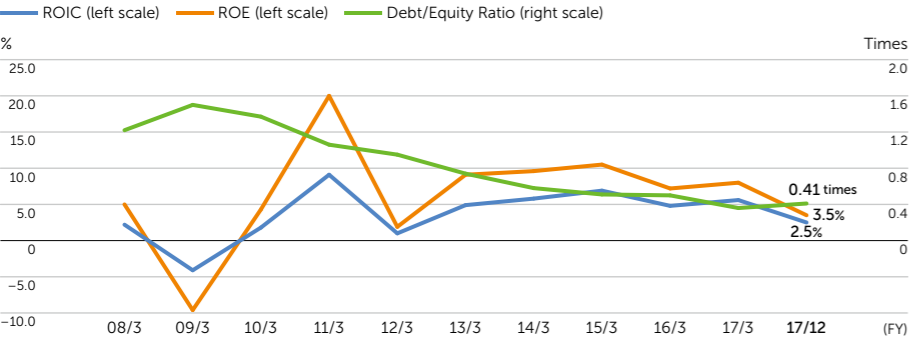
\*10. ROE: Profit attributable to owners of parent / Shareholders’ equity (Average between beginning and end of period)

\*11. Figures are for EBARA CORPORATION and domestic consolidated subsidiaries, excluding one company that operates an electricity supply business.

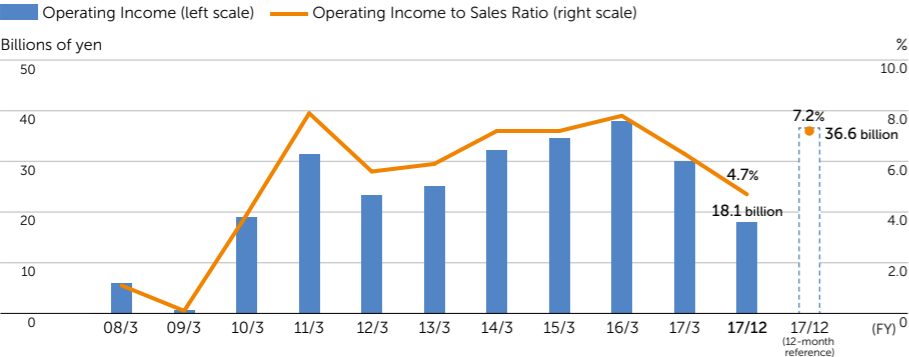
Performance Highlights

EBARA CORPORATION and consolidated subsidiaries (fiscal year ended March 31, 2008–nine-month period ended December 31, 2017)  
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.

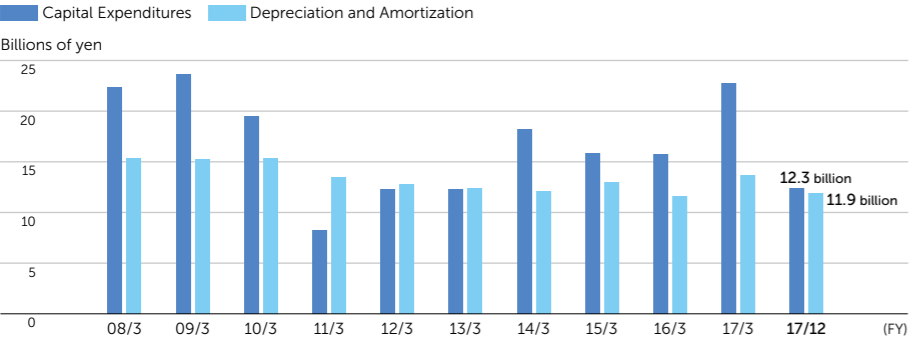
ROIC / ROE / Debt/Equity Ratio



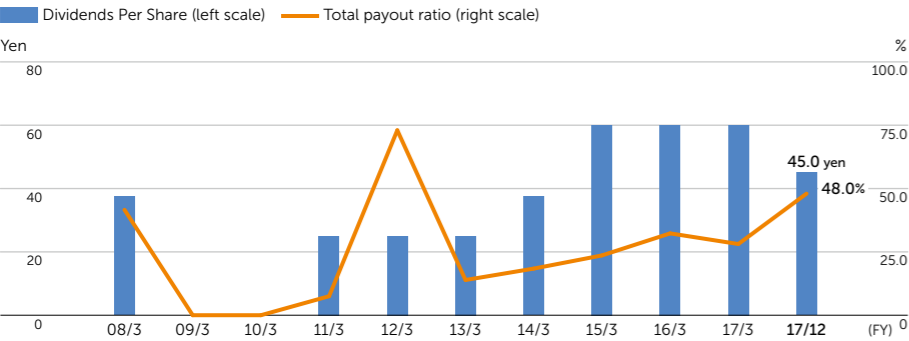
Operating Income / Operating Income to Sales Ratio



Capital Expenditures / Depreciation and Amortization



Dividends Per Share / Total Payout Ratio



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% 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%.

POINT

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, operating income was significantly lower than it would have been in a full year. A recovery trend has emerged in the oil and gas market, and we therefore intend to continue working toward the target of 9.0% or more for the operating income to sales ratio set in E-Plan 2019 through the steady advancement of profitability improvement measures in all of our businesses.

POINT

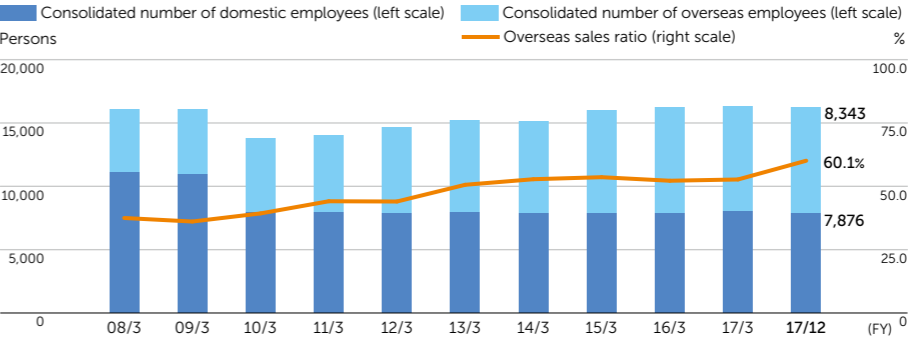
Capital expenditures were up in the fiscal year ended March 31, 2017, due to the investments in augmenting the facilities of the Kumamoto Plant. We intend to continue aggressively investing in growth throughout the period of E-Plan 2019.

POINT

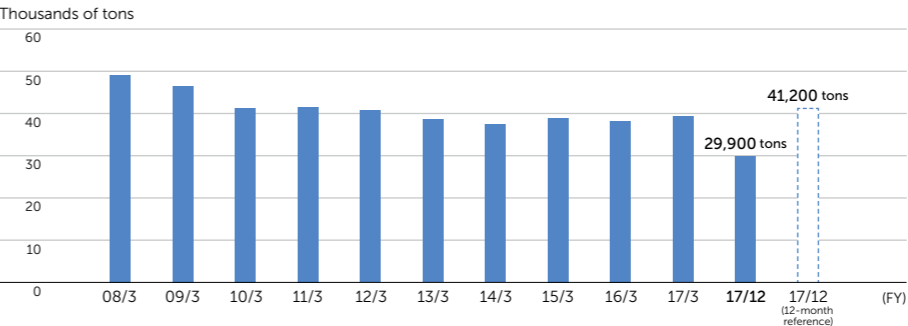
EBARA has been issuing consistent dividends over the past several years supported by improvements in its financial position. During the period of E-Plan 2019, we will target a total payout ratio of 30% or more to account for both dividends and share buybacks.

Note: 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. Figures for dividends per share have been adjusted based on the assumption that this consolidation was conducted on April 1, 2007. Consolidated profit attributable to owners of parent in the nine-month period ended December 31, 2017, resulted from a change in settlement date, was lower than it would have been in a full year. Accordingly, the consolidated total payout ratio rose for this period. Consolidated dividend payout ratio figures for the fiscal year ended March 31, 2017, and prior are figures for the consolidated total payout ratio.

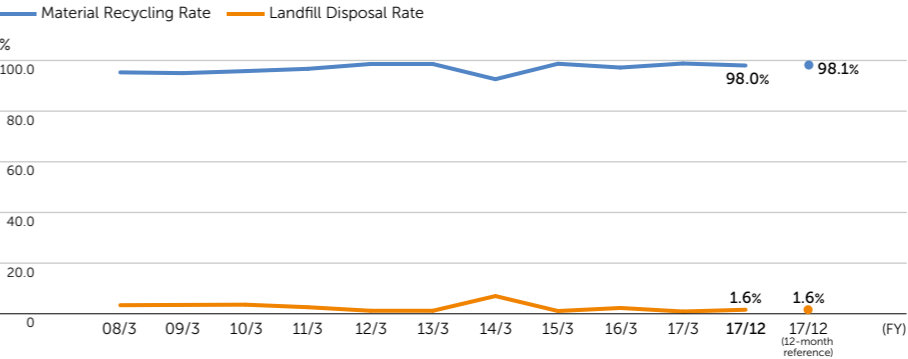
Number of Employees / Overseas Employee Ratio



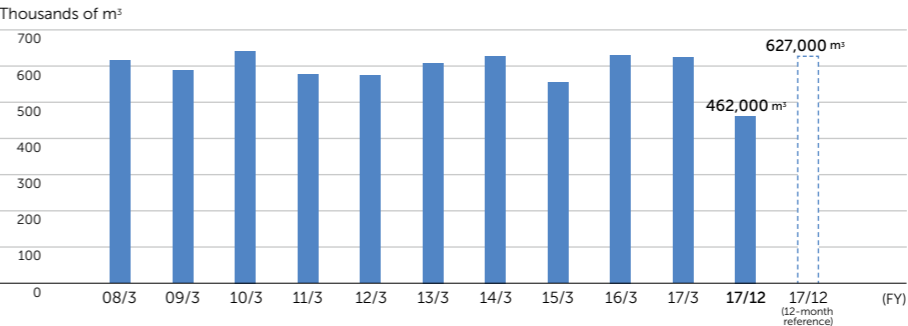
CO<sub>2</sub> Emissions (Scope 1 and 2)\*



Material Recycling Rate / Landfill Disposal Rate\*



Water Consumption\*



\* Figures are for EBARA CORPORATION and domestic consolidated subsidiaries, excluding one company that operates an electricity supply business.

Performance Highlights

POINT

The number of employees at overseas Group companies is rising with the increases in the overseas sales ratio. Seeking to promote the optimal positioning of employees and efficient business operation on a global scale, the EBARA Group is promoting global-level personnel mobility, making it possible for employees to transfer from domestic companies to overseas companies, from overseas companies to domestic companies, and between overseas companies.

POINT

One of the EBARA Group's FY2020 Environmental Targets calls for ongoing reductions in CO<sub>2</sub> emissions. In the twelve-month period ended December 31, 2017, CO<sub>2</sub> emissions increased by 4.7% compared to the prior fiscal year, due to the commencement of operation at the new building of the Kumamoto Plant. We will reduce CO<sub>2</sub> emissions leading up to 2020 through the continued application of insulating paint coatings and upgrades to more energy-efficient lighting, boilers, and other equipment.

Note: 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.

POINT

The EBARA Group's FY2020 Environmental Targets stipulate that the Group is to maintain a material recycling rate of more than 95% and a landfill disposal rate of less than 3%. In the nine-month period ended December 31, 2017, these targets were achieved with a material recycling rate of 98.0% and a landfill disposal rate of 1.6%. Moving forward, we will work to ensure that waste is properly separated while reducing packaging materials and implementing other initiatives for increasing the material recycling rate and reducing the landfill disposal rate.

Note: In the fiscal year ended March 31, 2014, unrecyclable sludge was produced as a result of construction.

POINT

The FY2020 Environmental Targets contain a target to reduce water usage by 30% from the level of the fiscal year ended March 31, 2001. In the twelve-month period ended December 31, 2017, a reduction of 15.1% was achieved in comparison to this level. Water consumption reduction initiatives include reusing pump test water, reducing and reusing the water emitted from manufacturing equipment that uses pure water, and reusing water for cooling electric furnaces.



**EBARA Group is committed to “unlimited challenge toward growth”, with the aim of becoming a manufacturer of industrial machinery that grows and develops its business on a global basis.**

**Toichi Maeda**  
President and Representative Executive Officer



**Words of Inspiration**  
**—Courage Precedes Confidence**

I base my stance toward management on compliance and risk management. I accept no compromise with regard to these two elements of operations, and I see my mission as growing the EBARA Group by developing structures and a corporate constitution that will enable the Group to generate consistent earnings on a foundation forged of these elements. The Management Policy announced in November 2015 lays out our vision for the EBARA Group by the mid-2020s and indicates directives for our business aimed at accomplishing that vision. Unfortunately, the previous medium-term management plan, covering the fiscal years ended March 31, 2015 to 2017, the period immediately after the start of the management policy, ended with a failure to achieve its targets. This failure was a result of the overemphasis of traditional ways of thinking and the work processes we have developed over our history of more than a century. While it is certainly important to cherish such traditions, developing and growing our business on a global scale as a manufacturer of industrial machinery requires that we implement structural reforms in tune with the times and our growth stage. This realization is only made stronger by the fact that society is currently characterized by volatile changes in the operating environment. As we advance such reforms in the company, I draw strength from the words of Eizaburo Nishibori\*—“Courage precedes confidence.” When one faces a new challenge, something they have never experienced before, they will evaluate the difficulty of that challenge and formulate plans for overcoming it. However, even the best laid plans cannot account for all risks, and there is no shortage of cases of individuals failing to take their first step due to being overwhelmed with concern. No one knows the outcome of such undertakings. That is why it is important to have the courage to take the first step, without which nothing can be accomplished. “Courage is the drive to do something.” These words are a constant source of inspiration for me. These words, of course, also encapsulate the courage to stop when preparations are clearly insufficient or to completely pull out of an endeavor.

From the time I assumed the position of president up until last year, I have led the Company in various measures aimed at transforming the organization. For example, we sought to cultivate a sense of global and Groupwide unity based on the “EBARA Way” and established and reinforced frameworks for naturally incorporating compliance and risk management into our operations. We also implemented work style reforms as part of our efforts to promote diversity and introduced new human resources systems for fairly evaluating employees based on their roles and results.

Today, even local overseas hires speak of the concept of “passion and dedication,” and the results of these reforms

are gradually appearing, as seen by EBARA being recognized as a leader in promoting diversity. Going forward, I will continue to entrench compliance and risk management within the Group as we pursue ongoing improvements to company frameworks in order to ensure we always act with high ethical standards.

\* Eizaburo Nishibori: Captain of the first Japanese Antarctica wintering party in Japan's post-World War II Antarctic exploration activities

**Smooth Progress of Medium-Term Management Plan in Irregular First Year**

In 2017, we instituted a change to the fiscal year of EBARA CORPORATION and its consolidated subsidiaries, transitioning from a March 31 fiscal year-end to a December 31 year-end. This move was meant to allow for more appropriate and timely disclosure of performance and other management information in the midst of the globalization of our business. For this reason, the period under review covers an irregular period beginning with April 1, 2017, and ending with December 31, 2017. In the period under review, we continued to enjoy favorable operating conditions in the United States and economic recovery was seen in Asia. In Japan, strong public-sector investment was brisk while private-sector capital investment picked up, contributing to an overall modest recovery trend.

The current medium-term management plan, E-Plan 2019, commenced in 2017 against this backdrop. In the first period of this plan, we made smooth progress in almost all structural reform and growth measures in our various businesses, and the results have begun to appear. As for performance, net sales in the nine-month period ended December 31, 2017, amounted to ¥381,993 million, an increase of 9.1% in comparison to the same irregular period of the previous year; operating income was ¥18,115 million, up 58.0%; ordinary income was ¥16,529 million, 73.8% higher; and profit attributable to owners of parent was ¥9,531 million, an increase of 29.9%. Return on invested capital (ROIC), a key Groupwide management indicator, was 2.5%, while the consolidated operating income to sales ratio came to 4.7%. Due to the irregular nature of this period, income was lower than it would have been in a regular year, leading to declines in ROIC and the consolidated operating income to sales ratio. Nonetheless, performance was almost exactly as projected.

Performance was particularly strong in the Precision Machinery Business, which benefited from robust capital investment in the semiconductor industry. In the Fluid Machinery & Systems Business, meanwhile, operating income fell below our initial forecasts because of the persistence of a bearish oil and gas market. We are currently in a phase of conducting upfront growth investments in factory automation and other measures. Improvements

in earnings capacity will therefore not be seen until a little later.

In the fiscal year ending December 31, 2018, we are projecting higher orders, lower net sales, and relatively unchanged operating income. Profit attributable to owners of parent, however, will be impacted by expenses associated with the reorganization of overseas operations. In businesses where improvements to profitability are proving slow, we will supplement the measures described in E-Plan 2019 with additional measures, such as reorganizing production systems or more optimally allocating personnel, to thoroughly boost profitability. In addition, we will seek to increase capital efficiency by improving working capital turnover rates and rigorously managing our balance sheet. In this manner, we will pursue our management target of ROIC of 8.0% or more through both business and capital measures (see pages 17 to 22 for more details).

### Ongoing Growth-Oriented Reforms While Maintaining EBARA's Distinctive Value

The EBARA Group's history began with pumps. From this starting point, we have continued to hone our technologies based on our founding spirit of passion and dedication, building trust while steadily expanding the scope of our operations. Today, we are developing three very different businesses: the Fluid Machinery & Systems Business, the Environmental Plants Business, and the Precision Machinery Business. The Precision Machinery Business, for example, is characterized by an incredibly short capital investment cycle among customers, and it thus serves an industry in which new solutions are required on timetables measured in days, and sometimes even hours. For this reason, this business employs a simple structure, creating an environment that is conducive to action by frontline operations and facilitating swift decisions to ensure flexible responses to changes. The Precision Machinery Business also requires specialized skills. We therefore proactively appoint individuals from outside of the Group and foster a culture that draws strength from diversity in this business. In the pumps business and other businesses, meanwhile, human resources are cultivated in-house and we advance projects on timetables measured in months or years. Still, I do recognize that there is significant room for further evolution in the Group as it is possible that, for instance, a simpler structure in the pumps business might allow it to exercise greater speed, evolving it into a more efficient and profitable business.

I also believe that our business domain will continue to expand as we seek to help resolve social issues and address customer needs. We will therefore continue to seek out new means of creating social and environmental value together with our customers in today's information society, characterized by the ever-faster development of Internet of

Things and artificial intelligence technologies. In this undertaking, we will maintain our focus on the interests of the public, namely supporting social infrastructure that is resilient to the impacts of climate change and natural disasters.

Another focus of our initiatives will be finding ways to create value that is distinctly EBARA for our future society. Data and reports indicate that if we continue to consume resources and energy at the current pace, the sustainability of not only companies but also the earth itself could be in danger. We hope to help society reach a sustainable future and avoid this tragic outcome. To this end, we will form a vision for the EBARA Group going forward and advance management with a clear view of how we can create value and keep an eye on the issues and needs that may emerge from 2020 and beyond. The issues identified in the Paris Agreement and in the United Nations Sustainable Development Goals (SDGs) will be key to the growth strategies of EBARA, as our corporate philosophy states our areas of business as water, air, and the environment. 2020 is just a stone's throw away and it is crucial that we formulate concrete management policies for the decade ahead based on these issues and quickly communicate these policies inside and outside of the Company.

### Creation of Social and Environmental Value While Achieving Growth for the EBARA Group

As the first step in formulating long-term management policies, we defined material environmental, social, and governance (ESG) issues for the EBARA Group in 2017. These issues were identified to guide us in boosting competitiveness by establishing targets from an ESG perspective and implementing a plan-do-check-act (PDCA) cycle to measure progress toward these targets.

Since its founding, the EBARA Group has proceeded to address social and environmental issues, growing by providing products and services that resolve those issues. The Group's products continue to help create and improve social value through partnerships with national and local governments and companies from a wide range of industries. The specific values of these products include their ability to contribute to stable supplies of water, river management, comfortable air-conditioning control, waste disposal and other hygiene areas, and the development of the information society. The ongoing provision of products and services that realize the social value sought by customers in turn drives the improvement of the EBARA Group's corporate value. This situation is congruent with the EBARA Group CSR Policy, which states "The EBARA Group takes pride in our role supporting society, industry, and life." It is through such support that we provide value for society. Delivering even greater value will require that we help combat climate change by limiting society's energy

consumption in the midst of rising energy demand stimulated by global population growth and economic development. It is therefore crucial that we reduce the energy required to operate our products to contribute to lower electricity consumption and subsequently CO<sub>2</sub> emissions by customers. In addition, we must make our products smaller and lighter in order to conserve metals and other resources. Meanwhile, it will be important to enhance our service and support (S&S) operations to, for example, prevent water shortages resulted from the ceased operation of pumps or to ensure that river drainage pumps are able to function as required during heavy rains to protect communities from flooding. Other areas in which EBARA products contribute to society include waste processing plants, which help maintain community hygiene through reliable and continuous operation while using electricity generated from waste combustion processes to power communities. Likewise, the reliable operation of semiconductor manufacturing equipment can support the development of a comfortable and convenient information society in which everyone has equal access to information. In this manner, we can contribute to society while creating financial value for EBARA by ensuring the reliable and resilient operation of various types of social and industrial infrastructure.

### The EBARA Group's Move to the Next Growth Stage

We have recently been seeing a rise in the expectations of international society with regard to CSR activities. The EBARA Group is a signatory to the United Nations Global Compact, endorsing its Ten Principles, and has improved upon its CSR management practices by exercising these principles. I am convinced that realizing our corporate philosophy will contribute to sustainable development of both society and industries. Looking ahead, I plan to emphasize in management an approach of creating social and environmental value while improving corporate value.

To elaborate on this approach, I would like to discuss a region with which EBARA has a relationship that dates back more than 70 years. This relationship began after the end of World War II. Suffering from a severe lack of supplies in the post-war turmoil, this region was struck by a massive earthquake that sank foundations and flooded cities. We supplied this region with pumps from our inventory to drain water from the flooded cities, resulting in the start of a years-long relationship built on trust and faith in our products. This relationship is an example of EBARA products contributing to the realization of a sustainable community. To cite a more recent example, EBARA drainage pumps were employed in a project for protecting citizens and cities in an area where heavy rainfall often leads to flooding. The completion of this project has enabled residents of



this area to live in peace. Moreover, by successfully eliminating floods, this area has been able to attract more companies, creating employment and invigorating the local economy. These examples represent forms of social and environmental value that can only be provided through the EBARA Group's unique businesses.

We have been creating such value for more than a century. Today, we are able to more concisely communicate the corporate value of the EBARA Group by using the lingua franca of ESG and the SDGs. By defining our value in this manner and fulfilling our management promises by achieving our targets, I hope to make our various stakeholders recognize the meaningfulness of the EBARA Group to international society. Our first step toward gaining this recognition will be to share our targets with stakeholders and then create results through the diligent growth process leading to the accomplishment of these targets. Enhancing information disclosure activities, of which this integrated report is one, will be part of our approach toward this task. By fully integrating the CSR reports we have published up until last year into this report, we seek to provide information that paints a picture of our path to growth, the risks we face, and other aspects of the EBARA Group. Through this open disclosure, we hope to engage in deeper communication with our valued stakeholders and to live up to their expectations.

I am committed to leading EBARA in implementing reforms to an extent that shocks onlookers. Courage precedes confidence. Going forward, we will be exhaustive in our efforts to prepare and lay foundations as we exercise courage in advancing reforms to take the EBARA Group to the next growth stage.

I hope we can look forward to the ongoing support and understanding of our shareholders, investors, and other stakeholders as we advance on this path.

We will seek to maximize corporate value and shareholder value through an increased awareness of capital costs.

Akihiko Nagamine  
Executive Officer  
Division Executive  
Finance & Accounting Division

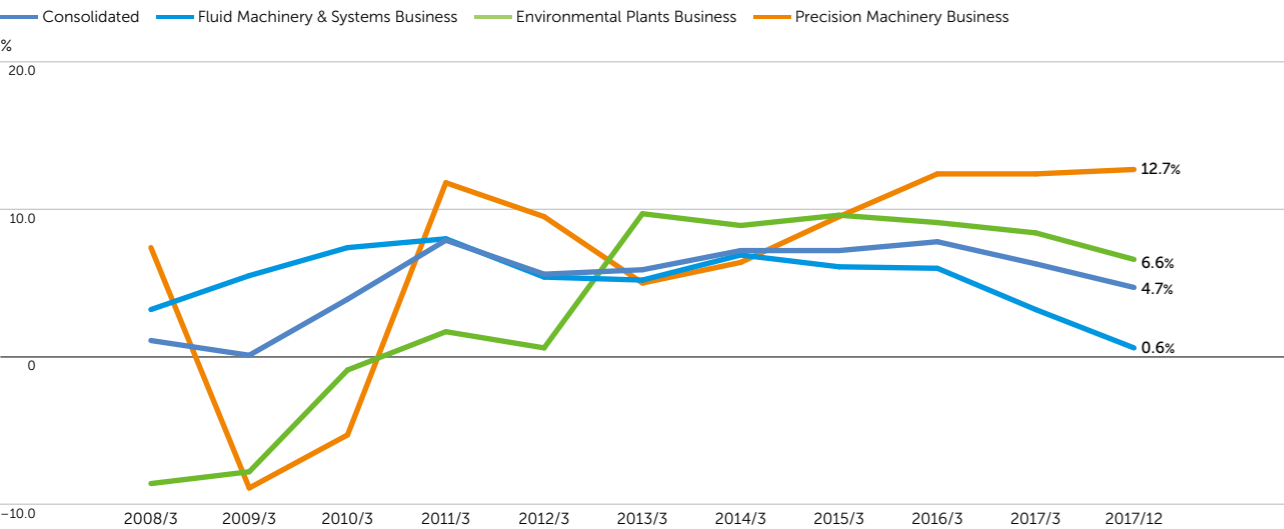


Improvement of Overall Earnings Capacity

Return on invested capital (ROIC) has been positioned as the most important key management indicator under the E-Plan 2019 medium-term management plan. It is our goal to increase ROIC to above 8.0% by the fiscal year ending December 31, 2019, the final year of the plan. Raising the profitability of all businesses will be crucial to accomplishing this target, and we have set targets for the operating income to sales ratio by business based on this recognition. Since the fiscal year ended March 31, 2011, we have sustained consolidated operating income growth of between 5% and 7%, which has translated to year-on-year increases of between ¥23.0 billion and ¥38.0 billion. Looking at individual businesses, although the Environmental Plants Business and Precision Machinery Business had suffered from inconsistent profits prior to the fiscal year ended March 31, 2010, these businesses have been reliably generating profits since the fiscal year ended March 31, 2011. As a result, the operating income to sales ratio rose above 8% in the

Environmental Plants Business and exceeded 12% in the Precision Machinery Business during the period of the E-Plan 2016 medium-term management plan, both representing massive improvements. Meanwhile, our mainstay Fluid Machinery & Systems Business has seen its operating income to sales ratio gradually decline after peaking at 8% in the fiscal year ended March 31, 2011. This trend has been due in part to the curtailment of capital investment by customers in light of poor crude oil prices. In the irregular nine-month period ended December 31, 2017, the operating income to sales ratio was below 1% **GRAPH 1**. Boosting the earnings capacity of the Fluid Machinery & Systems Business is therefore a pressing task, as indicated in E-Plan 2019. An important element of our efforts to boost this business' earnings capacity will be expanding service and support (S&S) operations, which are generally higher-margin, in the custom pumps business. If we steadily implement measures for improving performance on an individual base level in conjunction with the enhancement of our base network

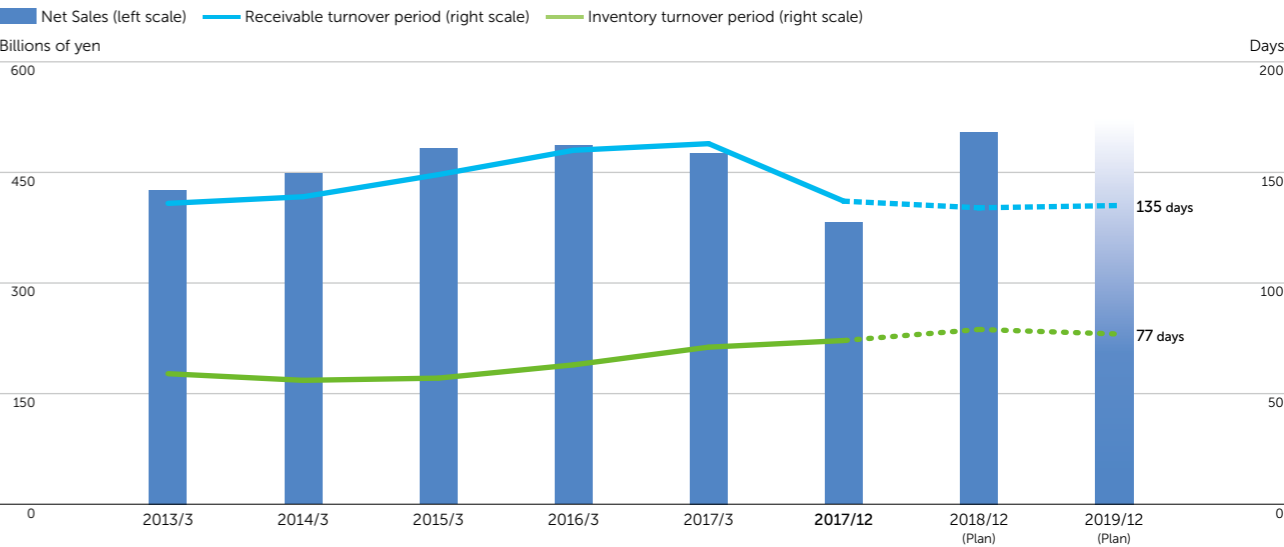
GRAPH 1 Operating Income to Sales Ratio (Consolidated)



currently underway, we should see increases in earnings capacity. At the same time, we will heighten earnings capacity in the compressors and turbines business by coordinating efforts between companies on a country and regional basis in our existing product and S&S operations, effectively treating the world as a single market. In the Environmental Plants Business, we have recently been concentrating management resources on domestic operations. We therefore anticipate that this business will generate stable cash flows over the foreseeable future while maintaining minimal risk exposure. The Precision Machinery Business, meanwhile, is benefiting from robust demand for semiconductors, and we are augmenting our facilities and building new fully automated plants in this business accordingly. Fully automated plants can operate round-the-clock by automating processing and assembly procedures. Some of these plants are scheduled to go onstream in 2019, making for a robust production system capable of responding to demand fluctuations without depending on human labor. The advent of fully automated plants will reinforce the operating foundations of the Precision Machinery Business. Additionally, we are in the midst of developing a product that will become the third pillar for the business, thereby achieving an even stronger and more stable operation. **Heightening of Asset Efficiency** The business portfolio of the EBARA Group has transformed over the past 10 years; since the fiscal year ended March 31, 2008, we have withdrawn from fuel cell, wind power, and overseas waste incineration plant businesses while also shifting our focus away from water treatment plant businesses. In addition, we merged domestic subsidiaries in the

pumps business while reorganizing factories, service, and sales divisions and otherwise reformed business structures centered on Japan, essentially completing the reconstruction of our business portfolio as well as the establishment and reorganization of sales and service bases. However, we recognize that we must carefully but aggressively continue to conduct capital investments and M&A activities aimed at growth. Efforts to improve funding efficiency included introducing cash management systems\*1 at principal domestic subsidiaries prior to 2016, a move that decreased funding requirements by more than ¥10.0 billion. We are currently moving ahead with the introduction of similar systems at overseas subsidiaries. These cash management systems have enabled us to effectively track 85% of the Group's cash and cash equivalents. We are also focused on shortening the turnover period for receivables. Certain businesses have turnover periods of more than 210 days. The first step will thus be to ensure that delivery dates are met and then to improve payment conditions based on payment histories. At the same time, we will reform production management systems, standardize components, and practice more rigorous supply chain management to downsize inventories **GRAPH 2**. Currently, the EBARA Group requires on-hand cash equivalent to two months' worth of sales. If annual net sales are around ¥500.0 billion, we will need on-hand cash of about ¥80.0 billion. As of December 31, 2017, cash and cash equivalents amounted to ¥139.1 billion, more than two months' worth of sales. However, this amount included funds earmarked for the construction of fully automated plants and other investments. The reduction of receivable turnover periods and the resulting improvement in asset efficiency is expected to generate additional cash in the

GRAPH 2 Working Capital (Consolidated)



range of a few hundred billion. We will therefore be financially capable of conducting investments of a significant scale, even if we step up investments going forward.

Ongoing Reinforcement of the EBARA Group’s Financial Base

In the fiscal year ended March 31, 2012, debt/equity ratio dropped below 1.00 times and the equity ratio exceeded 30.0%. The respective downward and upward trends of these ratios have continued since, with the debt/equity ratio standing at 0.41 times and the equity ratio climbing to 45.3% on December 31, 2017. Once again, cash and cash equivalents amounted to ¥139.1 billion on this date, making for net cash when deducting interest-bearing debt of ¥114.5 billion. This strong financial base has enabled EBARA to maintain a single A rating from Rating and Investment Information, Inc., since 2002. In the past, interest-bearing debt in excess of ¥200.0 billion has resulted in our rating dropping to BBB-. Our current rating thus stands as proof that our financial base has steadily improved since 2010.

The reason behind this improvement is the business selection and concentration efforts I described previously. By concentrating management resources on high-margin businesses, we have been able to avoid investments that lack efficiency and to downsize underperforming businesses, which has been instrumental in this improvement. Our financial strategies going forward will target an equity ratio of 45.0% and a debt/equity ratio of between 0.40 times and 0.60 times. Meanwhile, around ¥120.0 billion of our ¥600.0 billion worth of total assets is attributable to fixed assets, excluding investments and other assets, not a particularly high level for a manufacturer. We are working to cut back on unnecessary assets. However, it is possible that we will need to increase, rather than decrease, fixed

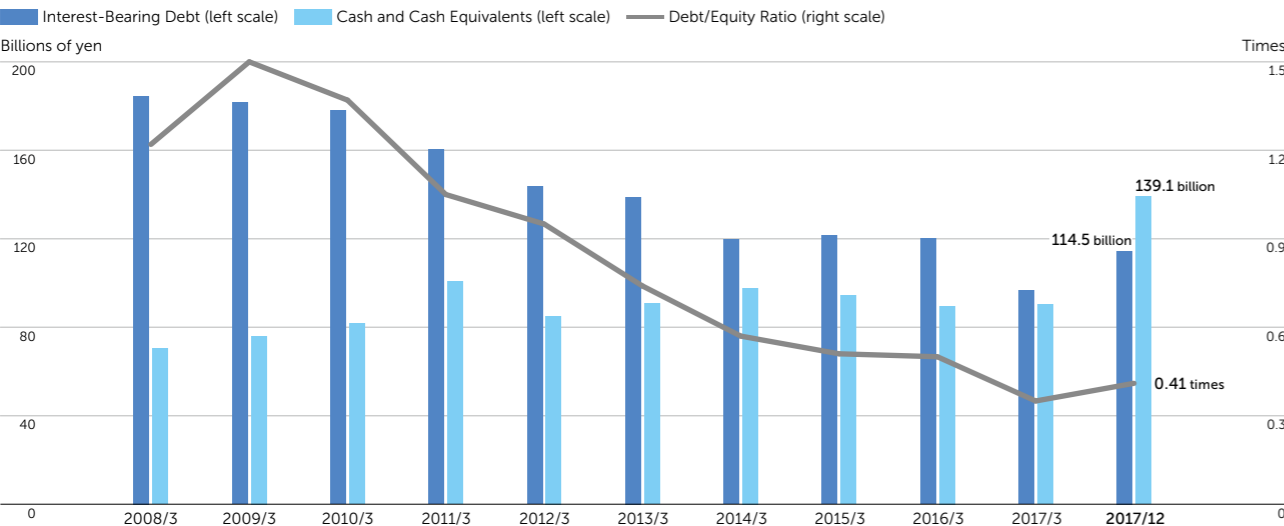
assets going forward in order to achieve future growth. Funds for conducting M&A activities will be secured in part by setting aside surplus fund procurement capabilities to use as needed on such occasions. We will also examine various other funding schemes based on the scale and risks of given investments and our financial position at the time of investment **GRAPH 3**.

Cash Flow Allocation Focused on Growth Investments

Moving forward, we will prioritize the allocation of operating cash flows to growth investments while also dedicating some of this cash to shareholder returns and debt repayment. Free cash flow allocation will also prioritize growth investments, which may cause free cash flow to drop, temporarily, into the negative. Ordinary capital investments will, in principle, be contained within the scope of depreciation and amortization. Conversely, growth investments will be carefully considered but boldly executed. Regardless, we currently have no intention of delaying growth investments or suddenly curtailing shareholder returns, even if operating cash flows decline to a greater degree than expected. Should the reverse—a substantial increase in cash flows—occur, we will look first at growth investments. If no promising investment candidates are found, the additional cash will be diverted to shareholder returns and then to the repayment of interest-bearing debt.

In the past, investment decisions have been based on projected investment recovery periods. Now, we make decisions by calculating an internal rate of return\*2 and judging investments based on weighted average cost of capital (WACC).\*3 The basis for future investment decisions will thus be whether or not they will generate returns that exceed capital costs. In addition, we will establish

GRAPH 3 Financial Position (Consolidated)



country- and business-specific hurdle rates based on the estimated WACC for each country and business out of recognition that the levels of risks and volatility vary based on country, region, and business characteristics.

As for shareholder returns, we will target a consolidated total payout ratio of 30% or more based on our goal of returning one-third of profit attributable to owners of parent to shareholders. We hope to ensure dividends are as continuous and consistent as possible while considering performance in a given fiscal year, our financial position, and performance forecasts. In the past, there was a period during which we could not issue dividends. Luckily, performance recovery has seen driven improvements to our financial base, and we were therefore able to adopt a policy of targeting a consolidated dividend payout ratio of 25% and issuing shareholder returns linked to performance beginning in the fiscal year ended March 31, 2015. Our dividend policy was changed to target a consolidated total payout ratio of 30% or more in the nine-month period ended December 31, 2017, and we instituted a framework for conducting shareholder returns based on performance while also considering the possibility of shareholder buy-backs **GRAPH 4**.

In this manner, we have changed our policy from focusing on consistent dividends to linking dividends to performance. Based on this policy, we will work to maximize shareholder value while striking a balance between growth investments and shareholder returns going forward.

Ideal Finances for Supporting the EBARA Group’s Growth

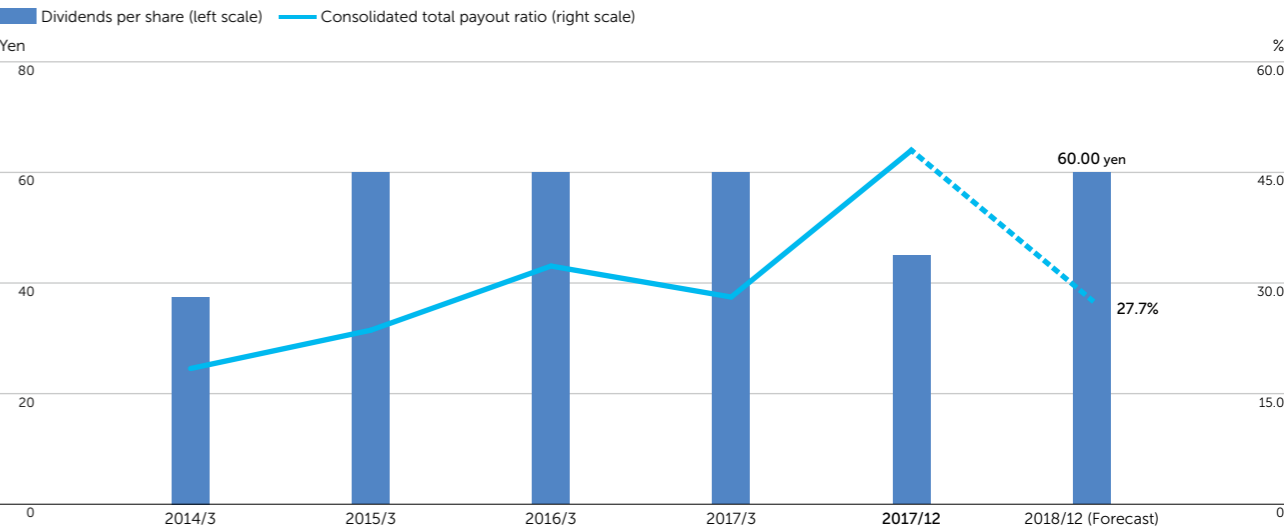
If we are to realize further improvements in the corporate value of the EBARA Group, we must exercise an increased awareness of capital costs. Based on this awareness,

EBARA’s financial divisions will need to hone their strengths in terms of both accounting and finance functions and business management. The Group will be conducting more M&A activities going forward, and due diligence, post-merger integration,\*4 and other specialized skills and insight will be all the more important as a result. I therefore want us to prepare codified training programs for accounting and finance staff and provide a wider range of opportunities for such individuals to take part in M&A activities and other aspects of actual operations. I anticipate that such training and opportunities will help these individuals acquire the necessary skills and insight.

Previously, our management approach has mainly placed emphasis on profits and losses, but we plan to focus more on corporate value and capital costs going forward. For example, we designated operating receivables and inventory turnover periods as key performance indicators in the fiscal year ended December 31, 2017. The goal of this move was to encourage frontline organizations to hold more responsibility for managing balance sheets. In addition, we have been convening meetings of the Overdue Debt Reduction Committee, which includes representatives from business and finance divisions, once every three months to confirm, analyze, and formulate measures for addressing debt collection delays from sales, production, procurement, and various other perspectives. Looking ahead, we will continue to revise our management practices while heightening awareness for capital efficiency across the Group in order to maximize corporate and shareholder value.

\*1. Methodologies and systems for realizing efficient cash management by centralizing the management of the funds of Group companies  
\*2. An indicator of investment efficiency  
\*3. The cost of procuring funds  
\*4. The process of integrating companies after they have been acquired

GRAPH 4 Shareholder Returns

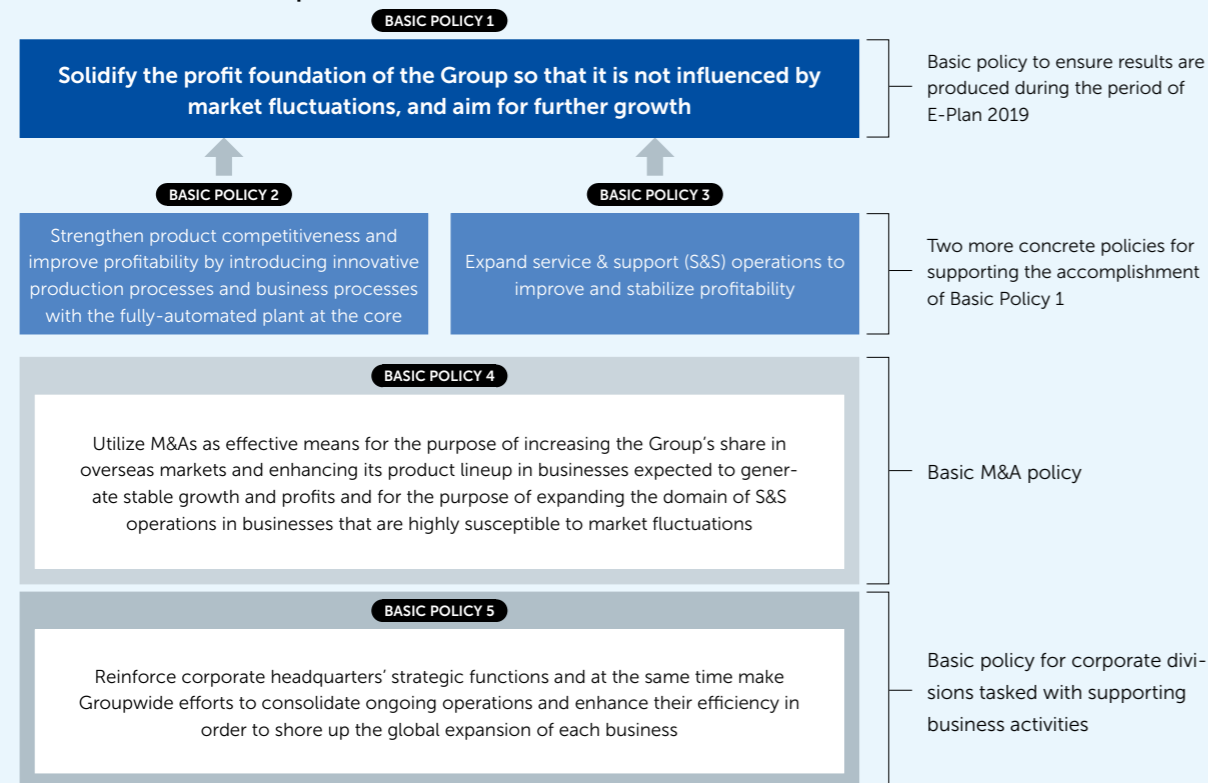


Note: Consolidated dividend payout ratio figures for the fiscal year ended March 31, 2017, and prior are figures for the consolidated total payout ratio. EBARA CORPORATION conducted a consolidation of common shares at a rate of one share for every five shares with an effective date of October 1, 2016. Figures for dividends per share have been adjusted based on the assumption that this consolidation was conducted on April 1, 2013.

E-Plan 2019 is focused on profit, and it targets profitability improvements in all businesses. Particular emphasis in E-Plan 2019 is placed on the profit margin of the pumps business, a business that generates significant sales and the one that we have been developing since EBARA's founding.

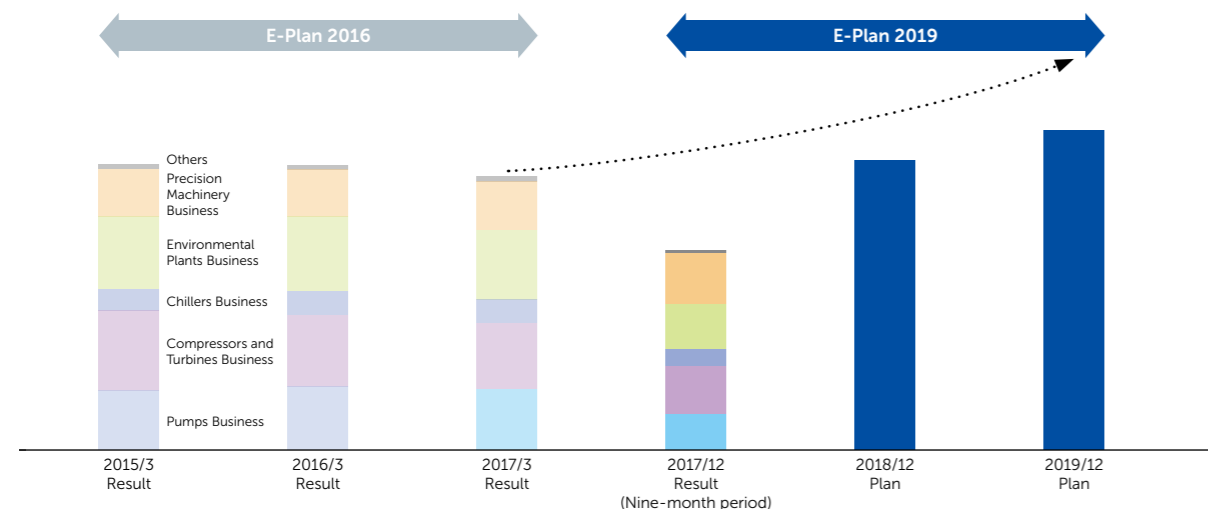
REFERENCE → E-Plan 2019: <https://www.ebara.co.jp/en/about/ir/information/management/index.html>

#### Framework of Basic Group Policies

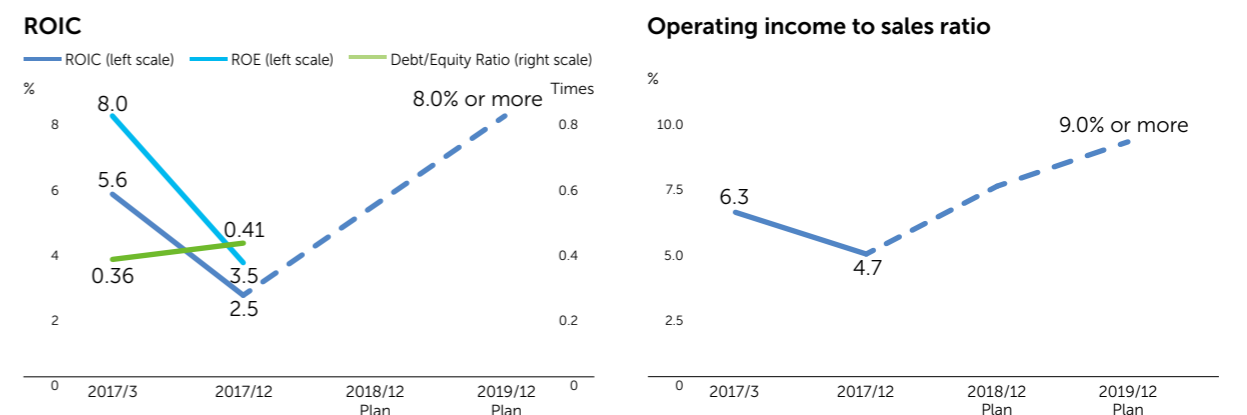
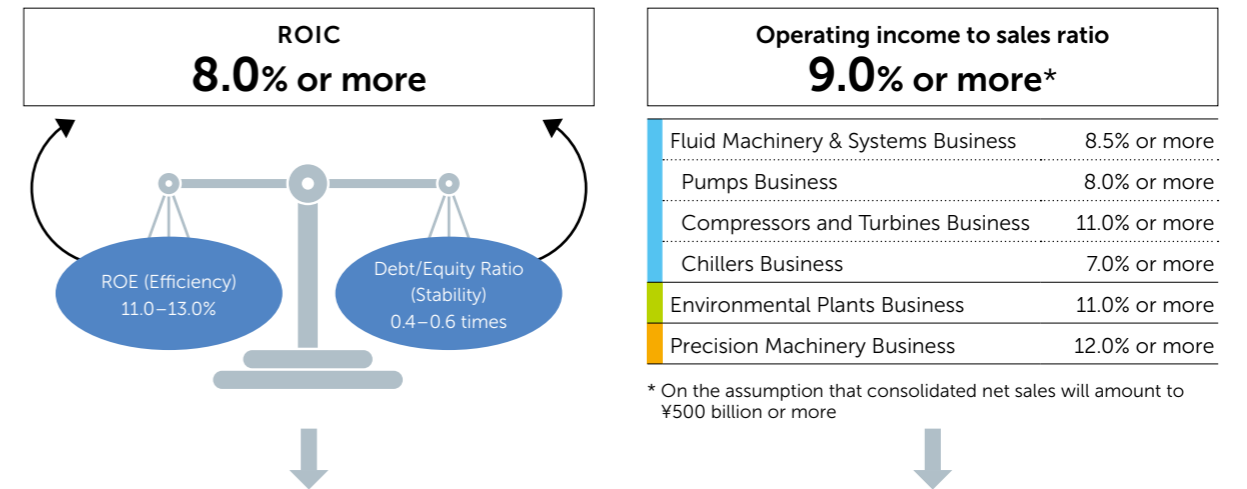


#### BASIC POLICY 3 S&S Sales by Business

Our S&S sales targets were achieved in the first year of E-Plan 2019. Although sales in the nine-month period ended December 31, 2017, were lower than they would have been in a full year, performance in this period was generally in line with forecasts.



#### BASIC POLICY 1 Reinforcement of Profit Foundation



#### Overview of the First Year of E-Plan 2019

The plan's measures proceeded smoothly and the consolidated operating income to sales ratio exceeded our forecast. However, there are still tasks that will need to be addressed.

- Tasks**
- In the custom pumps and the compressors and turbines business, the operating income to sales ratio stagnated, impacting ROIC.
  - Measures: Progress as planned (results to be created in second year and beyond)
  - Recovery in energy-related markets: Slower than projected in E-Plan 2019
  - Need for efforts by EBARA to compensate for slow recovery

#### Tasks for Second and Third Years of E-Plan 2019

EBARA will place more emphasis on capital efficiency as it continues to pursue higher profitability to achieve the ROIC target of 8.0% or more.

- Improve ROIC**
- Increase operating income to sales ratio**
    - Implement measures based on current conditions in each business (e.g. restructure overseas operations, optimize organizations)
    - Steadily advance and build upon measures
  - Improve asset turnover ratio**
    - Shorten receivable turnover period (custom pumps, compressors and turbines, precision machinery)
    - Reduce inventory turnover period (standard pumps, precision machinery)
    - Manage balance sheet properly (appropriately control financial leverage)

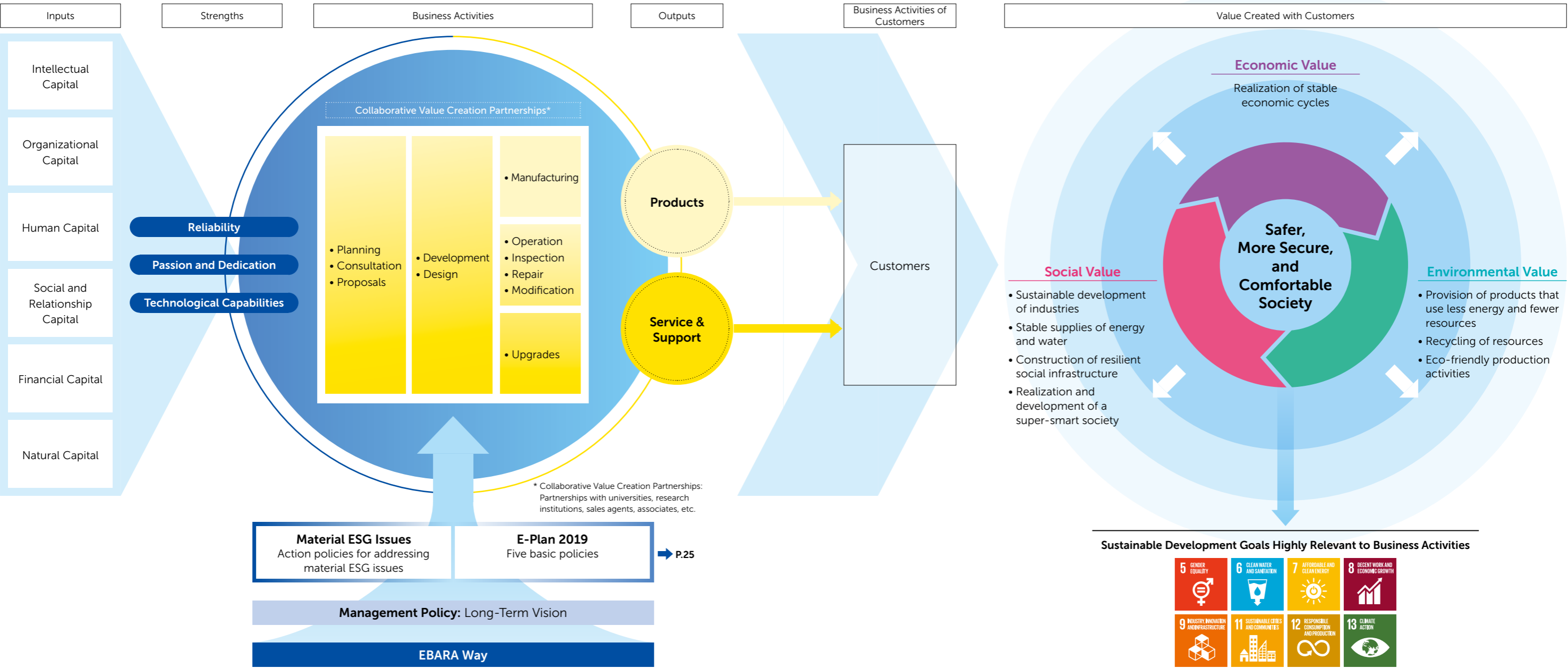
Value Creation Model

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

The EBARA Group seeks to improve social value, environmental value, and economic value through its business activities. We believe that the improvement of these three types of value will contribute to higher overall corporate value for the Group.

The Group’s greatest strength lies in the mindset of its employees that inspires them to passionately interact with others and tackle challenges, exercising creativity while ambitiously and diligently working to complete the task at hand. We cooperate with various partners to provide the products and services customers need to create consumer goods that contribute to a safer, more secure, and comfortable society. EBARA’s raison d’être is to support society, infrastructure, and life. This recognition allows us to activate the strengths that permeate the Group of passion and dedication, superior technological capabilities, and the provision of products, plants, and services reliable throughout their lifecycles.

Value Creation Model



## Achieving Growth through the Execution of E-Plan 2019, a plan based on the Management Policy, and Measures that Address Material ESG Issues

Since our founding, the EBARA Group has continued to expand the scope of our operations, maintaining our focus on pumps and other rotating machinery while branching out to environment-related plants and semiconductor manufacturing equipment and devices. Today, the Group has grown into a conglomerate—comprised of 89 subsidiaries around the world (57 consolidated) and eight affiliates—that generates consolidated net sales of around ¥500 billion a year, more than 60% of which comes from overseas. 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 line with the value creation model shown on pages 23 and 24 in order to accomplish the goals of our management policy and further increase corporate value.

### Material ESG Issues (for the period of April 2017–December 2019)

#### Strategies Underway

##### Sustainability Initiative Policies

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 (see page 27).

#### Progress in the Nine-Month Period Ended December 31, 2017

##### Progress Highlights

**E**nvironmental  
**Launched energy-saving products**  
→ P.46

**S**ocial  
**Implemented new human resources system**  
→ P.39

**G**overnance  
**Began revising officer compensation systems** → P.69

#### 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
- Conserve energy and resources at production sites
- Request cooperation of suppliers with regard to CSR procurement
- Ensure thorough compliance and more sophisticated risk management
- Promote employee diversity

### E-Plan 2019 (for the period of April 2017–December 2019)

#### Strategies Underway

##### 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.

#### Progress in the Nine-Month Period Ended December 31, 2017\*

ROIC  
**2.5%**

Operating income to sales ratio

**4.7%**

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

#### Targets for the Fiscal Year Ending December 31, 2019

ROIC  
**8.0 or more**

Operating income to sales ratio

**9.0% or more**

\* Figures are for the nine-month period ended December 31, 2017.

### Management Policy

**Growth Objectives**  
Develop business on a global basis and grow continuously as a manufacturer of industrial machinery



REFERENCE → Management Policy  
<https://www.ebara.co.jp/en/about/corporate/about/philosophy/index.html>

Materiality

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 environmental, social, and governance (ESG) issues material to our sustainable development and determined six action policies for initiatives pertaining to these issues. In addition, we have defined an approach toward addressing these issues and set key performance indicators (KPIs) 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.

Process for Identifying Material ESG Issues

The EBARA Group has taken steps to clarify how it will create value for the environment and society through its business and the explicit and implicit risks present in its business activities. We decided to identify ESG issues material to our business in order to shape initiatives addressing value creation and risk concerns that are of particular importance. We identified these issues through the four-step process indicated below, with input from the CSR Committee.\*

\* Please refer to page 67 for more information on the CSR Committee.

STEP 1: Selection of candidate material ESG issues

More than 100 candidate issues were selected while considering ESG issues that represent growth opportunities or risks for the EBARA Group based on its business goals and values. In this process, we referenced a range of global guidelines, such as the standards put forth by the Global Reporting Initiative and the Sustainability Accounting Standards Board, as well as ISO 26000, the SDGs, and others.

STEP 2: Identification of eight material ESG issues

We then looked at each candidate issue identified in Step 1 and evaluated the relative level of importance to stakeholders, using the evaluation criteria of several external rating institutions as a reference point, and their degree of relevance to EBARA's business. We thus identified eight material ESG issues with very high importance to stakeholders that are also highly relevant to our businesses.

STEP 3: Establishment of material ESG issues, action policies, and KPIs

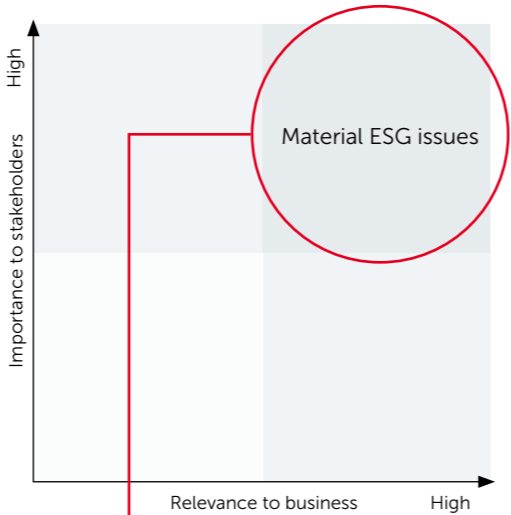
Six action policies were established to guide comprehensive Companywide efforts to address the eight identified material issues along with targets and KPIs\* to confirm our progress in implementing these policies.

\* Please refer to pages 29 and 30 for more information on KPIs.

STEP 4: Verification of material ESG issues, action policies, and KPIs

When identifying the material ESG issues, these issues were discussed at several CSR Committee meetings while incorporating the opinions of outside directors and external experts. As the final step in the identification process, the Board of Directors verified the appropriateness of the material ESG issues, action policies, and KPIs.

Materiality



Six Action Policies

- Action Policy 1** Provide products and services that minimize the use of energy and resources
- Action Policy 2** Expand the service and support (S&S) business, maximize product life, and minimize any product downtime
- Action Policy 3** Minimize the amount of energy and resources used in business activities
- Action Policy 4** Fulfill social responsibilities to supply chain, deliver reliable product quality throughout the product's life cycle, and achieve responsible customer engagement
- Action Policy 5** Continuously improve governance structures, headed by the Board of Directors, practice thorough compliance, and strengthen risk management
- Action Policy 6** Enhance diversity, improve work environments to empower employees to develop to their full potential, and provide opportunities to develop necessary skills

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

Eight Material Issues and Six Action Policies

The eight material ESG issues each correlate to different wide-scale environmental, social, and governance concerns, and the six action policies tackle these eight issues in a comprehensive manner. By implementing these action policies, we will endeavor to increase our corporate value.



Overview of and Background for Key Performance Indicators

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

Reductions in environmental impacts of major products and services and waste-to-energy generation KPIs

Fluid Machinery & Systems Business	Environmental Plants Business	Precision Machinery Business
Economic growth in developing countries is spurring increases in the construction of houses, commercial facilities, and office buildings. It can therefore be expected that demand for pumps and chillers will rise as these items are necessary for ensuring stable supplies of water and energy and creating comfortable spaces. The Fluid Machinery & Systems Business will seek to make these items more compact and energy efficient in order to help reduce CO <sub>2</sub> emissions.	It is anticipated that national energy policies will call for increased usage of renewable energy going forward. The Environmental Plants Business will strive to expand adoption of waste incineration and biomass power generation systems against this backdrop.	The global development of the information society will contribute to higher demand for semiconductors. The Precision Machinery Business will endeavor to meet this demand by making its semiconductor manufacturing equipment smaller and more energy efficient.
KPIs		
Electricity conservation amount	Waste-to-energy generation volume	Electricity conservation amount
Equipment weight reduction → P.46	Power generated by biomass-related power generation facilities → P.50	Equipment weight reduction
		Number of parts required → P.54
		Reductions of GHG emissions from product use

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

KPIs for increasing S&S sales and bases

Fluid Machinery & Systems Business	Environmental Plants Business	Precision Machinery Business
The Fluid Machinery & Systems Business will ensure the proper functioning of sewage system and water distribution pumps to help minimize the risk of water outages and pollution of public water bodies. In this business, we will also help reduce disaster risks by offering support for the appropriate functioning of the drainage and firefighting pumps used to combat heavy rains and fires.	The Environmental Plants Business will help maintain city hygiene and extend the lifespans of final disposal sites by operating and managing greater numbers of waste treatment facilities with its high technological prowess.	The Precision Machinery Business aims to contribute to stable supplies of semiconductors through support for the smooth operation of customer businesses achieved by performing disassembly, repair, and reassembly of large numbers of semiconductor manufacturing equipment over a short period.
KPIs		
S&S sales	S&S business expansion (number of contracting facilities) → P.50	S&S sales
Number of S&S bases → P.46		Number of equipment overhauls → P.54
Equipment weight reduction		Overhaul delivery periods

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

KPIs for managing measurements of Groupwide energy and resource consumption

Minimizing the environmental impact of business activities is an important social responsibility for companies. The EBARA Group guarantees Groupwide and global compliance with all environmental regulations and seeks to reduce the environmental impact of its manufacturing processes. We will advance a concerted effort to improve productivity and reduce the environmental impact of our production activities by replacing production equipment with equipment boasting higher energy efficiency and constructing fully automated plants.

KPIs		→ P.44
Material recycling rate	Water consumption by intake venue	
GHG emissions	Waste production	
Renewable energy usage rate		

Overview of and Background for Key Performance Indicators

Action Policy 4 Fulfill social responsibilities to supply chain, deliver reliable product quality throughout the product's life cycle, and achieve responsible customer engagement

KPIs for monitoring of CSR activities pertaining to suppliers

EBARA recognizes that its suppliers are important partners in the value creation process. For this reason, we request that suppliers adhere to the CSR Procurement Guidelines, which contain stipulations related to compliance, respect for human rights, occupational health and safety, and environmental preservation. We will also administer CSR procurement surveys to suppliers to raise awareness regarding the CSR Procurement Guidelines.

KPIs	→ P.76
CSR procurement survey response rate	
CSR Procurement Guidelines awareness	

Action Policy 5 Continuously improve governance structures, headed by the Board of Directors, practice thorough compliance, and strengthen risk management

Ongoing initiatives for promoting contributions by Independent Directors, disseminating the "EBARA Way," and entrenching compliance

With a Board of Directors in which a majority of members are Independent Directors, the Company ensures the independence and objectivity of its management supervision function. Moreover, we are strengthening this function and continuing to improve transparency. The Group also holds ongoing training sessions aimed at disseminating the "EBARA Way," our Group identity, and entrenching the EBARA Group Code of Conduct and Groupwide compliance. Meanwhile, we are systematically expanding our range of whistle-blowing hotlines that are available to overseas Group companies to facilitate early detection of and response to concerns and issues.

KPIs		→ P.61, 73–74
Number of Independent Directors	Number of companies with compliance whistle-blowing hotlines enabling consultation with outside venues	
Number of training sessions conducted on the "EBARA Way" and the EBARA Group Code of Conduct	Number of companies undergoing compliance training (anti-corruption training)	
Number of companies administering compliance surveys		

Action Policy 6 Enhance diversity, improve work environments to empower employees to develop to their full potential, and provide opportunities to develop necessary skills

KPIs for diversity promotion and workplace environment development initiatives

Employees are the driving force behind our value creation efforts. We continue to develop safe, secure, and comfortable workplace environments to help these employees balance their work life with their private life and grow while exercising their diversity and individual talents.

KPIs		→ P.40
Level of diversity	Human resource development	
Work hours		
Workplace safety		

Ongoing Initiatives for Addressing Material ESG Issues

In order to address the material ESG issues, initiatives aimed at accomplishing KPI targets will be advanced by businesses and Company divisions and the progress of these initiatives will be reported to the CSR Committee. Based on these reports, we will periodically revise the action policies and KPIs and reflect these revisions in business activities in order to ensure the effectiveness of our initiatives. Going forward, we will continue to enact this cycle with ongoing initiatives for addressing ESG issues material to our business.

Relationship between Action Policies and the SDGs

Verification of Level of Relevance between Business Activities and the 17 SDGs and Their 169 Targets

During the process of identifying the candidate material ESG issues, we referenced the United Nations SDGs, a set of shared global targets. We were therefore able to discuss just how the EBARA Group’s business will contribute to the accomplishment of the SDGs during the identification process. After establishing the six action policies for guiding initiatives to comprehensively address our material ESG issues, we then examined and judged the degree to which these policies were relevant to the 17 SDGs and their 169 targets.

Relationship with the SDGs



Relevance  
Low (L) Medium (M) High (H)

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

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

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

**Action Policy 4**  
Fulfill social responsibilities to supply chain, deliver reliable product quality throughout the product’s life cycle, and achieve responsible customer engagement

**Action Policy 5**  
Continuously improve governance structures, headed by the Board of Directors, practice thorough compliance, and strengthen risk management

**Action Policy 6**  
Enhance diversity, improve work environments to empower employees to develop to their full potential, and provide opportunities to develop necessary skills

SDG Targets																	
<div>1</div> <div>NO POVERTY</div> <div></div>	<div>2</div> <div>ZERO HUNGER</div> <div></div>	<div>3</div> <div>GOOD HEALTH AND WELL-BEING</div> <div></div>	<div>4</div> <div>QUALITY EDUCATION</div> <div></div>	<div>5</div> <div>GENDER EQUALITY</div> <div></div>	<div>6</div> <div>CLEAN WATER AND SANITATION</div> <div></div>	<div>7</div> <div>AFFORDABLE AND CLEAN ENERGY</div> <div></div>		<div>8</div> <div>DECENT WORK AND ECONOMIC GROWTH</div> <div></div>	<div>9</div> <div>INDUSTRY, INNOVATION AND INFRASTRUCTURE</div> <div></div>	<div>10</div> <div>REDUCED INEQUALITIES</div> <div></div>	<div>11</div> <div>SUSTAINABLE CITIES AND COMMUNITIES</div> <div></div>	<div>12</div> <div>RESPONSIBLE CONSUMPTION AND PRODUCTION</div> <div></div>	<div>13</div> <div>CLIMATE ACTION</div> <div></div>	<div>14</div> <div>LIFE BELOW WATER</div> <div></div>	<div>15</div> <div>LIFE ON LAND</div> <div></div>	<div>16</div> <div>PEACE, JUSTICE AND STRONG INSTITUTIONS</div> <div></div>	<div>17</div> <div>PARTNERSHIPS FOR THE GOALS</div> <div></div>
Numbers represent relevant SDG targets																	
1.5 L	2.4 L	3.9 L			6.1 H 6.2 L 6.3 H 6.4 H	7.1 M 7.2 H 7.3 H 7.a H		8.2 H 8.4 H	9.1 H 9.2 M 9.4 H 9.5 H		11.1 H 11.3 H 11.5 M 11.6 L 11.b L	12.2 M 12.4 H 12.5 H 12.6 L	13.1 H		15.3 L		17.17 M
1.5 L	2.4 M	3.9 L			6.1 H 6.2 L 6.3 H 6.4 H	7.1 M 7.2 M 7.3 H 7.a H		8.2 H 8.4 H	9.1 H 9.2 M 9.4 H 9.5 H		11.1 H 11.3 H 11.5 M 11.6 L 11.b L	12.2 M 12.4 H 12.5 H 12.6 L	13.1 H		15.3 L		17.17 M
		3.9 L			6.3 H 6.4 M 6.5 L	7.2 M		8.4 M	9.4 H		11.1 L 11.6 H	12.2 M 12.4 H 12.5 H 12.6 L					
1.5 L		3.9 L	4.4 L		6.3 L			8.4 L 8.7 M 8.8 H			11.6 M	12.4 M	13.1 M			16.5 M 16.b L	17.16 M 17.17 M
				5.1 H					9.4 M		11.b L	12.6 L				16.3 M 16.5 M 16.7 M 16.b L	17.14 M 17.16 M 17.17 M
			4.7 L	5.1 H 5.5 H 5.b H				8.5 H 8.7 H 8.8 H	9.5 H	10.2 M 10.3 M 10.4 L						16.7 L	17.17 L

Relationship between Action Policies and the SDGs

R&D and Intellectual Properties

Management Resources Underpinning Competitive Edge—Capabilities of Our Technologies



Guided by the basic strategies of BRDIP\*<sup>1</sup>—which promotes coordination between businesses, research and development, and intellectual properties—and ABA,\*<sup>2</sup> which encourages collaboration between academia, businesses, and industry associations, EBARA is creating new methods of research not seen anywhere else in the world. For example, we perform basic research, product development, new development, and production support activities through Ebara Open Innovation (EOI),\*<sup>3</sup> Ebara Open Laboratory (EOL),\*<sup>4</sup> Ebara Innovation for “X” (EIX),\*<sup>5</sup> and Ebara Open for Supplier (EOS).\*<sup>6</sup> Meanwhile, EBARA is rapidly deploying a distinctive intellectual property approach of shifting its focus from patent numbers to patent quality and ultimately patents that will underpin competitive advantages. Through these activities, EBARA’s R&D activities and intellectual properties continue to evolve and support the growth of the Group.

**Manabu Tsujimura** Senior Managing Executive Officer,  
Responsible for Technologies, R&D, and Intellectual Property

Basic Approach

The BRDIP strategy—which places a strong focus on coordinating businesses, research and development, and intellectual properties—reemphasizes that research and development and intellectual property operations are for businesses. By dovetailing research and development and intellectual property activities with business operations, we aim to maximize development investment efficiency and heighten product competitiveness, while striving to trigger new advances by integrating the Fluid Machinery & Systems, Environmental Plants, and Precision Machinery businesses.

In regard to research and development, each business segment is responsible for product development while corporate divisions are responsible for research on core and fundamental technologies through the frameworks provided by EOI and EOL. Also, EIX activities target the creation of new businesses

and EOS activities are aimed at enhancing prototyping efforts.

Our intellectual properties are managed by an organization with a history spanning more than a century and we have been evolving its intellectual properties to address globalization and to incorporate them into aggressive expansion strategies. Specifically, we are focusing on the needs of Group companies worldwide as we advance intellectual property initiatives. Furthermore, rather than patent numbers, we are focusing more on patent quality with a view to securing patents that will underpin competitive advantages while also engaging in technology branding activities.

REFERENCE Technologies page of EBARA’s corporate website  
<https://www.ebara.co.jp/en/about/technologies/index.html>

Competitive Advantages

In research and development, EOL conducts research on upwards of 80 research themes focused on enhancing fundamental technologies that bolster product competitiveness. Some of these themes arise from the research conducted by EOI, in partnership with over 70 researchers at more than 30 universities.

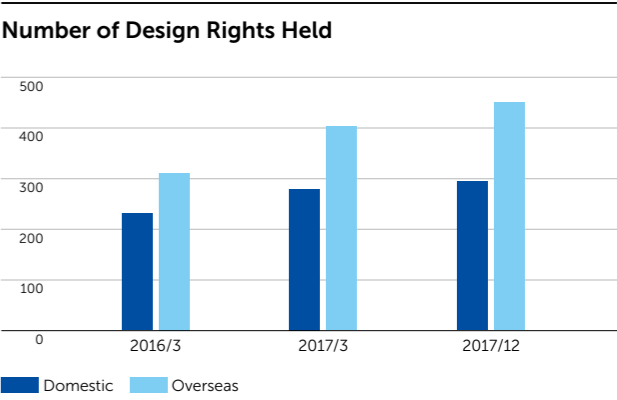
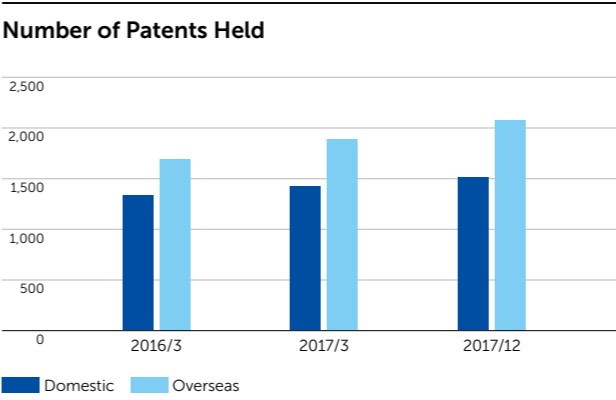
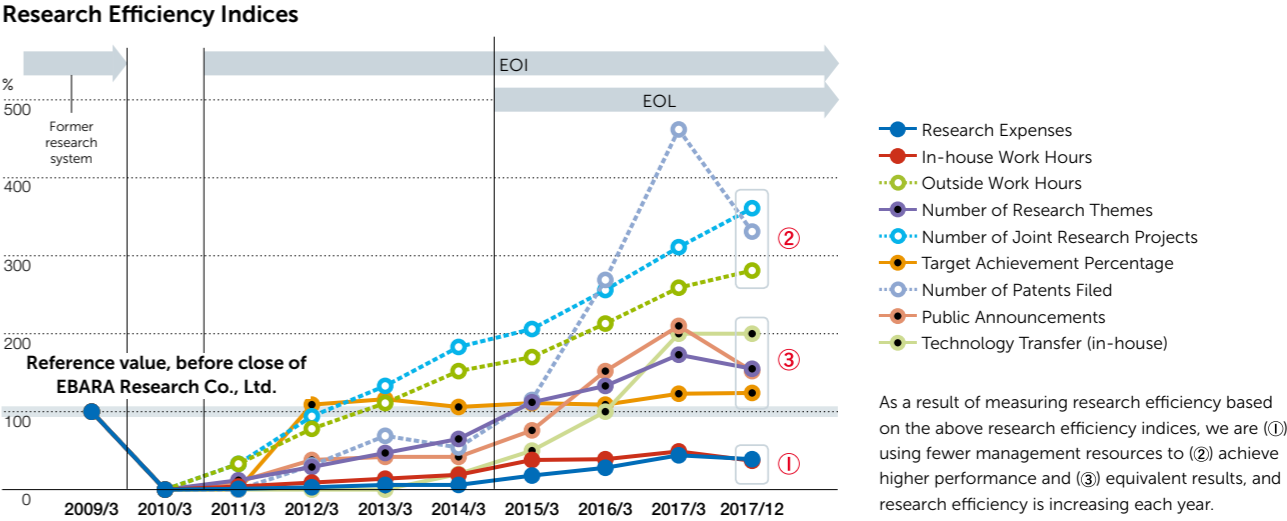
Numerical evaluations show that the quality, volume, and contribution to business activities of our current research ventures have surpassed that of research in the fiscal year ended March 31, 2009, when we were still operating under the previous R&D system. As illustrated by the graph on the following page, improvements are being seen in all relevant indicators. Research efficiency is also up. By entrenching the activities of EOI and EOL into our R&D ventures and managing them based on the defined KPIs, we can contribute to the maximization of development investment efficiency and the heightening of

product competitiveness. Going forward, we will boost product competitiveness through research that is directly linked to our business while also focusing on enhancing fundamental technologies research.

In regard to intellectual properties, we will advance activities based on the pre-litigation strategy\*<sup>7</sup> and otherwise pursue the strategic acquisition of property rights in order to move beyond just securing quality patents to developing intellectual properties that will underpin competitive advantages. In the reporting period, the number of patent applications submitted as a result of the pre-litigation strategy was more than six times higher\*<sup>8</sup> than in the fiscal year ended March 31, 2015, when this strategy was first implemented. By acquiring the intellectual property rights required in each business worldwide, we are bolstering the number of patents held in Japan and overseas.

\*1. An original EBARA Group acronym created from “business,” “R&D,” and “intellectual property”  
\*2. An original EBARA Group acronym created from “academy,” “business,” and “associations”  
\*3. An original open innovation format that entails fostering young researchers at outside research institutions and conducting joint research to resolve advanced technological issues  
\*4. A corporate research organization that enables exchanges among researchers and open sharing of research themes in-house  
\*5. A research and development system for business creation  
\*6. A term referring to both a framework and activities for open exploration of R&D suppliers that is not limited to existing suppliers  
\*7. Strategy of acquiring patents to prepare for potential future litigations  
\*8. Calculated by adjusting the number of patent applications in the nine-month period ended December 31, 2017, to reflect a twelve-month period

R&D and Intellectual Properties  
Management Resources Underpinning Competitive Edge—Capabilities of Our Technologies



Priority Strategies and Progress

	Strategy	Progress
R&D R&D activities that are fully integrated with intellectual property activities aimed at supporting competitiveness and growth strategies	• Advance research on EOL themes and transfer results to businesses • Enhance basic research	• Advanced research on EOL themes by managing KPIs • Implemented measures for enhancing basic research
	• Promote EIX • Formulate themes for next fiscal year	• Commenced research and development on new EIX themes • Conducted various research projects
	• Establish fundamental technologies for numerical analysis and analytical techniques and strengthen business foundations • Promote research and development	• Performed numerical analyses • Formulated and implemented plans for developing analytical infrastructure • Outsourced work from business segments
	• Establish a system for information security and confidential information management and manage risks	• Revised review methods for public announcements • Shared review results • Established system for managing technological information
Intellectual Property Promoting strategic intellectual property activities that fully utilize the Group’s intellectual properties	• Acquire intellectual property rights strategically and on a global basis	• Progressively shifted focus from patent numbers to patent quality and ultimately patents that will underpin competitive advantages through pre-litigation strategy
	• Establish a global system for the management of risks accompanying intellectual property rights	• Constructed system for managing intellectual properties of overseas Group companies • Tracked intellectual property activities
	• Enhance and build up the value of the EBARA brand	• Optimized procedures for acquisition and maintenance of trademarks for the Company’s logo • Advanced technology branding activities



The EBARA Group's Research System

Shaping the Future through Engagement in Both Research and Business

EBARA has developed a unique research system comprised of the Ebara Open Innovation (EOI) program and the Ebara Open Laboratory (EOL) through which it engages in ongoing research activities. The following pages chronicle a discussion with three representatives of EBARA's R&D functions on the current state of this research system, which is supporting new undertakings, and their vision for the future of this system.

HIROKUNI HIYAMA × HIROSHI SOBUKAWA × AKIRA GOTO

Unique Research System

What are some characteristics of EBARA's research system?

**Hiyama:** EBARA's three in-house companies oversee their respective businesses and the development of products for these businesses. Meanwhile, EOL was established in 2014 as a corporate research organization to undertake research on fundamental technologies for products. Many EOL researchers concurrently perform duties related to the businesses of one of the three companies while also conducting their EOL research. In other words, they take part in product development in their business segment while also carrying out research on themes that relate to said development.

In the past there was a research and development style called the linear model, which EBARA utilized for its R&D activities. Under this model, all processes of the R&D process, from research on fundamental technologies, applied research, development, design, to manufacturing, commercialization, and sales would be handled by a single company. Today, it's difficult to handle all those processes within one place due to the increasing complexity, speed of progress, and shortening lifespans of the products and technologies. In the United States, this situation has led to the advent of startup companies, making the utilization of such companies a crucial part of new technology development. The days of research being contained within a single research organization have come to an end.

In 2009, we closed EBARA Research Co., Ltd., as this company's system was no longer in step with the times. Searching for a new method of research after this closure, we arrived at the EOL of today.

**Sobukawa:** After the closure of EBARA Research, the researchers became employees of the various business segments, and as a result the current EOL research system has a closer relationship to the business segments, a change that has had positive effects.

**Goto:** The greatest joy for a researcher is when their research becomes a part of society. However, if one does not step outside of the lab, they won't know how to introduce their research into society. When researchers take part in product development at a business segment, they can tell how the insight gained through their research may be helpful to business. This change in perspective has proven to be most beneficial.

Examining the Reestablishment of a Research Organization

Is it correct to assume that the closure of EBARA Research meant there was a time during which the Company did not have a research organization?

**Hiyama:** Management, of course, did not assume that there was no need for us to have a research organization. Rather, they were examining potential means of reestablishing a research system. We kicked off EOI a year after the closure

of EBARA Research. Put simply, this program entails conducting joint research with universities and other external research institutions.

How did EBARA's joint research activities begin?

**Hiyama:** I would like to explain the start of our joint research activities by using an example from the Precision Machinery Business. This business' mainstay, CMP systems, must be able to perform processes that polish wafers mechanically as well as by using slurry that exerts chemical properties in order to ensure a flat surface for the semiconductor wafers that serve as substrates. Seeking to take part in CMP research projects, we proposed joint research to researchers in this field at universities across Japan. We placed particular emphasis on approaching younger researchers.

**Sobukawa:** It is possible for CMP slurry to corrode semiconductor materials. To address this issue, we developed, through joint research, a technology that uses atomic force microscopes, which can measure very minute forces, to assess the electrical conditions on the surface of the wafer and gauge the possibility of corrosion. The technology has

proven to be incredibly useful to the development of CMP processes. This is just one success of our joint research.

**Goto:** Opening up our research system made it easier to incorporate research from other fields. The number of institutions with which we conduct joint research through EOI grows with each year. Today, we are engaged in joint research on 50 themes with 56 research departments at 32 universities.

EOI is an exceptionally effective research program, but even it has its limitations. First of all, we cannot perform research pertaining to company secrets through this system. Also, if we have research conducted entirely outside of the Company, we will not be able to cultivate new researchers within. Furthermore, there is some research that requires long-term commitments. In-house researchers and effective research systems are crucial to continuously carrying out such long-term research. We therefore saw a need to develop a new research system to address these limitations.

**Hiyama:** This new system was the aforementioned EOL. We created EOL four years after the launch of EOI, when

Hirokuni Hiyama

Technical Superintendent of Technologies, R&D Division, EBARA CORPORATION  
Doctor of Engineering  
Visiting Professor, Kyushu Institute of Technology

After joining EBARA, Mr. Hiyama took part in design and development at Elliott in the Machine Division. He was transferred to the Research Laboratory in 1979. Since the closure of EBARA Research, he has been a driving force for EOI and EOL at the Company's Technologies, Research & Development Division.

Hiroshi Sobukawa

Division Executive of Technologies, R&D Division and Division Executive of Advanced Technology Division, Precision Machinery Company, EBARA CORPORATION

Mr. Sobukawa has been involved in design and development in the Precision Machinery Business since joining the Company. In 2017, he was placed in charge of the Technologies, Research & Development Division, which oversees EOL.

Akira Goto

Superintendent of Technologies, R&D Division, EBARA CORPORATION  
Doctor of Engineering

Following his entry into EBARA, Mr. Goto performed research at the Research Laboratory. In 2005, he transferred to the head office, where he was involved in new technology planning, and he later participated in research and development at the Fluid Machinery & Systems Company starting in 2006. Mr. Goto also held a concurrent position at EBARA Research up until its closure. Since 2017, he has supported EOL as Technical Superintendent at the Technologies, Research & Development Division.

History of the EBARA Group's Research Organizations

- 1912 Establishment of EBARA CORPORATION
- 1971 Establishment of Research Laboratory
- 1972 Establishment of Research and Development Center of Ebara-Infilco Co., Ltd.
- 1984 Merger of Research Laboratory and Research and Development Center of Ebara-Infilco Co., Ltd. to form EBARA Research Co., Ltd.
- 2009 Closure of EBARA Research Co., Ltd., and relocation of researchers to companies
- 2010 Start of EOI program for joint research with external researchers
- 2014 Launch of EOL enabling employees to request to serve concurrently at their business segment and as a researcher
- 2016 Commencement of EIX R&D framework aimed at unlocking a yet unseen future for EBARA





## Case Study of Enhanced R&D Capabilities

the results of these activities were beginning to gain recognition within the Company. In shaping EOL, we realized that it would be important to ensure that this system was different from the prior EBARA Research system.

### Internally and Externally Open Research System How did you overcome this difficult challenge?

**Hiyama:** We approached this challenge by creating three overarching frameworks. The first framework was to have researchers come to EOL with a specific theme and to research this theme while also taking part in development activities at their business segment. This framework was aimed at facilitating researcher growth. The second framework was formed through the establishment of three research departments: the Fundamental Technologies Research Department, the Product Core Technologies Research Department, and the Advanced Analysis Department. The third framework was our mentor system. Under this system, technology and development staff at each business segment with practical and research experience become mentors to researchers of research divisions and provide them with instruction and guidance.

In developing these frameworks, we placed an even greater emphasis on creating quick results. For example, we selected priority themes from which results could be swiftly realized, devoting our efforts to these themes to drive improvements in product competitiveness. We also made a point of ensuring that EOL was a research organization that was open, both to those inside of the Company and to those outside. These focuses led us to develop a framework in which in-house researchers could gather to research their given themes while collaborating with external researchers when necessary.



I hope our research organization will come to be seen as the brains behind management.

Hiroshi Sobukawa

### Research Advanced Through Cross-Business Coordination

#### How has research changed under the new system?

**Sobukawa:** The biggest change was the newfound sense of solidarity with each business segment. As individuals from various businesses gather together to perform research, business segments are able to tell who is researching what while research divisions can keep tabs on the development projects a given individual is engaged in at their respective business. This situation made researchers feel more closely connected to one another. The result has been cross-business coordination and technology application.

#### What are some specific successes created under the new system?

**Goto:** In terms of open research, I would count engaging in joint research with institutions other than universities. One

example was a joint research project on vertical shaft pump vibration conducted with the Japan Aerospace Exploration Agency. By adapting the form optimization technologies this agency developed for rocket turbo pumps for industrial applications, we were able to propose pumps with new forms that contribute to reduced vibrations.

Standard pump design processes prioritize efficiency, determining the shape and position of the turbine impellers and flow channels first and then hammering out the machinery design details. For this reason, it is difficult to rectify mechanical vibrations as the options that can be used at this late stage are few. We addressed this issue by departing from the conventional process, first prioritizing vibration stability in designs to create pumps with forms never seen before. This change in approach could not have succeeded without external insight.

### Ongoing Evolution of Open Research System

#### Are there other new initiatives being advanced under the new system?

**Hiyama:** We introduced Ebara Open for Supplier (EOS), a framework for collaboration with the suppliers that support EBARA in its research activities.

**Sobukawa:** We are also advancing the Ebara Innovation for "X" (EIX) program. The "X" in this program's title represents yet unseen futures for EBARA. Accordingly, this project is geared toward research and development for unlocking such new futures. Specific themes researched as part of the EIX program include production technology innovation, multilayered structure utilization (3D printers), design streamlining using ICT and artificial intelligence (AI) technologies, and smart development factories for improving design efficiency.

**Hiyama:** "Open" is the core concept defining all aspects of our new research system. "Open" means to be both internally and externally open. We therefore aim to foster an



This change in approach could not have succeeded without external insight.

Akira Goto

atmosphere that is conducive to internal researchers, researchers from external research institutions, and suppliers gathering to engage in discussion and co-creation.

### What are your plans for the future of EBARA's research system?

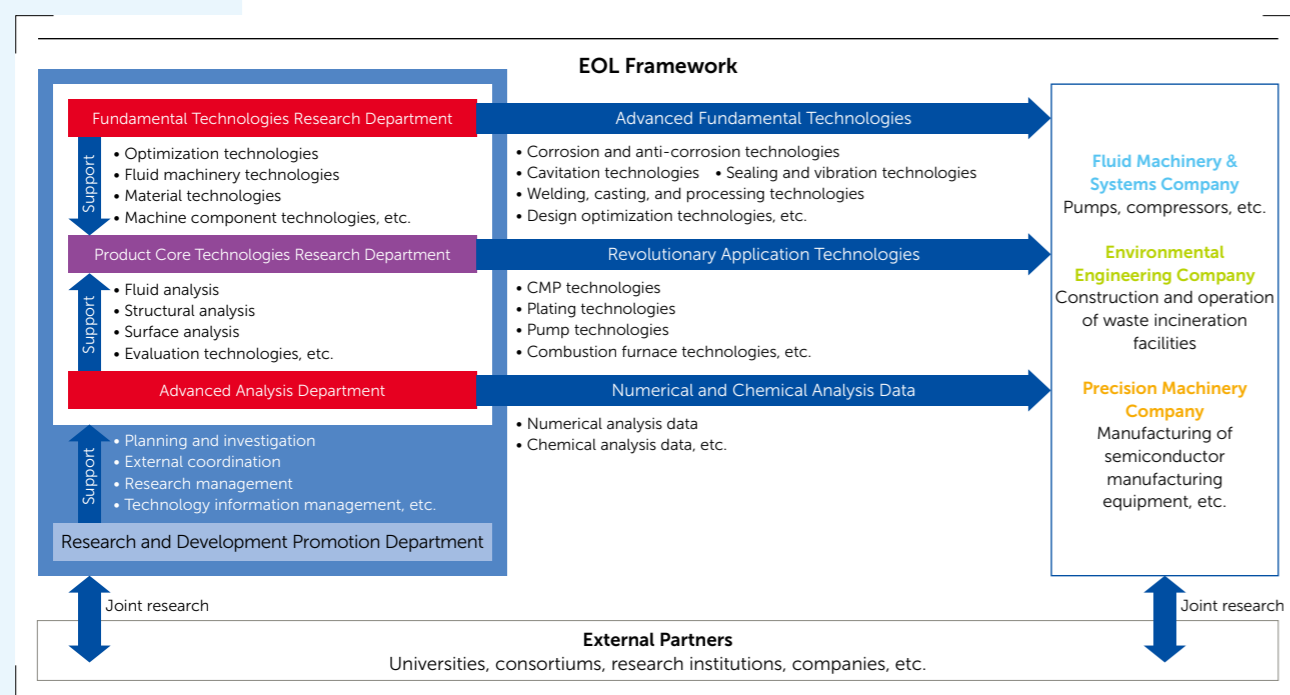
**Sobukawa:** We are still discussing the type of research organization we will target in the future, but several ideas have begun to solidify.

Up until now, we have sought to generate visible results to demonstrate the effectiveness of our new research system. We have therefore focused on research themes that are directly linked to product competitiveness. However, there has been a push to leave such research to divisions that are more closely associated with product development. Accordingly, our research system will be turning its attention to fundamental research going forward.

The closure of EBARA Research has left us weak in some areas while other capabilities were lost completely. We will therefore need to identify these insufficiencies to recover these strengths.

We will also need to augment our marketing and research capabilities so that we will be able to engage in new research. It will be important to cultivate a proficiency at identifying technologies and changes in the operating environment that could have a large impact on existing businesses as well as moves to create new technologies. By fostering this proficiency, I hope our research organization will come to be seen as the brains behind management.

Research organizations are expected to fulfill many roles, including investigating technology trends, advancing new research projects from forward-looking perspectives, performing research for boosting fundamental technology capabilities and product competitiveness, and supporting business divisions in development activities and in complaint response. It will be crucial to evolve our research organization to better match the Company going forward to ensure that we can fulfill these roles while helping EBARA sustain a competitive edge and continue to grow.



We aim to foster an atmosphere that is conducive to internal and external researchers gathering to engage in discussion and co-creation.

Hirokuni Hiyama

Human Resources

Management Resources Underpinning Competitive Edge—Human Resources and Diversity

The EBARA Group must be a team capable of swift transformation if it is to compete in the growing global market. This requires us to cultivate a corporate culture that encourages competition and embraces challenges. To this end, we are revising our human resources systems, implementing measures for addressing the Group’s material ESG issues, and taking other steps to promote respect for human rights and diversity while developing a comfortable and motivating workplace environment.

Basic Approach

EBARA is enhancing its human resource management practices to cultivate a corporate culture that encourages competition and embraces challenge. Specific measures with this regard include promoting diversity, implementing work style reforms, and facilitating career management. We aim to implement drastic reforms that shatter pre-conceptions to place employees in the ideal positions based on their aptitudes, create organizational structures that allow for swift decisions, and enable employees to choose work styles that match their career plan or life

stage. As the first step in these reforms, we revised the human resources system pertaining to management-level employees to establish a system which balances an employee’s role to their rank and took action to flatten our organization in the nine-month period ended December 31, 2017.

REFERENCE → Personnel Affairs and Human Resource Development Policy  
<https://www.ebara.co.jp/en/about/csr/social/environment/index.html#anc1209051>

Initiatives for Strengthening Human Resources

**Promotion of Diversity and Work Style Reforms**  
Diversity management is crucial to enable all employees to fully exercise their talents. Accordingly, we hold training sessions for section and division managers with the aim of raising awareness of this fact. In addition, we are proactively hiring women and non-Japanese fresh graduates in order to further diversify our employee base. Work-life balance initiatives included introducing a telecommuting system in April 2017 for use by employees raising children or caring for family members and holding two seminars at Haneda headquarters and Fujisawa District on balancing the act of providing long-term care to a family member with one’s work.

**Occupational Health and Safety**  
To enhance occupational health and safety management through the organization, EBARA has established regulatory documents such as its comprehensive occupational health and safety management regulations, which stipulate basic frameworks including regular management systems and emergency reporting routes. Enacting these regulations has enabled us to transition from management on the business site level to a clear, Companywide occupational health and safety management system headed by the Central Health and Safety Committee. Even sites with few employees are expected to construct comprehensive occupational health and safety management systems. Each of these on-site systems are required to create and implement occupational health and safety plans that reflect the Group Safety and Health Policy and provide opportunities for employee input regarding occupational health and safety.

**Human Resource Development—Career Management Program**  
The Career Management Program aims to stimulate the growth of both the Company and its employees by positioning employees based on their ambitions and aptitudes. Through this program, applicable employees meet with representatives from human resource divisions, after which their desired career plans are communicated to the manager of their business division in order to support systematic human resource development and help employees shape their careers through their work. In the nine-month period ended December 31, 2017, the Company introduced training programs tailored to different age groups that helped individuals in these groups learn the skills needed to chart their own career course. These programs provided an opportunity for employees to think about their careers, which in turn heightened their motivation.

**Organizational and Human Resources System Reforms**  
EBARA replaced its prior seniority-based system, which placed emphasis on experience and skills, and replaced it with a system which compensates and promotes employees based on their role and accomplishments in their workplace. This new system is designed to encourage talented and ambitious employees of all ages, genders, and nationalities to proactively take on more important roles and hone their skills.

Meanwhile, we took steps to improve organizational efficiency by merging redundant organizations and making them flatter, thus creating leaner, less segmented organizations (reduced total number of organizations by 40%).

Human Resources

Management Resources Underpinning Competitive Edge—Human Resources and Diversity

Action Policy KPIs (Status & Targets for the Fiscal Year Ending December 31, 2019)

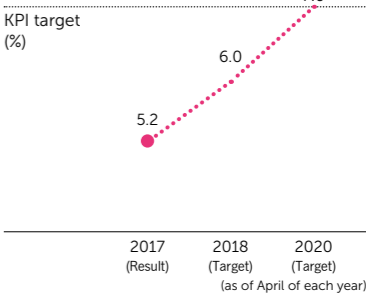
Promotion of Diversity and Work Style Reforms

Ratio of female managers  
**7.0%**

(non-consolidated, to be achieved by April 2020)

To achieve this target, EBARA holds career development seminars for general Group employees under 30, arranges forums for discussion on balancing one’s career with childrearing with employees that have experience in this regard, regularly publishes articles introducing the various career paths of female managers, and implements other unique initiatives. In addition, the Company is increasing hiring of women and stepping up career development support for female employees.

Status & KPI Target



Human Resource Development

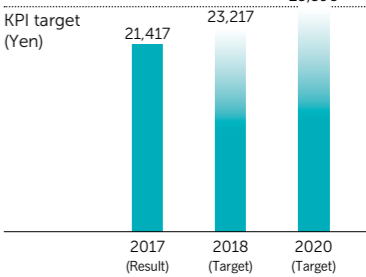
Training expenditures per employee

**¥25,398**

(consolidated, in Japan)

The EBARA Group provides training for all non-executive management with the aim of boosting the skills of managers that were appointed to important positions as a result of organizational reforms. Specifically, we conduct ongoing programs designed to foster the skills needed to act in the ways expected of a leader and to promote changes in attitudes and behavior. We will continue to pursue qualitative and quantitative improvements to these programs going forward.

Status & KPI Target



Occupational Health and Safety

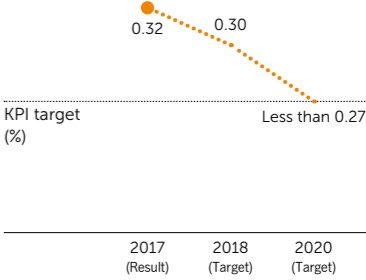
Frequency rate of accidents resulting in lost work days

**0.27% or less**

(consolidated, in Japan)

We have set our target for reducing the frequency rate of accidents resulting in lost work days for 0.27% or less, which is lower than 0.32%, the average of manufacturers with more than 1,000 employees. Seeking to accomplish this goal, we will apply the occupational health and safety regulations established in the fiscal year ended March 31, 2017, to all Group companies, strengthen these regulations, and also engage in the establishment, implementation, and enhancement of health and safety plans for addressing issues on a Groupwide basis.

Status & KPI Target



Organizational and Human Resources System Reforms

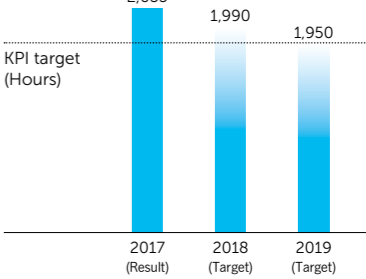
Total annual work hours per employee

**1,950 hours**

(consolidated, in Japan)

The EBARA Group is fostering a workplace environment conducive to improving productivity on a Groupwide basis. In 2017, the Work Style Committee was established to review awareness surveys and identify areas requiring improvement. In addition, we set specific targets for reducing division work hours, which are considered in manager performance evaluations, and linked the on/off status of all employees’ computers to work hour management systems.

Status & KPI Target



## DIVERSITY PROMOTION & WORK STYLE REFORMS

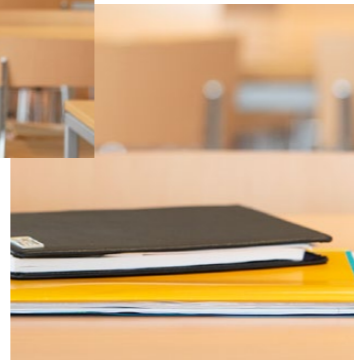


Yumiko Sekino



Hiroyuki Maeno

## OCCUPATIONAL HEALTH AND SAFETY



## HUMAN RESOURCE DEVELOPMENT



Szuyung Chen



Toshikazu Furuuchi

## ORGANIZATIONAL/ H.R. SYSTEM REFORM

# Competitive People of EBARA, Embracing Challenge

Supporting the Company's growth with their own growth to create a better society

### Promotion of Diversity and Work Style Reforms

#### I Want to Help Create Workplace Environments Matched to Individuals

I have been taking part in R&D work since joining EBARA, and as such, my whole career I have been surrounded by men. Coming from a science background, however, I am used to environments where there aren't many women, and this situation has not hindered my work. My being a woman apparently makes me more memorable among my colleagues. For this reason, I am often given the opportunity to participate in internal and external lectures as well as events for supporting female students studying sciences. I make a point of accepting these offers so that I can help promote EBARA's technologies and raise recognition of the Company.

I learned of the Company's systems pertaining to work-related ailments when I fell ill in the past. There are many different ways of achieving a good work-life balance. I therefore want to propose flexible work styles and help foster an environment in which as many employees as possible are able to exercise their talents.

#### Yumiko Sekino

Thermal and Fluid Mechanics Section, Fundamental Technologies Research Department, Technologies, Research & Development Division  
Fluids Technology Section, Technology Development Department, Strategy and Technology Management Division, Fluid Machinery & Systems Company  
Smart Factory Development Section, Technologies, Research & Development Division

### Occupational Health and Safety

#### Occupational Accident Analyses to Ensure the Safety of Everyone on the Premises

Acting in accordance with our basic policy of prioritizing occupational health and safety above all else and seeking to eliminate occupational accidents, we work together with our on-site partners to eliminate occupational accidents and ensure the safety of everyone working on the premises of our site, not just EBARA employees. In addition, we manage employees' acquisition of the qualifications necessary to perform restricted tasks, such as crane operation. We also provide skill improvement training on-site that is available to the employees of on-site partners. These efforts are aimed at contributing to the accomplishment of the EBARA Group's goals. By promoting participation in risk assessments and other occupational health and safety activities, we encourage employees to hone their skills together while raising safety awareness.

Going forward, we will continue to identify and address potential hazard areas and behaviors based on analyses of past occupational accidents, thereby using this information in occupational health and safety activities aimed at eliminating occupational accidents.

#### Hiroyuki Maeno

Section Manager, General Affairs Section, Human Resource and General Affairs Department, Elliott Ebara Turbomachinery Corporation  
Occupational Health and Safety Manager, Sodegaura District

### Human Resource Development— Career Management Program

#### Utilization of Growth Support Systems to Realize Desired Career

After joining the Company, I was assigned to the Turbine Design Section of Elliott Ebara Turbomachinery Corporation. There, I utilized design and analytical technologies to promote improvements to existing facility designs. The ability to make use of the analytical technologies I researched in university was a highly motivating prospect. At the same time, I was forced to admit my lack of knowledge, which in turn filled me with a desire to delve deeper into these technologies. More committed than ever to testing my abilities in a division where I would be able to focus primarily on analyses, I voiced this desire to a Career Management Program representative, resulting in a transfer to my current position.

Today, I am responsible for using analytical technologies to help boost the competitiveness of our industrial pump products, formulate design optimization processes, and develop aero compressors. I love the feeling of growth as I advance along my desired career path.

#### Szuyung Chen

Fluids Technology Section, Technology Development Department, Strategy and Technology Management Division, Fluid Machinery & Systems Company  
Smart Factory Development Section, Technologies, Research & Development Division

### Organizational and Human Resources System Reforms Implementation of Systems with Input from Union Members

EBARA implemented the new role-rank human resources system this year. In developing this system, the union engaged in dozens of discussions with the Company over the course of roughly a year. Our focus was on making a system that allows anyone to reach higher job grades if they achieve results in their work. Such systems must be able to support the contributions of union members in terms of both infrastructure and atmosphere and must reward individuals for their successes regardless of their age or gender.

As we rearrange work positions, it is anticipated that employees will find themselves responsible for tasks that they have not yet experienced and that are more difficult than their previous duties. We therefore requested that the Company provide various training opportunities for mindset reforms and skill improvements. As for the union, we are tasked with creating frameworks for ensuring that union members do not feel hesitant to take part in these trainings. Some union members were perplexed or concerned following the system reform due to its massive scale. Nevertheless, I am committed to incorporating and addressing the input of union members in the implementation of these systems to entrench them within the Company.

#### Toshikazu Furuuchi

Chairperson, EBARA Corp. Workers' Union

Environmental Measures

Management Resources Underpinning Competitive Edge—Consideration for the Environment



The EBARA Group is committed to contributing to society while achieving sustainable growth. We therefore strive to help resolve global issues through the provision of unrivaled products and services in the fields of water, air, and the environment. To accomplish these objectives, we are developing energy-saving products, conducting more rigorous environmental management with regard to our own business activities, and turning our attention to improvements in environmental performance at Group companies developing operations around the world.

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

Basic Approach

Global climate change is advancing, and we are losing the stable global environment that underpins our lives and economies. EBARA’s Environmental Policy stipulates that we should seek to contribute to the preservation of the global environment by positioning as priority strategies the creation of eco-friendly products, minimization of the environmental impact of our production activities, and

expansion of renewable energy use. We believe that continuous improvement of environmental management systems at the Group will form the foundation for these efforts.

REFERENCE → Environmental Policy and Data  
<https://www.ebara.co.jp/en/about/csr/environment/vision/index.html>

Initiatives for Strengthening Environmental Management

Resolution of Material Issues: Action Policy 3



The EBARA Group reliably operates environmental management systems at all of its production sites and takes comprehensive measures to promote strict compliance with environmental laws and to prevent environmental pollution. In addition, we continuously review production processes and work to reduce the environmental footprint of our business activities.

Standardization of EBARA’s Environmental Management Systems and Acquisition of Certification Under ISO 14001:2015

We have been operating our major production facilities and Haneda headquarters under ISO 14001 certification, so we took measures to update the certification at relevant sites after the release of ISO 14001:2015. These measures included revising the environmental management system procedures and standardizing work-related rules. All relevant sites were able to acquire 14001:2015 certification on October 11, 2017. Moreover, the standardization of our environmental management systems has enabled us to operate these systems with greater efficiency.

Tracking of Environmental Performance Data and Overhaul of IT Infrastructure

Over the two-year period spanning from April 1, 2015, to March 31, 2017, we undertook a massive overhaul to the IT infrastructure used to track, manage, and aggregate the EBARA Group’s environmental performance data. Operation of the new system was commenced in April 2017. At the

same time, we began collecting and aggregating environmental performance data from overseas production bases with the aim of better managing and reducing the Group’s overall environmental impact over the long term. We will disclose collected data on our website starting from the fiscal year ended March 31, 2017.

On-Site Environmental and Safety Surveys of Overseas Production Bases

EBARA began performing on-site environmental and safety surveys of overseas production bases under the control of the Fluid Machinery & Systems Business in the fiscal year ended March 31, 2015, and we later commenced surveys of production bases operated by the Precision Machinery Business. In the nine-month period ended December 31, 2017, an on-site survey on environmental and safety management practices was performed at a base in Singapore that performs maintenance on dry vacuum pumps.

Sharing of Environmental Education Materials with Group Companies

EBARA has created environmental education materials designed primarily for employees engaged in environmental management and environmental staff at EBARA Group companies. These materials are meant to help spread awareness about waste risks, the importance of managing chemical substances, and the United Nations Sustainable Development Goals. We share these materials with overseas Group companies.

Environmental Measures

Management Resources Underpinning Competitive Edge—Consideration for the Environment

Action Policy KPIs (Status & Targets Set for Domestic and Overseas Group Companies)

EBARA took steps to develop an understanding with regard to relevant indicators at overseas Group companies, based on which it has set Groupwide targets.

Greenhouse Gas Emissions

EBARA is pursuing ongoing reductions in CO<sub>2</sub> emissions through the continued application of insulating paint coatings and upgrades to more energy-efficient equipment with regard to lighting, boilers, and other equipment.

Performance in the Nine-Month Period Ended December 31, 2017 (Consolidated, in Japan\*)

**38,381 tons**



Renewable Energy Generation

Solar panels have been installed at the Fujisawa District and at domestic Group companies. We will continue to investigate and examine possible methods for introducing renewable energy systems going forward.

Performance in the Nine-Month Period Ended December 31, 2017 (Consolidated, in Japan\*)

**307,461 kWh**



Water Consumption by Intake Venue

EBARA’s water consumption reduction initiatives include reusing pump test water, reducing and reusing the water emitted from manufacturing equipment that uses pure water, and reusing water for cooling electric furnaces.

Performance in the Nine-Month Period Ended December 31, 2017 (Consolidated, in Japan\*)

**Tap water: 280 tons**  
**Underground water: 167 tons**  
**Industrial water: 15 tons**



Waste Production

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 with the aim of increasing recycling rates to reduce waste production across the Group.

Performance in the Nine-Month Period Ended December 31, 2017 (Consolidated, in Japan\*)

**7,704 tons**



FY2020 Environmental Targets (Consolidated, in Japan\*)

Material recycling rate of **95.0% or more**

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.

Performance in the Nine-Month Period Ended December 31, 2017 (Consolidated, in Japan\*)

**98.0%**



\* Excluding one company that operates an electricity supply businesses

# Fluid Machinery & Systems Business

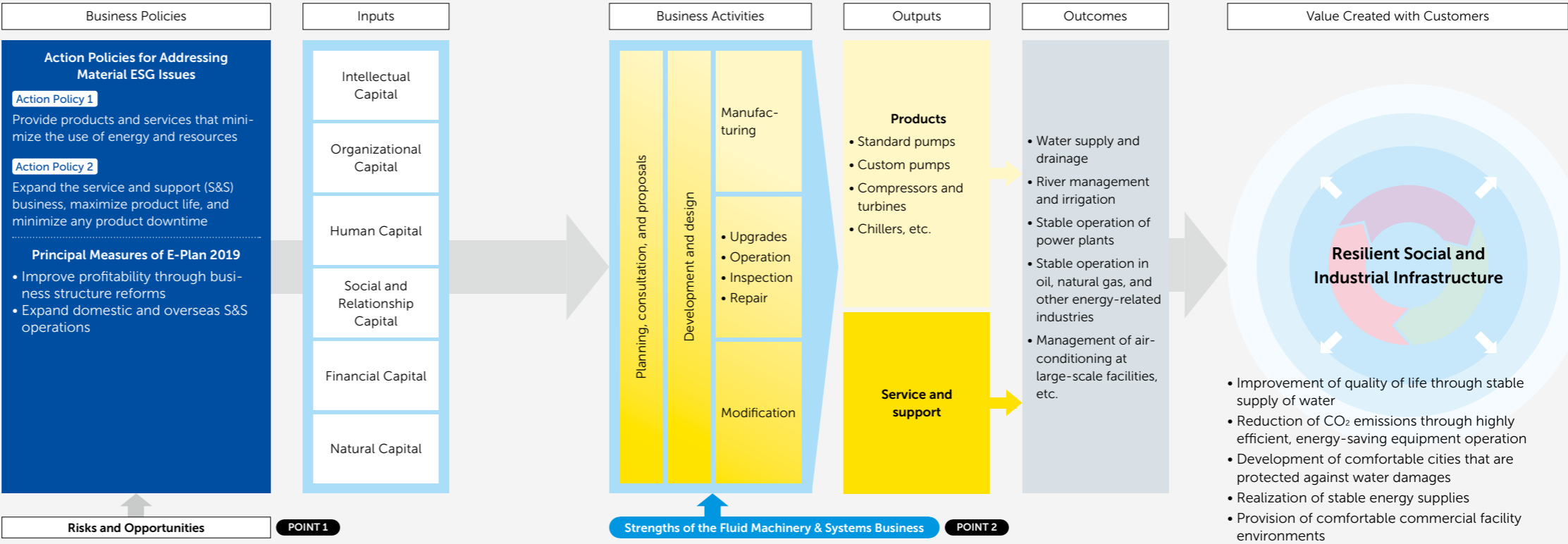


## Overview of the Fluid Machinery & Systems Business

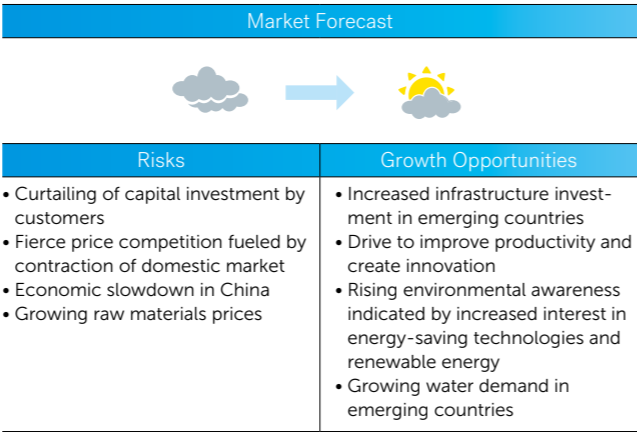
The Fluid Machinery & Systems Business supplies standard pumps, large-scale pumps, custom pumps, compressors and turbines, and chillers and cooling towers as its mainstay products. Standard pumps are used in water supply and drainage in buildings and factories and for circulating warm and cold water in air-conditioning equipment. Large-scale pumps see application in water purification plants and pumping stations. Custom pumps are employed by oil plants and power plants. Compressors and turbines are utilized in oil and gas transportation and refining processes. Chillers and cooling towers are primarily used in the air-conditioning equipment of large-scale commercial facilities and factories.

The operations of the Fluid Machinery & Systems Business have continued since our founding. In these operations, we take advantage of an approach toward customers founded on passion and dedication, the technological prowess we have honed over the years, the sales agent network we have cultivated in the standard pumps field, and our global network of production, sales, and service bases to supply customers around the world with products and services that cater to their social and industrial infrastructure needs.

## Business Model of the Fluid Machinery & Systems Business



### POINT 1 Operating Environment Outlook



### POINT 2 Strengths of the Fluid Machinery & Systems Business

- Fluid, numerical analysis, material, analytical, and other fundamental technologies cultivated over the years
- Propensity at developing highly efficient, high-quality, and highly reliable products
- Sophisticated insight, technologies, and skills
- Diverse, global employee base
- Global sales agent network and S&S system
- Partnerships with associates

### Initiatives for Accomplishing Targets for the Fiscal Year Ending December 31, 2019, and Results

#### Action Policy KPIs

**Action Policy 1 KPI: Reduction of product electricity consumption during operation**

Achieve 10%–15% reduction in electricity consumption of newly launched products during operation by the fiscal year ending December 31, 2019

- |                |  |
|----------------|--|
| Major Outputs  | • Pumps and chillers with low electricity consumption                              |
| Major Outcomes | • Reduction of CO <sub>2</sub> emissions from social and industrial infrastructure |

**Action Policy 2 KPI: S&S sales and bases**

Set targets for each business for expanding S&S sales and increasing the number of S&S bases by the fiscal year ending December 31, 2019

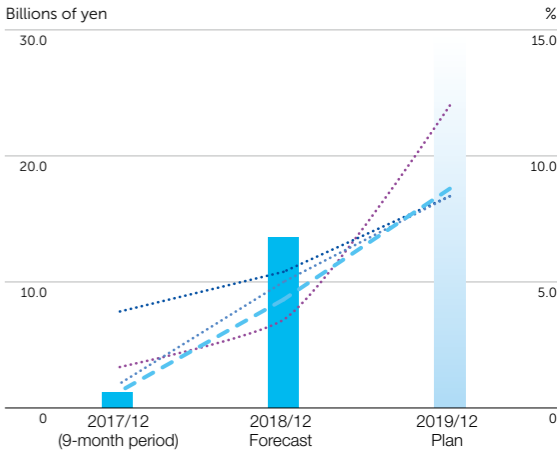
- |                |  |  |
|----------------|--|--|
| Major Outputs  | • Longer product lives                                     | • Prevention of malfunctions and halted operations |
| Major Outcomes | • Stable operation of social and industrial infrastructure |  |

#### 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

Message from Company President



Drastic Structural Reforms for Transforming the Fluid Machinery & Systems Business

As a mainstay business since our founding, the Fluid Machinery & Systems Business has led the development of the EBARA Group. The history of our business could be said to be a history of giving form to the Founding Spirit of “Netsu to Makoto” (Passion and Dedication). Throughout this history, we have proceeded to further hone our industry-leading technologies while approaching customers with passion and dedication. However, we have also found ourselves overly bound by past successes. Meanwhile, the expansion of our business has grown the vertical hierarchy of our organization, creating concern for the segmentation of our operations.

To address these issues, we have revised our human resources systems, placing particular focus on manager awareness reforms to encourage managers to maximize the skills of their subordinates and the performance of the divisions. In the standard pumps business, we have been working to improve operating efficiency through initiatives such as the consolidation of operating procedures conducted during the period of the previous medium-term management plan as well as the curtailing of our product lineup, which has been reduced from 70,000 items to 7,000 items. These initiatives have contributed to a noted increase in profitability.

The globalization of the Fluid Machinery & Systems Business is accelerating. When dealing in products that are intimately connected to local communities, like pumps, it is crucial to provide value that matches the culture and sensibilities of those communities. I therefore look to entrench a “glocal” perspective that integrates both global and local viewpoints.

Importance of Minimization Initiatives Going Forward

We have been expanding our global base network in the Fluid Machinery & Systems Business. In the compressors and turbines business, we bolstered our S&S network centered on regions in which we have already established substantial delivery track records, thereby constructing systems that enable us to swiftly respond to customer requests after delivery. When looking at this business along with the

Significant Business Opportunities Presented by Demographic Trends and Energy Demand

Nobuharu Noji  
President  
Fluid Machinery & Systems Company

pumps and chillers businesses, we will see that the overall growth rates of the Fluid Machinery & Systems Business has remained around the same level as the GDP growth rates of the regions it serves. However, population growth and strong energy demand in Asia and other regions hint at substantial business opportunities for the Fluid Machinery & Systems Business to capitalize on.

For example, the extension of product lifecycles presents the potential for growth in our S&S operations, an area we are currently focusing on. By minimizing product downtime resulted from malfunctions, we can support the stable operation of social and industrial infrastructure and thereby contribute to the realization of a safe, more secure, and resilient society. In Japan, we will grow our business opportunities by offering integrated service proposals which are energy-saving, thereby creating added value and lowering the end user’s operation costs. Meanwhile, products and services that minimize energy and resource consumption will be of utmost importance to our future success in energy-conscious China and Europe. We therefore plan to move forward with research and development while also expanding our range of solutions.

Shift from Technology-Oriented to Market-Oriented Approach

It is important for us to broaden our perspective beyond products to look to the product value that they contribute in order to seek means of delivering value to society from the same perspective as customers. In light of this reality, I believe that the United Nations Sustainable Development Goals (SDGs) provide hints to be gleaned with regard to a market-oriented approach. If the Fluid Machinery & Systems Business is able to learn from trends seen around the world from a perspective framed in the SDGs and reflect its findings in product development and marketing, I am confident that we will be able to provide even greater value to society. Our employees boast high levels of technical skill and are also ambitious and dedicated in their studies. I hope to provide these employees with an environment that inspires them to tackle new challenges without fear of failure.

Creation of Social Value through Business

Delivery of High-Efficiency Pumps to Water Purification Plants in Vietnam

Provision of Social and Economic Value

The Fluid Machinery & Systems Business is a business that installs social infrastructure to provide stable supplies of water while helping prevent climate change.

We recently took part in a project that was primarily aimed at replacing existing pumps in water purification plants with higher efficiency models. This project was the first inter-city cooperation project conducted with Da Nang, Vietnam through Yokohama City’s Y-PORT (Yokohama Partnership of Resource and Technologies) Project.\*1 In addition, this project was approved for receiving facility assistance in the FY2017 Joint Crediting Mechanism (JCM) financial support project operated by the Ministry of the Environment.\*2 The pumps delivered through this project are expected to contribute to annual reductions in electricity consumption of 2 million kWh, which will equate to a reduction of 1,145 tons of CO<sub>2</sub>.

\*1. An international technical cooperation project advanced through public-private partnership with Yokohama City, Kanagawa Prefecture, that aims to resolve the issues faced by cities in emerging countries while supporting Japanese companies developing operations overseas  
\*2. A capital investment subsidization mechanism provided by Japan’s Ministry of the Environment to reduce greenhouse gas emissions by utilizing superior low carbon technologies in developing countries and to obtain bilateral credits



Ebara Vietnam Pump Company Limited delivered nine highly efficient, energy-saving pumps (three intake pumps and six distribution pumps) to the water purification plants of a public water supply company in Da Nang, Vietnam.

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

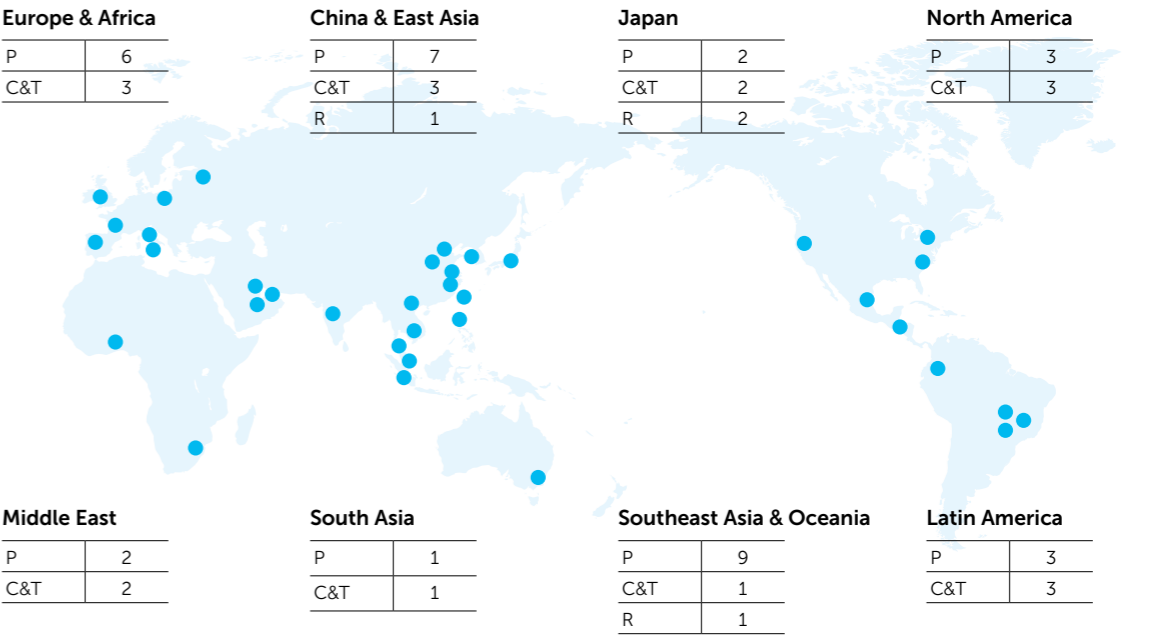
6 CLEAN WATER AND SANITATION

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

11 SUSTAINABLE CITIES AND COMMUNITIES

13 CLIMATE ACTION

Global Network (As of June 30, 2018)



# Environmental Plants Business



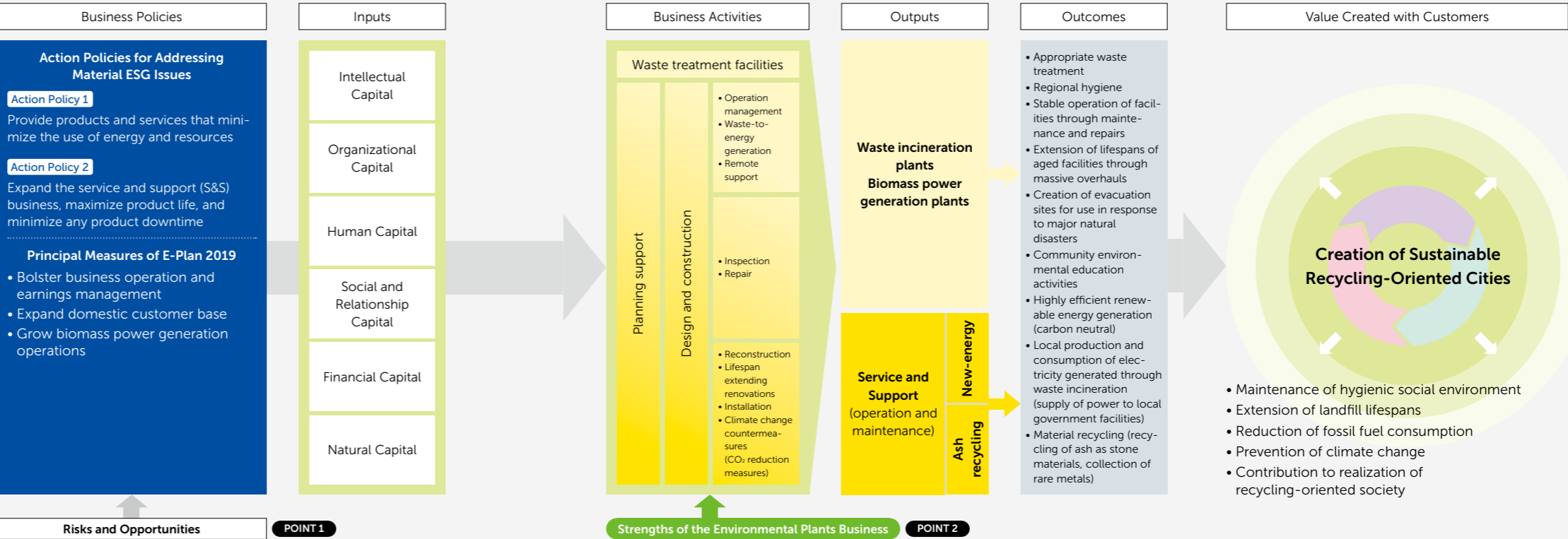
**Overview of the Environmental Plants Business**

Waste production is decreasing as a result of population decline and rising recycling awareness. Meanwhile, the waste treatment facilities constructed during prior periods of massive consumption are aging, and the inefficient operation of these facilities is placing pressure on the finances of local governments.

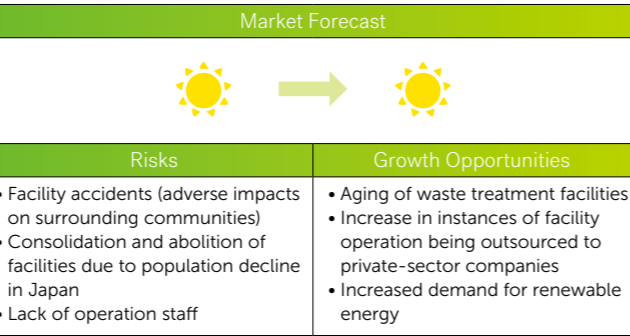
The Environmental Plants Business is tasked with supporting the efficient operation of waste treatment facilities in conjunction with changes in waste volumes and is also responsible for repairing and reforming aged facilities so that they can be operated over the long term with smaller environmental footprints. At the same time, this business transforms waste treatment facilities into regional power supplies by utilizing the heat from waste incineration to generate electricity. By providing such waste treatment facilities capable of coexisting in harmony with local communities, the Environmental Plants Business helps realize cleaner and more comfortable communities.

Environmental Plants Business

## Business Model of the Environmental Plants Business



### POINT 1 Operating Environment Outlook



### POINT 2 Strengths of the Environmental Plants Business

- Technologies for realizing performance in line with customer requests
- High-efficiency facility operation technologies
- Operational expertise based on industry-leading operation contracting track record
- Maintenance expertise for minimizing equipment burden and maximizing facility performance
- Customer- and community-rooted support capabilities
- Robust insight as a pioneer in offering comprehensive, long-term service contracts
- Local production and consumption insight making it possible to return surplus electricity to communities
- Technologies for complete recycling of ash from incinerated waste

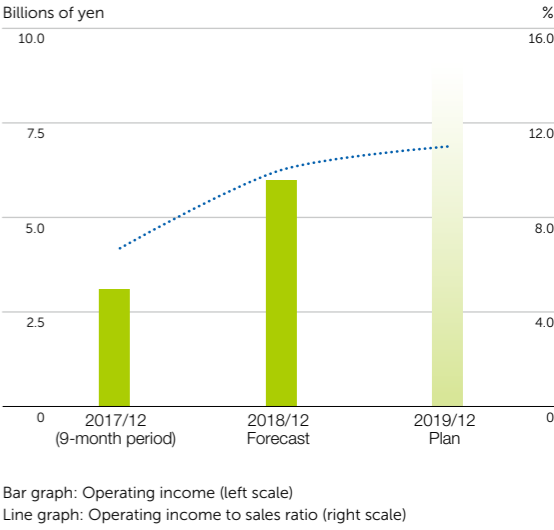
### Initiatives for Accomplishing Targets for the Fiscal Year Ending December 31, 2019, and Results

- Action Policy KPIs**
- Action Policy 1 KPIs: Electricity generated at waste treatment facilities, electricity generated from biomass**
- Increase volume of electricity generated at waste treatment facilities with power generation capabilities managed by the Group to more than 700,000 MWh and electricity generated from biomass to more than 1,700,000 MWh by the fiscal year ending December 31, 2019
- | Major Outputs  | Major Outcomes   |
|--|--|
| <ul style="list-style-type: none"><li>Generation of electricity at waste treatment facilities</li><li>Generation of electricity from biomass</li></ul> | <ul style="list-style-type: none"><li>Development of regional power supplies</li><li>Local production and consumption of electricity</li></ul> |
- Action Policy 2 KPI: Expansion of S&S operations**
- Increase number of waste incineration facilities EBARA is contracted to manage in Japan to 100 by the fiscal year ending December 31, 2019
- | Major Outputs   | Major Outcomes   |
|---|--|
| <ul style="list-style-type: none"><li>Highly efficient waste treatment services</li><li>Extended facility lifespans</li></ul> | <ul style="list-style-type: none"><li>Reliable provision of waste treatment services</li><li>Reduction of facility construction and reconstruction expenses (reduction of financial burden of local governments)</li></ul> |

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

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

### Operating Income / Operating Income to Sales Ratio



Message from Company President



Expansion of Scope of Services to Ensure Ongoing and Stable Earnings After Construction

The corporate philosophy of EBARA Environmental Plant Co., Ltd., the company responsible for the Environmental Plants Business, is to “contribute to the realization of a sustainable society through the provision of superior solid waste treatment technologies and services.” Based on this philosophy, we provide services that span from the design and construction of facilities which run safely and add value to the residents in the surrounding communities to their safe and reliable operations.

Recently, we have seen a rise in the number of local governments endeavoring to inform the community about their efforts to utilize heat produced during waste incineration processes, to recycle waste, and to contribute to the accomplishment of the United Nations Sustainable Development Goals in addition to other proactive initiatives. These developments are directing an increasingly diverse range of expectations toward EBARA, and we are working to improve our proposal capabilities to meet these expectations.

We also plan to expand our efforts to provide value matched to the waste treatment facility lifecycle. In the past, it was common for waste treatment facilities to be dismantled and rebuilt after 15 to 20 years. However, technological progress has recently given rise to technologies for incineration furnaces that can continued to be operated over a period of more than 50 years, lengthening the timetable used for scheduling repairs and reconstruction. Also, while it was often the case in the past that an entire facility would be rebuilt when it aged, now customers are increasingly adopting maintenance approaches that allow for facilities to be used longer by replacing only the most heavily aged equipment or introducing cutting-edge equipment. We intend to uncover customer needs and expand the scope of our services so that we can incorporate such technological advancements and remain involved in the operation of facilities for longer periods after their construction. For example, should a local government find itself charged with the operation and maintenance of a facility, we can be contracted to perform these duties on their behalf. Well versed in equipment and facilities, we are able to provide long-term value

Broader and Deeper Involvement in Operation with Safety and Reliability as Top Priority

Atsuo Ohi  
President  
Environmental Engineering Company

through proposals that reduce running or maintenance costs or extend facility lifespans. As of December 31, 2017, we were contracted to conduct operation and maintenance of approximately 80 facilities, and we aim to raise this number to 100 in the near future. Furthermore, we can use the electricity generated using the heat produced during waste incineration to power the facility or sell said electricity to return profits to local governments. The act of recycling waste to make energy for invigorating communities is congruent with our mission.

Long-Term Contributions to Communities Driven by Ongoing Growth of EBARA

Raising cost awareness is a pressing task. Making long-term contributions to communities requires that EBARA also be able to achieve ongoing growth. For this reason, all employees must recognize that lowering costs and increasing earnings are fundamental to social contributions. A truly beneficial technology is one that can realize both high quality and low costs. Quality is already deeply rooted in the EBARA psyche; the next step will be to entrench cost awareness.

However, if we focus too much on operation and maintenance services promising stable profit margins, we run the risk of our facility construction capabilities diminishing. It is our facility construction capabilities that enable us to realize high-quality operation and maintenance services. Accordingly, we aim to strike a balance between facility construction and services while establishing frameworks that allow us to generate sufficient earnings through services alone.

Incorporating Internet of Things and artificial intelligence technologies is also an important task. We are therefore examining the possibility of utilizing these technologies to develop frameworks and services for monitoring daily facility operations to prevent malfunctions and other occurrences with the potential to suddenly halt operations. Looking ahead, we hope to incorporate external insight and technologies and to engage in the development of state-of-the-art technologies through collaboration with external partners.

Creation of Social Value through Business

Waste Treatment Facility Contributing to a Low-Carbon Society and to the Lives of Community Members

Construction of the Funabashi Hokubu Incineration Plant in Funabashi City, Chiba Prefecture was completed in April 2017, and one year has passed since it was turned over to the city. This plant is comprised of two facilities: the Funabashi Meguru Plant, a high-efficiency waste-to-energy facility, and Funabashi Meguru Spa, which will utilize the waste heat produced by the Funabashi Meguru Plant. A corporate group represented by EBARA Environmental Plant has been contracted to construct the facility and provide operation and maintenance management services over a 15-year period after its construction.

The Funabashi Meguru Plant can incinerate 3,810,000 tons of household waste (approximately 300,000 people's worth) a day and use the heat produced in this process to generate 8,800 kW of electricity (enough to power roughly 18,000 homes), thereby contributing to society with renewable energy. This generation capacity represents a

high level of efficiency that is six times greater than that of the previous facility, and the facility itself uses approximately 35% less electricity than its predecessor. Through this facility, we will contribute to the realization of a low-carbon society that uses less fossil fuel.

Funabashi Meguru Spa neighbors the Funabashi Meguru Plant and utilizes the heat produced through its high-efficiency waste-to-energy generation process in hot spring and other bathing facilities. These facilities provide a venue for health improvement and for exchanges among Funabashi citizens with around 100,000 individuals visiting each year.

In this manner, the Environmental Plants Business contributes to community-rooted waste treatment operations and the realization of a recycling-oriented society through the construction and operation of waste incineration plants.



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

7  
AFFORDABLE AND  
CLEAN ENERGY

9  
INDUSTRY, INNOVATION  
AND INFRASTRUCTURE

11  
SUSTAINABLE  
CITIES AND  
COMMUNITIES

13  
CLIMATE  
ACTION

Delivered (Operational) Facilities and Facilities Managed on Contract Basis (As of June 30, 2018)

Chugoku & Shikoku

Public	18
Private	4
Managed on contract basis	13

Chubu

Public	27
Private	10
Managed on contract basis	17

Hokkaido

Public	9
Private	0
Managed on contract basis	6

Tohoku

Public	13
Private	6
Managed on contract basis	7

Kyushu & Okinawa

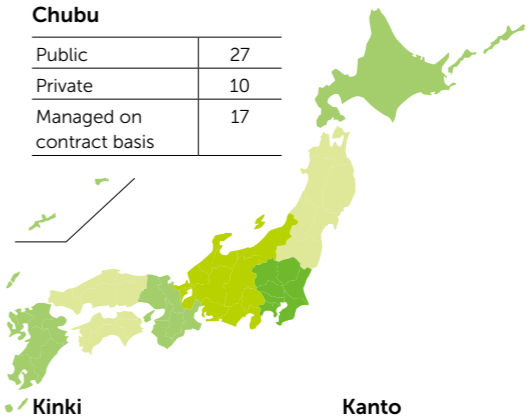
Public	6
Private	2
Managed on contract basis	3

Kinki

Public	11
Private	3
Managed on contract basis	7

Kanto

Public	24
Private	13
Managed on contract basis	25



# Precision Machinery Business

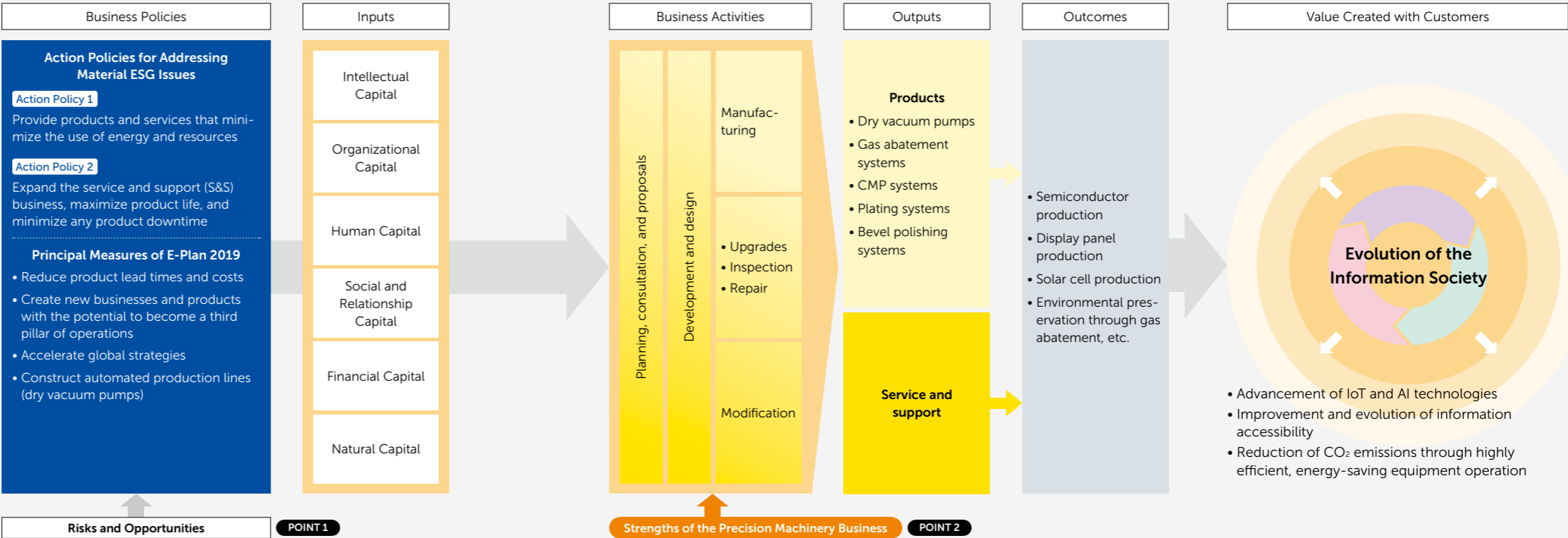


### Overview of the Precision Machinery Business

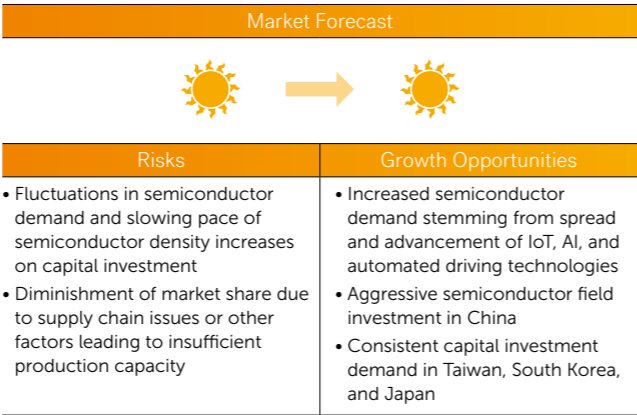
Semiconductors are present in various articles that are part of our daily lives, including computers, smart-phones, digital appliances, and automobiles. Chemical mechanical polishing (CMP) systems and dry vacuum pumps, mainstay products in the Precision Machinery Business, are indispensable to the manufacture of semiconductors. Although primarily used to produce semiconductors, dry vacuum pumps are also utilized when manufacturing LCD panels, solar cells, and other items.

A principal strength of the Precision Machinery Business is the speed it has cultivated through its efforts to take part in and support the product development activities of customers in various industries. Armed with this speed, we will contribute to the evolution of the digital society to make our lives richer and more comfortable.

## Business Model of the Precision Machinery Business



### POINT 1 Operating Environment Outlook



### POINT 2 Strengths of the Precision Machinery Business

- Superior technologies pertaining to rotating machinery, fluid equipment, machine control systems, gas decomposition and abatement, and energy and resource conservation
- Sophisticated manufacturing technologies
- Bases positioned near customers
- Flexible, high-quality customer support capabilities
- Long-term employee retention contributing to technology accumulation and transference
- Diverse base of technically skilled employees around the world
- Robust supply chain
- Ongoing productivity innovation activities

### Initiatives for Accomplishing Targets for the Fiscal Year Ending December 31, 2019, and Results

#### Action Policy KPIs

**Action Policy 1 KPI: Reduction of product electricity consumption and greenhouse gas emissions during operation**

Achieve 10%–20% reduction in electricity consumption in comparison to 2017 models (dry vacuum pumps and CMP systems) by the fiscal year ending December 31, 2019; double greenhouse gas emissions reduction amounts in comparison to 2017 models (gas abatement systems) by the fiscal year ending December 31, 2019

- Major Outputs**
- Energy-efficient dry vacuum pumps and CMP systems
  - Gas abatement systems capable of limiting greenhouse gas emissions
- Major Outcomes**
- Reduction of electricity used at semiconductor manufacturing plants
  - Reduction of greenhouse gas emissions from semiconductor manufacturing

**Action Policy 2 KPI: S&S sales, overhaul numbers, and overhaul delivery periods**

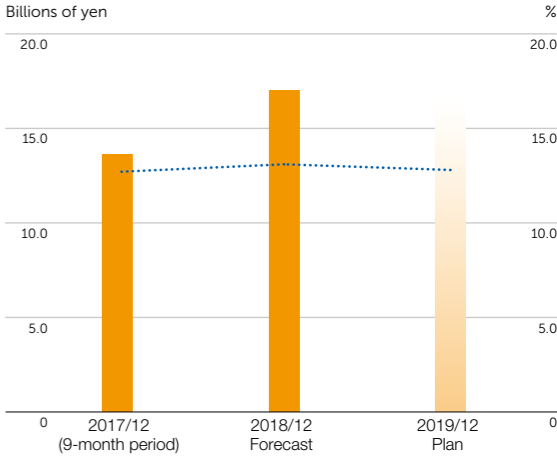
Realize improvements of 15%–20% in S&S sales, overhaul numbers, and overhaul delivery periods in comparison to the nine-month period ended December 31, 2017, by the fiscal year ending December 31, 2019

- Major Outputs**
- Minimal time lost due to product downtime
- Major Outcomes**
- Reliable semiconductor production activities

### 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)

Message from Company President



Commitment to Speed and Thorough Support

In the Precision Machinery Business, we see our mission as contributing to the development of advanced scientific and technology fields through the swift provision of unparalleled products and services the semiconductor industry and other customers around the world require for their manufacturing infrastructure. It can be expected that Internet of Things (IoT), artificial intelligence (AI), and automated driving technologies will continue to evolve going forward. Semiconductors are indispensable to these technologies, and we hope to contribute to a brighter future together with customers operating in such fields by aiding these customers.

Ongoing technological progress is the lifeblood of the semiconductor industry, and customers in this industry constantly face fierce competition at the forefront of technological development. As the pace of development is swift, we are expected to make proposals with equal speed while addressing customer input. Through the process of working together with our suppliers to respond to the demanding requirements of customers, we have honed our own capabilities and fostered a culture that prioritizes, above all else, a commitment to thoroughly supporting customers. This commitment, which gives form to our Founding Spirit of “*Netsu to Makoto*” (Passion and Dedication), has earned us a reputation as a reliable partner and has thus created a wider range of business opportunities for us. As the leader of the Precision Machinery Business, I will continue to communicate to employees our mission and commitments which include the newly determined materiality, KPIs, initiatives taken to achieve the targets of the KPIs, and their connection and importance to our day-to-day business. We also aim to strategically address the United Nations Sustainable Development Goals. Based on these goals, we will help improve the value of customers’ production lines while expanding the lineups of products we offer in the Precision Machinery Business. I anticipate that these efforts will naturally increase our industry presence and subsequently induce greater evaluations of EBARA Group’s corporate value.

Enhancement of Product Competitiveness and Business Foundations to Capture Business Opportunities

**Masao Asami**  
President  
Precision Machinery Company

Business Opportunities and Future Policies

The spread of IoT, AI, and automated driving technologies is expected to cause the scale of the semiconductor market to double from the ¥40 trillion seen in 2016 by 2030. Similarly, the semiconductor manufacturing equipment market has the potential to grow from its current scale of ¥4 trillion to ¥7 trillion. China is accountable for roughly half of semiconductor demand, and aggressive capital investment is being conducted in this country in response to the announcement of a government policy of realizing self-sufficiency for 70% of the semiconductors used in China by 2025. This situation presents a significant business opportunity for EBARA. Conversely, we must be mindful of the risk of lagging technology development diminishing our competitiveness or resulting in our production capacity being insufficient for catering to demand, which could lead to a loss in our market share that would take time to recover. In securing a market share, it is crucial for us to develop products and technologies that boast high performance and that also contribute to cost reductions by using less energy or space. In addition, responding to the growing demand will require us to bolster EBARA’s production capacity while implementing initiatives across the supply chain. For example, we are stepping up overseas procurement activities to address the difficulty in securing certain components as one facet of our ongoing efforts to optimize procurement systems on a global scale.

The Precision Machinery Business has announced its goal of capturing the leading global share in the markets for its mainstay CMP systems and dry vacuum pumps. In addition, we aim to create new businesses and products with the potential to become a third pillar of operations in order to expand sales, improve profit margins, and thereby grow the earnings of the EBARA Group. We have no intention of focusing only on the robust demand seen in the present. Rather, we intend to conduct management with a view to three to five years in the future. It was for this reason that we began holding discussions among all members of the management of the Precision Machinery Business, including the presidents of relevant subsidiaries, about the future of this business. Through these discussions, we will take a proactive approach toward charting our future course while identifying the issues expected to be faced by customers, markets, and society over the medium-to-long term.

Creation of Social Value through Business

Receipt of Award for “Excellent Performance” from TSMC

The Precision Machinery Company develops cutting-edge semiconductor manufacturing and peripheral equipment and supplies this equipment primarily to semiconductor manufacturers. We also support customers in developing new products and improving productivity, thereby helping customers achieve success in these areas.

Our contributions as a CMP system supplier have won high evaluations from world-leading semiconductor manufacturer Taiwan Semiconductor Manufacturing Co., Ltd. (TSMC), which is headquartered in Taiwan. TSMC recognized the Company with an award for “Excellent Performance” in December 2017 out of reflection of this high evaluation. From among TSMC’s more than 700 suppliers, twelve companies received awards in 2017. This marks the sixth consecutive year and the eighth time overall that EBARA has received the award.

Technologies are constantly progressing in the semiconductor industry. Companies like TSMC that stand at the forefront of technological innovation are developing unprecedented technologies that have never been put to practical application before. One reason behind our

selection for this award was the strong, ongoing support we provide as a development partner that works closely with customers.

Semiconductors will be instrumental to the new technologies anticipated to spread going forward, such as IoT, AI, and automated driving technologies. The Precision Machinery Company will continue to support TSMC and other semiconductor manufacturers in its bid to help build a better future.



TSMC Chairman Dr. Mark Liu (right, president and co-CEO at time of photograph) presenting award to Masao Asami (left)

Relevant Action Policy **Action Policy 4**

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



Global Network (As of June 30, 2018)

●: Major Base

EBARA Precision Machinery Europe GmbH	
Support bases	12
Overhaul bases	1

Xian Ebara Precision Machinery Co., Ltd.	
Support bases	1
Overhaul bases	1

Shanghai Ebara Precision Machinery Co., Ltd.	
Support bases	3
Overhaul bases	1

Ebara Precision Machinery Taiwan Incorporated	
Support bases	7
Overhaul bases	1

EBARA Engineering Singapore Pte. Ltd.	
Support bases	1
Overhaul bases	1

EBARA Precision Machinery Korea, Inc.	
Support bases	5
Overhaul bases	1

EBARA CORPORATION	
Development, design, and manufacturing bases	2

EBARA Technologies, Inc.	
Support bases	7
Overhaul bases	2

Ebara Field Tech. Corporation	
Support bases	9
Overhaul bases	3



# It Is Time to Recognize the Merits of Governance

**Natsunosuke Yago**  
Chairman of the Board of Directors

## The Governance System at EBARA

EBARA CORPORATION is often said to “have a strong culture and climate worthy of a company that has been in business for over 100 years.” Although this very likely means that there are many good aspects of the Company that have been nurtured over its long history, I believe it also has an overtone of a company that is too tightly bound by tradition and “does not change readily.” Looking back over the last 30 years, I think the correct assessment of these three decades is that we have felt the pain of change while taking up the challenge of change. It was fine that we had the intention to change, but I think we lacked the ability to foresee the risks entailed in executing it. In management, it is the task of the top manager to bring an idea, have the organization that is to execute it get a good understanding of it, foresee the risks accompanying execution, devise ways of avoiding those risks, and only then take action to achieve the idea. A governance system is a system that ensures, as an organization, a consistent process for achievement. Failing to overcome the challenge of change can undoubtedly be seen as being the result of such governance systems not discharging its risk management function. Taking a look back over EBARA’s 100 years and the history of change in our governance system shows how important this system is. Let’s begin by dividing this history into the first 70 years from our founding, when the founding family exerted some overriding influence on management, and the subsequent 40 years, after management was separated from ownership. During the period when the founding family exercised such determinate influence on management, although governance by particular individuals was functional, it can be said to have been “age zero” for corporate governance as a system. This was particularly true when the founder was still alive and watched over the business based on his sense of mission. During this period, the organization was able to execute his ideas, and could rely on his individual capabilities for both foreseeing and

dealing with risks. Once the founding family no longer had an influence on management and EBARA shifted toward “modern management,” management was placed in the hands of first-rate employees. Because they were not members of the founding family, it brought fresh air to the Company, increasing opportunities to put into practice something different from before. However, being the “age zero” of corporate governance, a time in which corporate governance has yet to be established as a system, there was even a possibility of entering a “dangerous age” in which the Company is at risk of relying excessively on the capabilities of a single top manager. In this situation, if that one person loses his sense of mission, even great ideas could be executed incorrectly. In this age, when risks are actualized, the Company may be devastated by them as it does not have the capabilities as an organization to handle those risks. This not only has a negative effect on financial aspects but also triggers a negative effect in terms of organizational and employee morale. The Company will not be overly influenced by the quality of a single top manager as long as corporate governance is functioning as a system. EBARA was no exception to the “age of chaos” marked by excessive reliance on individual capabilities and a non-functioning governance system, and subsequently began establishing corporate governance as a system.

This process started from the most basic of aspects: strict compliance with laws and regulations. Compliance with laws and regulations leaves no margin for objection, and results will come if it is steadily practiced. Strict compliance is consequently not difficult to attain, provided that all have the will to accomplish the task. The next challenge was to establish a structure for fulfilling our corporate social responsibilities (CSR). This is the practice of management that goes beyond mere compliance with laws and regulations, and is management with an awareness of the interests of all stakeholders making up society, as a member of that society. We can assess the EBARA of today as having

reached this level. After overcoming this challenge, EBARA will next take aim at enhancing ESG. Unlike CSR, ESG by itself as a word does not imply a complete meaning. It is easier to understand if we consider it to be a yardstick against which the soundness of a company is measured from environmental (E), social (S), and governance (G) perspectives. The concept has spread as a measuring tool used mainly by institutional investors, but companies themselves can use it to gauge the degree of increase in their corporate value. I would like to introduce and summarize EBARA’s efforts for strengthening ESG below.

## Corporate Governance (G) Efforts

Corporate governance refers to a mechanism for monitoring management with transparency and objectivity in order to improve management quality and increase corporate value. The Board of Directors is positioned at the top of this structure. In other words, if the leadership of the Board of Directors does not function, neither will the mechanism for corporate governance. Fulfilling everything advocated for in Japan’s Corporate Governance Code means that we have, at least in appearance, established an effective system for corporate governance. Nevertheless, EBARA is looking for genuine change by creating corporate governance mechanisms which go beyond such requirements. Believing that change of form is a prerequisite for genuine change, it is EBARA’s intention to look ahead and change our system of governance.

At EBARA, we heavily weigh diversity in the composition of the Board of Directors in order to perceive the current state of management from various viewpoints and strive to improve the quality of business execution. In parallel with strengthening the functions of the Board of Directors as a whole in monitoring management, the Nomination, Audit, and Compensation Committees will discuss and make decisions concerning themes requiring high degrees of expertise by utilizing the advantages of a Company with Three Committees. Most recently, the Compensation Committee made changes to executive officers’ bonuses and stock options to strengthen performance improvement incentives. The Nomination Committee is engaged in establishing a mechanism to not only select but also continuously nurture the development of executives, in terms of succession plans deciding the next head of the Company. We are starting with an awareness that the change of the head of the Company is not something that is done when a predetermined time comes, but something that is done without delay whenever needed. It goes without saying that transparent appointment and dismissal criteria are required to change managers when required, and the Nomination Committee is leading preparations for the Board of

Directors to be able to discuss this matter effectively. The Audit Committee assesses the soundness of management based on information obtained from the Internal Control Department in addition to information it gathers by itself.

## Environmental (E) and Social (S) Efforts

Even if the mechanism for corporate governance is functioning and the Company is engaged in business related to the environment and society, it will not be able to continuously operate its business in unison with contributions to the environment and society unless there is successive increase in corporate value, and in particular, improvements in financial aspects. Failure in increasing corporate value leads to unpleasant outcomes in terms of environmental and social contributions.

EBARA prides itself on its long-standing practice of activities involving contribution to the environment and society. However, it may be that each individual activity did not necessarily consider conformance with the business activities of the Company itself. An increase in business value must be in harmony with improvements in the foundations of its existence, namely, the environment and society. To put this into practice at EBARA, we looked carefully at the relationship between social and environmental issues and EBARA businesses, determined the ESG issues material to our businesses, and decided on action policies. We have also set key performance indicators (KPIs) for each action policy in order to see progress of the actions in a practical way. In addition, we are considering how we can contribute to the accomplishment of the United Nations Sustainable Development Goals through the practice of these activities.

This report introduces the series of activities under the theme, “What kind of value can we give to society through our business?” and describes some of the results. Although these activities are still underway and are something that we cannot yet be satisfied with, I hope that steadily continuing them will lead to results which will be fully recognized.

## In Closing

EBARA is making efforts to change without being bound by the tradition and culture it has nurtured so far. I believe that our corporate value will faithfully reflect the changes we are making in regards to our corporate culture and improvements made in our ESG performance. I earnestly hope that through this report, readers will see how ESG factors at the Company are changing.

Board of Directors

(As of March 28, 2018)

Board of Directors



Back row, from left

**Shiro Kuniya** ●

Chairperson of the Compensation Committee

**Shozo Yamazaki** ●

Member of the Audit Committee

**Nobuharu Noji**

Senior Managing Executive Officer

**Hajime Sawabe** ●

Member of the Compensation Committee

Back row, from left

**Tetsuji Fujimoto**

Chairperson of the Audit Committee

**Atsuo Ohi**

Senior Managing Executive Officer

**Masahiro Hashimoto** ●

Member of the Audit Committee

**Shusuke Tsumura**

Member of the Audit Committee

Front row, from left

**Hiroshi Oeda** ●

Member of the Nomination Committee

**Sakon Uda** ●

Lead Independent Director  
Chairperson of the Nomination Committee  
Member of the Compensation Committee

**Natsunosuke Yago**

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

Front row, from left

**Toichi Maeda**

President and  
Representative Executive Officer

**Izumi Sato** ●

Member of the Audit Committee

● Independent Director

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 of personnel with sufficient knowledge and experience inside and outside the Company in areas related to business management. Knowledge and experience important to the Company from the perspective of company management 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 expects the Directors elected for the fiscal year ending December 31, 2018, to contribute based on these policies.

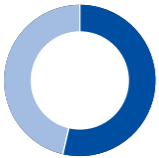
REFERENCE → Reasons for the selection of individual Directors can be found in the proposal for the election of Directors contained in the Notice of the 153rd Ordinary General Meeting of Shareholders [https://www.ebara.co.jp/en/about/ir/stock/shareholdersmeeting/\\_icsFiles/afieldfile/2018/03/06/E6361\\_153a.pdf](https://www.ebara.co.jp/en/about/ir/stock/shareholdersmeeting/_icsFiles/afieldfile/2018/03/06/E6361_153a.pdf)

**Corporate Governance System at a Glance** (As of March 28, 2018)

Format	Company with Three Committees
Chairman of Board of Directors	Non-Executive Inside Director
Number of Directors	13
Of whom are Independent Directors	7
Number of Independent Directors	7
Term of Directors	1 year

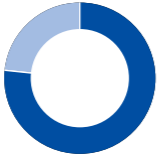
**Ratio of Independent Directors to Total Directors**

Independent Directors	7
Inside Directors	6



**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	3



**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, 2018)																
Name		Classification Committee positions		Attendance at Board of Directors and committee meetings in the nine-month period ended December 31, 2017 (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
Natsunosuke Yago	Director, Chairman Chairman of the Board of Directors Member of the Nomination Committee	Non-Executive Nomination Committee		11/11	13/13											
Toichi Maeda	Director President and Representative Executive Officer			11/11				—	—	—	—	—	—	—	—	—
Sakon Uda	Lead Independent Director Chairperson of the Nomination Committee Member of the Compensation Committee*2	Independent Nomination Committee Compensation Committee		11/11	13/13	3/3*2										
Shiro Kuniya	Independent Director Chairperson of the Compensation Committee	Independent Compensation Committee		10/11		6/6										
Izumi Sato	Independent Director Member of the Audit Committee	Independent Audit Committee		11/11			9/11									
Hajime Sawabe	Independent Director Member of the Compensation Committee	Independent Compensation Committee		11/11		6/6										
Shozo Yamazaki	Independent Director Member of the Audit Committee	Independent Audit Committee		11/11			11/11									
Hiroshi Oeda	Newly appointed Independent Director Member of the Nomination Committee	Independent Nomination Committee		Appointed in March 2018												
Masahiro Hashimoto	Newly appointed Independent Director Member of the Audit Committee	Independent Audit Committee		Appointed in March 2018												
Tetsuji Fujimoto	Director Chairperson of the Audit Committee	Non-Executive Audit Committee		11/11			11/11									
Atsuo Ohi	Director Senior Managing Executive Officer			11/11				—	—	—	—	—	—	—	—	—
Shusuke Tsumura	Director Member of the Audit Committee	Non-Executive Audit Committee		11/11			11/11									
Nobuharu Noji	Newly appointed Director Senior Managing Executive Officer			Appointed in March 2018				—	—	—	—	—	—	—	—	—

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

\*2. Sakon Uda was newly nominated and appointed as a member of the Compensation Committee at the meeting of the Board of Directors held on June 23, 2017, and his attendance to meetings of the Compensation Committee held since that date is provided above.

Brief Personal History of Directors

(As of March 28, 2018)

**Natsunosuke Yago** Director, Chairman,  
Chairman of the Board of Directors,  
Member of the Nomination Committee

- Apr. 1977 Joined the Company
- Jun. 2002 Executive Officer of the Company
- Apr. 2004 Group Executive, Precision Machinery Group of the Company
- Jun. 2004 Director of the Company
- Apr. 2005 President, Precision Machinery Company of the Company
- Apr. 2006 Managing Executive Officer of the Company
- Apr. 2007 President and Representative Director of the Company
- Apr. 2013 Director, Chairman of the Company (to present)
- Jun. 2015 Member of the Nomination Committee of the Company (to present)

**Toichi Maeda** Director,  
President and Representative Executive Officer

- Apr. 1981 Joined the Company
- Apr. 2007 Executive Officer of the Company
- Apr. 2010 Managing Executive Officer of the Company
- Apr. 2011 Head of Business Unit, Custom Pump Business Unit, Fluid Machinery & Systems Company of the Company
- Jun. 2011 Director of the Company (to present)
- Apr. 2012 President, Fluid Machinery & Systems Company of the Company
- Apr. 2013 President and Representative Director of the Company
- Jun. 2015 President and Representative Executive Officer of the Company (to present)

**Sakon Uda** Lead Independent Director,  
Chairperson of the Nomination Committee,  
Member of the Compensation Committee

- Jul. 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 of the Company (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 of the Company (to present)
- Jul. 2015 Lead Independent Director of the Company (to present)
- Apr. 2016 Vice President, Business Breakthrough University (to present)
- Sep. 2016 Advisor to Tokyo Metropolitan Government (to present)  
Special advisor to the Tokyo Metropolitan Government Political Reform Headquarters (to present)
- Jun. 2017 Member of the Compensation Committee of the Company (to present)
- Jul. 2017 Executive Director, Public Utility Fund Japan–North America Medical Exchange Foundation (to present)

**Shiro Kuniya** 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 of the Company (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 of the Company (to present)
- Jun. 2016 Outside Director, Takeda Pharmaceutical Company Limited (to present)

**Izumi Sato** Independent Director,  
Member of the Audit Committee

- Apr. 1987 Registered as an attorney (to present)  
Joined Fukuda, Nakagawa & Yamakawa Law Office
- Jan. 1996 Established Izumi Sato Law Office (to present)
- Apr. 2002 Part-time Instructor, Nihon University Law School
- Jun. 2002 Part-time Director, Japan Iron and Steel Recycling Institute (to present)
- Apr. 2014 Part-time Instructor, Keio University Law School (to present)
- Jun. 2014 Councilor, Japan Automobile Recycling Promotion Center (to present)
- Jun. 2015 Director of the Company (to present)  
Member of the Audit Committee of the Company (to present)
- Apr. 2016 Member of the Tokyo Pollution Review Board (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.
- 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 (to present)
- Jun. 2012 Executive Advisor, TDK Corporation (to present)
- Jul. 2014 Vice President, Board of Trustees, Waseda University (to present)
- Jun. 2015 Outside Director, Japan Display Inc.  
Director of the Company (to present)  
Member of the Compensation Committee of the Company (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 of the Company (to present)  
Member of the Audit Committee of the Company (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,  
Member 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 Adviser, Nisshin Seifun Group Inc.
- Jun. 2017 Corporate Special Adviser, Nisshin Seifun Group Inc. (to present)  
President, Seifun Kaikan Inc. (to present)
- Dec. 2017 Member, The Japanese National Commission for UNESCO (to present)
- Mar. 2018 Director of the Company (to present)  
Member of the Nomination Committee of the Company (to present)

**Masahiro Hashimoto** Independent Director,  
Member of 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 of the Company (to present)  
Member of the Audit Committee of the Company (to present)

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

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

Brief Personal History of Directors

**Atsuo Ohi** Director,  
Senior Managing Executive Officer

- Apr. 1981 Joined the Company
- Apr. 2008 Executive Officer of the Company
- Oct. 2008 Division Executive, Corporate Strategy Planning Division of the Company
- Apr. 2010 Managing Executive Officer of the Company
- Apr. 2011 Head of Business Unit, Global Marketing & Sales Business Unit, Fluid Machinery & Systems Company of the Company
- Apr. 2012 Vice President, Fluid Machinery & Systems Company of the Company, Head of Business Unit, Global Pump Business Unit, Fluid Machinery & Systems Company of the Company
- Jun. 2012 Director of the Company (to present)
- Apr. 2013 President, Fluid Machinery & Systems Company of the Company
- Apr. 2014 Senior Managing Executive Officer of the Company
- Jun. 2015 Senior Managing Executive Officer of the Company (to present)
- Mar. 2018 President, Environmental Engineering Company of the Company (to present)  
President and Representative Director of EBARA Environmental Plant Co., Ltd. (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 of the Company
- Apr. 2012 General Manager, Group Management Department of the Company
- Apr. 2013 Deputy Division Executive, Finance & Accounting Division of the Company
- Jun. 2014 Full-Time Audit & Supervisory Board Member of the Company
- Jun. 2015 Director of the Company (to present)  
Member of the Audit Committee of the Company (to present)

**Nobuharu Noji** Director,  
Senior Managing Executive Officer

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

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, EBARA practices the enhancement of corporate value through sustainable business development and sharing the results with all stakeholders including shareholders as its most important management objectives. To achieve such objectives, we constantly seek the best possible corporate governance systems and strive toward further enhancement.

Basic Policies

- 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.

Major Initiatives Taken in the Nine-Month Period Ended December 31, 2017

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 for 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 nine-month period ended December 31, 2017, sufficient time was devoted to engaging in deep discussion of medium-to-long-term issues based on the results of evaluations of the effectiveness of the Board of Directors. Specifically, we began monitoring the progress of E-Plan 2019 and engaged in more thorough discussion of concrete measures for addressing identified issues. The Compensation Committee has designated return on invested capital (ROIC), the most important key management indicator under E-Plan 2019, as the indicator to be used for performance evaluations related to long-term incentives as part of directors’ and executive officers’ compensation. The use of this indicator is anticipated to contribute to higher motivation to achieve the targets of E-Plan 2019.

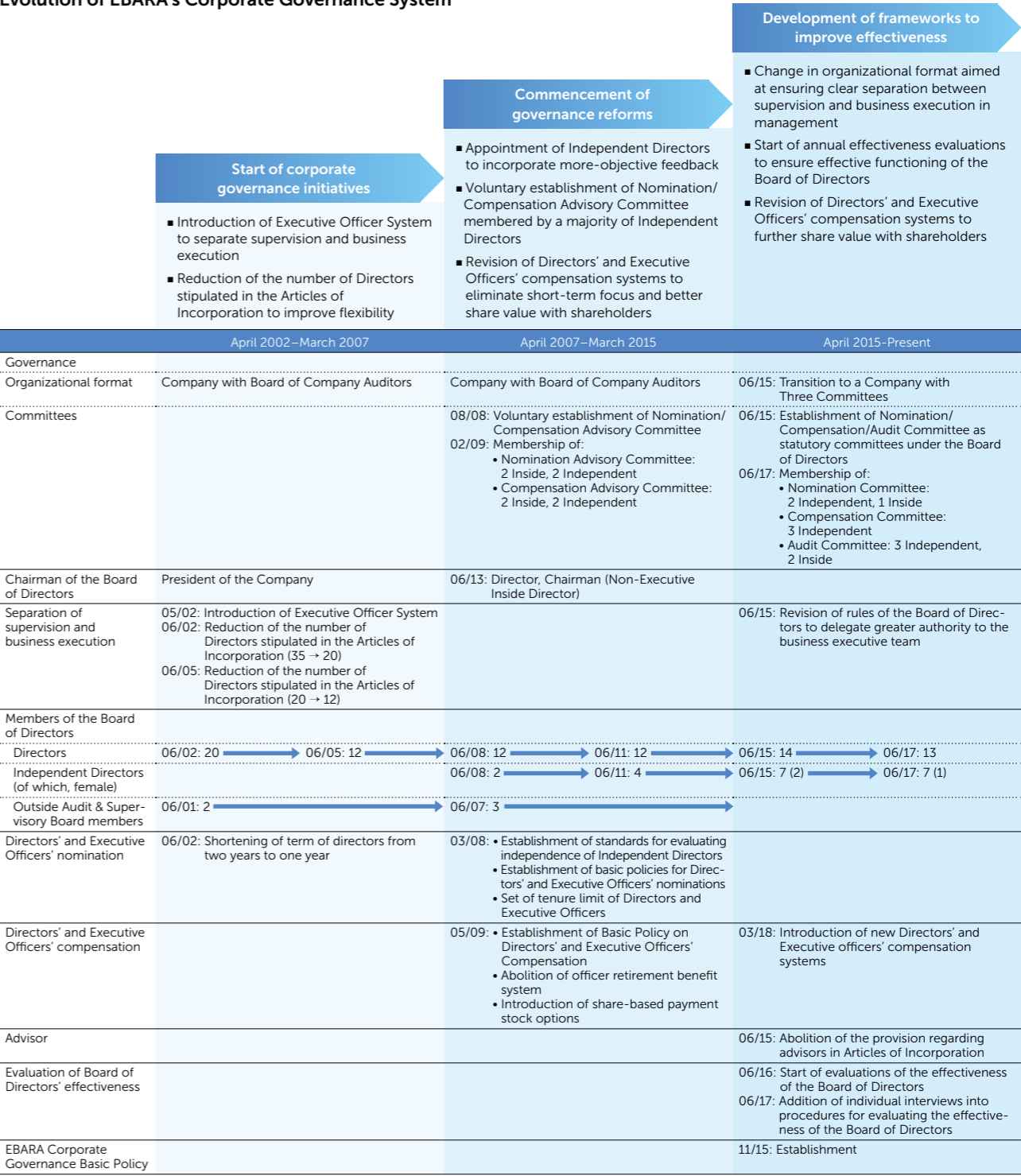
In addition, directors’ and executive officers’ compensation systems were revised to support the ongoing growth of the Company. The Nomination Committee engaged in more extensive discussion of succession plans for the President and Representative Executive Officer and on developing candidates for succession, specifically regarding the types of qualities that EBARA should seek in its President and Representative Executive Officer. Additionally, opinions were exchanged with the business executive team with the aim of realizing more consistent procedures for developing and promoting top executives. The Audit Committee performed the necessary audits and also defined important auditing items pertaining to the implementation status of measures described in E-Plan 2019. Based on these items, the Audit Committee supervised and verified operations to confirm that execution was fair, appropriate, efficient, and congruent with the provisions of E-Plan 2019.

- Major Items Discussed by the Board of Directors in the Nine-Month Period Ended December 31, 2017
- Establishment of annual management plan and key performance indicators for business segments
- Evaluation of the Board of Directors’ effectiveness
- Monitoring of E-Plan 2019
- Growth strategies (measures for strengthening profit-earning structures and long-term growth strategies)
- Financial strategies
- Status of cross-shareholdings
- Investor relations activity reports
- Future R&D plans

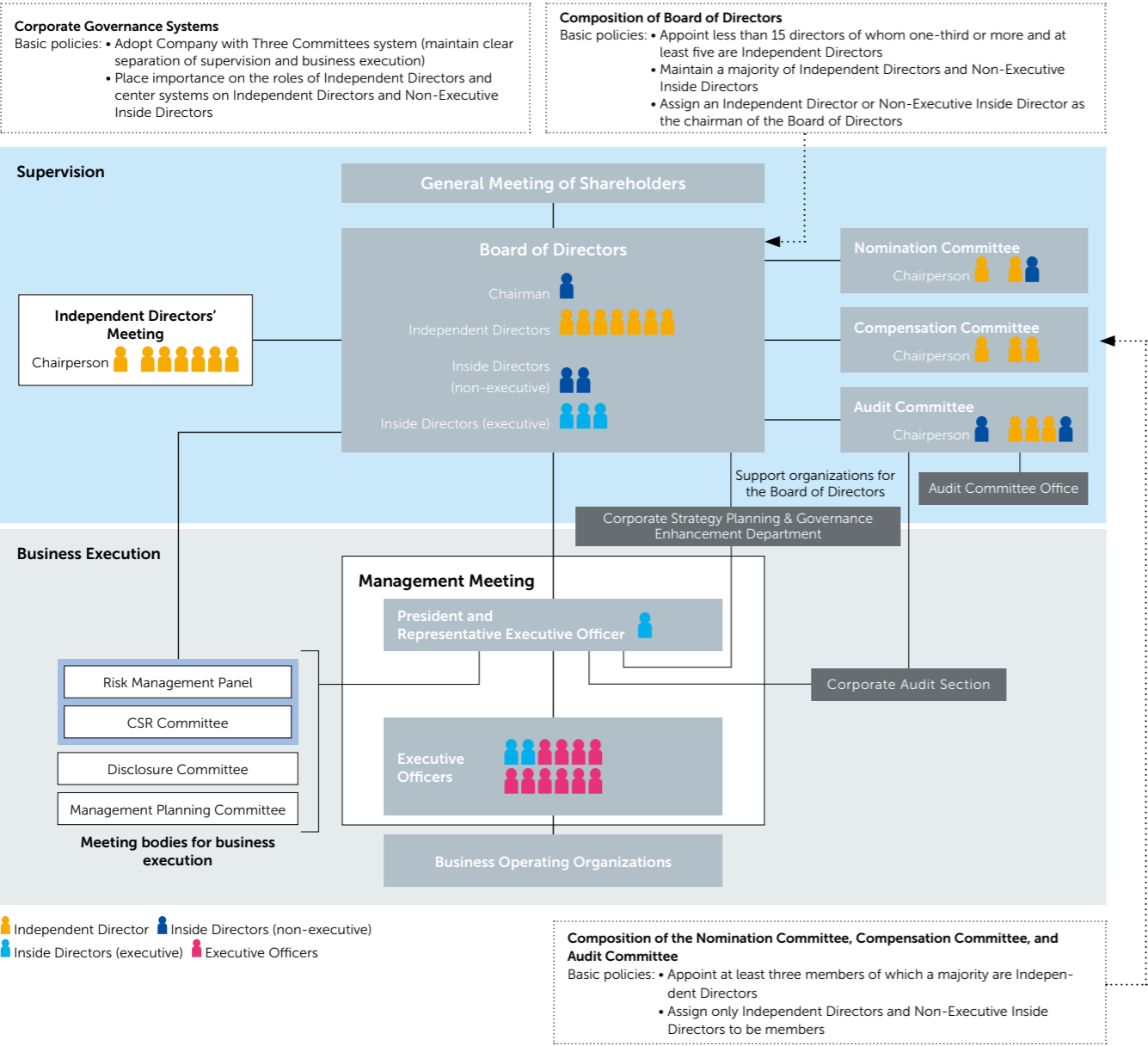
Initiatives for Strengthening Corporate Governance

Around the turn of the century, the Company re-acknowledged the importance and necessity of corporate governance structures headed by the Board of Directors. Since then, we have been enhancing our governance structures in a phased manner to support the Company in achieving sustainable growth while fulfilling its social responsibilities as a global company. Going forward, 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



Corporate Governance Systems (As of March 28, 2018)



**Board of Directors**  
The Board of Directors is responsible for indicating the directions for important corporate strategies, establishing frameworks to allow for appropriate risks, and supervising business execution.

**Nomination Committee**  
The Nomination Committee is charged with making decisions on proposals concerning the nomination and dismissal of Directors and issuing recommendations regarding the nomination and dismissal of Executive Officers. In addition, the Nomination Committee is tasked with the formulation of plans for the succession of the President and Representative Executive Officer.

**Compensation Committee**  
The Compensation Committee sets out policies for Directors' and Executive Officers' compensation and decides the amounts of individual compensation for Directors and Executive Officers, and also makes recommendations concerning major Group companies' executive compensation systems, including those of affiliates.

**Audit Committee**  
The Audit Committee is responsible for conducting audits to assess whether Directors, Executive Officers, and employees of the Company and its subsidiaries are in compliance with legal obligations and internal regulations. In addition, the committee endeavors to monitor Executive Officers and verify whether they execute their duties in a sound, fair, appropriate, and efficient manner.

**Independent Directors' Meetings**  
The Independent Directors' Meetings serve as a venue through which Independent Directors are able to freely share their views, exchange information, and foster shared recognition.

**Management Meeting**  
The Management Meeting is in place as a consultative body for facilitating decision making by the President and Representative Executive Officer, and discussions on important business execution items are carried out through this venue.

**Risk Management Panel**  
The Risk Management Panel oversees risk management activities, deliberations on these activities, and provides instructions and support for implementing improvements.  
The Board of Directors encourages Non-Executive Inside Directors to attend meetings of the Risk Management Panel as observers and receives reports from the panel to maintain an understanding of and appropriately supervise the status of risk management.

**CSR Committee**  
The CSR Committee discusses the future of CSR activities and the issues faced in this area to formulate activity policies. In addition, the committee sets material issues, action policies, and KPIs and confirms progress toward targets. Independent Directors and Non-Executive Inside Directors are encouraged to attend meetings of the CSR Committee as observers by the Board of Directors, which receives reports from the committee to maintain an understanding of and appropriately supervise the status of CSR activities.

**Disclosure Committee**  
The Disclosure Committee collects information requiring disclosure and discusses matters including whether or not specific information will be disclosed as well as the timing and details of disclosures.

**Management Planning Committee**  
The Management Planning Committee discusses and makes decisions on annual budgets and action plans for addressing management issues and monitors the status of budgets and the progress of plans.

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 effectiveness of the Board of Directors are conducted to evaluate the contributions it makes and the results are disclosed. The Company then works to resolve any issues that come to light.

Evaluation of the Board of Directors' Effectiveness in the Nine-Month Period Ended December 31, 2017  
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 of the Board of Directors was analyzed based on the results, and the Board of Directors discussed its effectiveness at meetings held in February and March 2018 and confirmed the evaluation of its effectiveness and the future actions to be taken.

Contents of Questionnaires

The Company formulates questions related to matters that are crucial for confirming the state of the Board of Directors. Characteristics of the questionnaire issued in the nine-month period ended December 31, 2017 included its more in-depth questions. Specifically, questions were posed which confirmed what the Directors view are the most important management issues perceived for the period of E-Plan 2019 and questioned each Director on their own effectiveness regarding their roles and responsibilities in the Board of Directors.

- 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

Summary of the Results of the Analysis and Evaluation

It was found that Directors' evaluations of the composition and status of operation of the Board of Directors and committees were generally high, indicating that they are being operated appropriately. In regard to issues recognized in evaluations performed in the fiscal year ended March 31, 2017 (enhancement of identification and discussion of long-term issues, periodic reviews of the size and composition of the Board of Directors, enhancement of discussion on succession planning in the Nomination Committee, and ongoing monitoring of the state of progress of E-Plan 2019), it was found that, although these are issues that still need to be addressed, related efforts are progressing. Furthermore, it was confirmed that Independent Directors make large contributions to discussions at meetings of the Board of Directors and to management. Based on these findings, the Board of Directors' evaluation concluded that the oversight functions of the Board of Directors are adequate and that greater effectiveness has been provided.

However, it was also found that it is necessary to continuously work toward the enhancement of identification and discussion of long-term issues (growth strategies, etc.) contributing to the improvement of corporate value while conducting ongoing monitoring of the state of progress of E-Plan 2019. It will also be necessary to periodically verify important elements pertaining to the effectiveness of oversight functions of the Board of Directors to ensure the ideal size and composition of the Board of Directors for the Company in response to changes in the operating environment.

Action to Be Taken

The evaluation of the Board of Directors conducted in the nine-month period ended December 31, 2017, identified a need for ongoing initiatives in the following four areas to improve the effectiveness of the Board of Directors.

- Enhancement of identification and discussion of long-term issues (growth strategies, etc.) contributing to the improvement of corporate value
- Ongoing monitoring of the state of progress of E-Plan 2019
- Periodic reviews of the size and composition of the Board of Directors
- Enhancement of discussion on succession planning for the President and Representative Executive Officer, the Chairman of the Board of Directors, and Independent Directors



# Measures for Sharing Greater Value with Shareholders

In March 2018, the Compensation Committee revised the compensation systems of EBARA's directors and executive officers. Through this revision, it was resolved to introduce a restricted stock compensation plan and performance-linked stock compensation plan that are applicable to Directors, Executive Officers, and certain employees of the Company and its subsidiaries.

### Relationship Between Compensation and Effective Management

It is important for compensation systems to encourage directors and officers to perform their duties in a manner that coincides with a company's corporate philosophy and to provide motivation for directors and executive officers to implement medium-to-long-term management strategies and accomplish targets.

EBARA's compensation systems provide frameworks for clearly linking performance to compensation in order to reward directors and executive officers for good performance and to cast a stern eye on poor performance. The management indicators that will be reflected in compensation are to be selected based on the operating environment and the vision for EBARA at any given time. Under the Company with Three Committees system, responsibility for accomplishing the target of improving long-term corporate value is divided among directors and executive officers. In consideration of this fact, our compensation systems provide for appropriate stock-based compensation to be paid to Independent Directors to account for the differences in their position and the importance of their supervision

function. This is a distinctive characteristic of EBARA's compensation systems.

We also seek to establish appropriate evaluation and compensation frameworks for contributing to officer motivation by providing compensation based on the contributions and performance of individual officers. From this perspective, we moved away from our previous approach to bonuses, which linked bonuses to Company performance, effectively tying one's bonus to the efforts of others. The new system tailors bonuses to the performance of specific businesses or individuals.

### Directors and Executive Officers' Compensation Initiatives to Date

I became a member of EBARA's voluntary Compensation Advisory Committee in the fiscal year ended March 2013. This committee was formed in the fiscal year ended March 2009. It was also at this time that the Company established its Basic Policy on Directors and Executive Officers' Compensation and overhauled its compensation and related systems. This revision was aimed at preventing short-sighted management and having directors and executive

officers share greater value with shareholders. For this reason, the directors and executive officer retirement benefit system was abolished and share-based payment stock options were introduced to provide long-term incentives.

The voluntary Compensation Advisory Committee was replaced with the statutory Compensation Committee under the Board of Directors when EBARA transitioned to the Company with Three Committees system in 2015. The new committee has clearer authority and responsibilities. Later, in 2017, three Independent Directors were appointed as the members of the Compensation Committee to increase the objectivity and transparency of the committee.

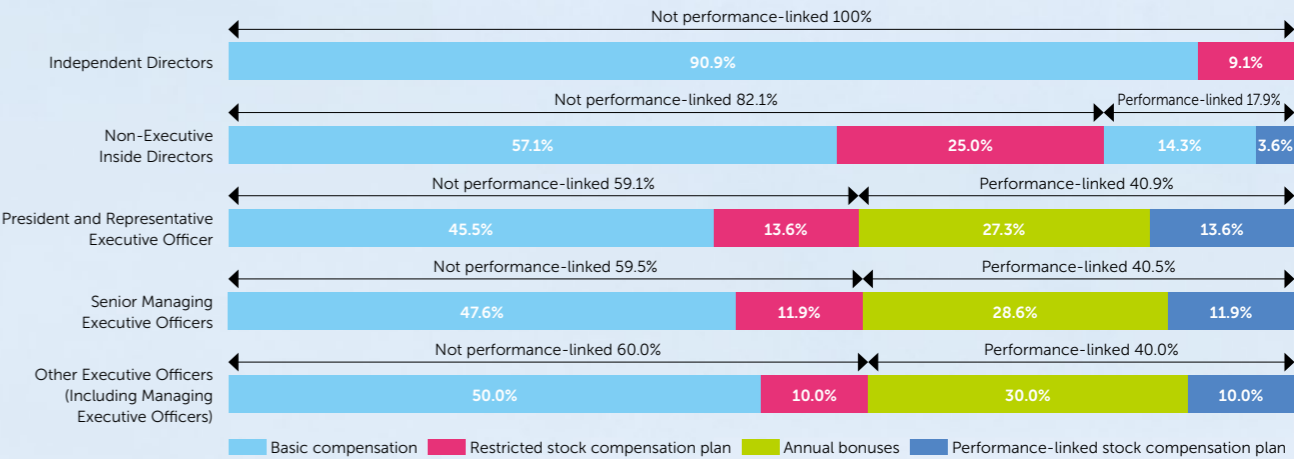
### Future of Compensation Systems

In 2018, long-term incentives were changed from the prior share-based payment stock options to a restricted stock compensation plan and a performance-linked stock compensation plan. These new plans make it possible to issue shares of the Company's stock directly to officers so that they share greater value with shareholders.

Going forward, we will continue to flexibly design and implement compensation systems to function as appropriate incentive for advancing management strategies and achieving targets.

### Composition of Compensation Paid to Directors and Executive Officers

(If 100% of the target for performance-linked compensation is achieved)



### Total Amounts of Compensation for Directors and Executive Officers

Position	Total compensation (Millions of yen)	Total compensation by type (Millions of yen)					
		Basic compensation		Bonuses		Stock options	
		Recipients	Amount	Recipients	Amount	Recipients	Amount
Directors of the Board (excluding Independent Directors)	142	4	108	—	—	4	33
Independent Directors	72	7	69	—	—	7	3
Executive Officers	416	13	221	12	142	13	52
Total	631	24	399	12	142	24	89

Notes: 1. Compensation paid to Executive Inside Directors is included in the Executive Officers compensation column.  
2. 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 under review, and amounts are determined individually after deliberation in the Compensation Committee.  
3. Basic compensation shown is the total amount of basic compensation paid to Directors and Executive Officers in office as of December 31, 2017, for the term of office of each Director and Executive Officer for the nine-month period ended December 31, 2017, and basic compensation paid to one Director who retired at the conclusion of the 152nd Ordinary General Meeting of Shareholders held on June 23, 2017 and one Executive Officer 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 nine-month period ended December 31, 2017.  
4. Bonuses shown are the total amount of bonuses paid (in March 2018) to Executive Officers in office as of December 31, 2017, for the nine-month period ended December 31, 2017.  
5. Stock options shown is the total amount of stock options granted to Directors and Executive Officers in office as of December 31, 2017, for the term of office of each Director and Executive Officer for the nine-month period ended December 31, 2017, and stock options granted to one Director who retired at the conclusion of the 152nd Ordinary General Meeting of Shareholders held on June 23, 2017 and one Executive Officer 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 nine-month period ended December 31, 2017. Stock options are calculated at the fair value of subscription rights to shares and shown as the amount recorded as an expense in the nine-month period ended December 31, 2017.



We will continue to flexibly design and implement compensation systems to function as appropriate incentive for advancing management strategies and achieving targets.

**Shiro Kuniya**  
Chairperson of the Compensation Committee

Cross-Shareholdings

As a basic principle, the EBARA Group seeks to minimize cross-shareholdings. The Group will only hold shares of other companies as cross-shareholdings when it is reasonably determined that such shareholdings will lead to development of business and/or financial relationships with investees and contribute to the enhancement of the Group’s corporate value. The rationale for such cross-shareholding relationships is subject to regular review by

the Board of Directors, and those holdings for which the rationale has been diminished will be dissolved when appropriate by disposal or other means.

The Company exercises its voting rights in cross-shareholdings, determining whether to vote for or against a proposal after comprehensive consideration of whether it contributes to the medium-to-long-term enhancement of the corporate value of the Group and investees.

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

	2016/3	2017/3	2017/12
Number of holdings	71	56	50
Of which, holdings of stocks of listed companies*	29	14	9
Amount on the balance sheet (millions of yen)	16,620	14,487	13,973

\* Excluding Deemed Holding Shares

Dialogue with Shareholders and Other Investors

The EBARA Group recognizes the development of a long-term trusting relationship 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.

The Board of Directors practices appropriate oversight of the dialogue with shareholders and other investors, positioning it as an important management issue. To facilitate

this oversight, the Board of Directors receives quarterly reports on IR activities by the division responsible for these activities, and directors offer advice as necessary.

In regards to the EBARA Group 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, who serves as the Chief Executive. Furthermore, Directors (including Independent Directors), Executive Officers, and other members of top management arrange opportunities to speak directly with shareholders and investors as necessary.

IR Activities

IR Meetings	The Company regularly explains its performance and management strategies through daily meetings with domestic and overseas institutional investors as well as during visits to individual overseas institutional investors in Europe, the United States, and other locations. The Company also participates in domestic and overseas conferences organized by securities companies. In addition, it engages in discussions focused on environmental, social, and governance (ESG) information pertaining to the Company.
Regular Financial Results Presentation Meetings for Analysts and Institutional Investors	Presentation meetings are held after the release of the annual and six-month financial results, where the President and Representative Executive Officer and executives responsible for each business segment give presentations on the Company’s business performance and management strategies. In addition, presentation meetings in the form of teleconferences are held after the release of the three-month and nine-month financial results.
IR Events	Several factory tours and presentation meetings are held each year for private and institutional investors and analysts, and executives responsible for business segments and other individuals provide explanations on business activities, factories, and products. In the nine-month period ended December 31, 2017, tours were arranged for private investors at the Futttsu Plant and the Fujisawa Plant and a presentation meeting was held for institutional investors and analysts on the standard pumps business.
Facilitation of Smooth Exercise of Voting Rights at General Meeting of Shareholders	In principle, convocation notices for the General Meeting of Shareholders are mailed around three weeks in advance. The convocation notices for the General Meeting of Shareholders for the nine-month period ended December 31, 2017, we mailed 19 days in advance, and these notices were uploaded on the Company’s corporate website eight days prior to their mailing. In order to facilitate the exercise of voting rights by overseas investors, English-language versions of convocation notices are prepared and uploaded on the Company’s corporate website and on the Tokyo Stock Exchange’s website together with their Japanese-language counterparts.

REFERENCE➡ IR Basic Policy

[https://www.ebara.co.jp/en/about/ir/information/ir\\_basic\\_policy/index.html](https://www.ebara.co.jp/en/about/ir/information/ir_basic_policy/index.html)

Executive Officers

(As of March 28, 2018)

Toichi Maeda\*1

President and Representative Executive Officer

Atsuo Ohi\*1

Senior Managing Executive Officer, President, Environmental Engineering Company

Nobuharu Noji\*1

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

Manabu Tsujimura

Senior Managing Executive Officer

Responsible for Technologies, R&D, and Intellectual Property

Apr.	1974	Joined the Company
Jun.	2002	Executive Officer
Apr.	2007	Managing Executive Officer
Apr.	2009	Division Executive, Technologies, Research & Development Division
Jun.	2009	Director
Apr.	2011	President, Precision Machinery Company
		Responsible for Technologies, R&D, and Intellectual Property (to present)
Apr.	2013	Senior Managing Executive Officer
Jun.	2015	Senior Managing Executive Officer*2 (to present)

Norio Kimura

Managing Executive Officer

Division Executive, Custom Pump Division, Fluid Machinery & Systems Company

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*2 (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)

Masao Asami

Managing Executive Officer

President, Precision Machinery Company

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*2 (to present)
Apr.	2016	President, Precision Machinery Company (to present)

Akihiko Nagamine

Executive Officer

Division Executive, Finance & Accounting Division

Apr.	1982	Joined EBARA DENSAN LTD.
Jun.	2006	Director of EBARA DENSAN 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*2 (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

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*2 (to present)
		Responsible for Compressors and Turbines Business, Fluid Machinery & Systems Company
Apr.	2016	Deputy CEO of Elliott Group Holdings, Inc. (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*2 (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*2 (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)

Yoshiaki Okiyama

Executive Officer

Division Executive, Standard Pump Business Division, Fluid Machinery & Systems Company

Apr.	1983	Joined the Company
Apr.	2011	Executive Officer
		General Manager, China Market Development Department, Global Marketing & Sales Business, Fluid Machinery & Systems Company
Apr.	2012	Executive General Manager, China & East Asia Regional Office, Fluid Machinery & Systems Company
Apr.	2016	Division Executive, Corporate Strategy Planning Division, Fluid Machinery & Systems Company
Apr.	2018	Executive Officer*2 (to present)
		Division Executive, Standard Pump Business Division, Fluid Machinery & Systems Company (to present)

Shu Nagata

Executive Officer

Division Executive, Corporate Strategic Planning Division

Apr.	1990	Joined the Company
Oct.	2008	Managing Director of Ebara Pumps Europe S.p.A
Nov.	2015	General Manager, Europe and Africa Department, Strategy and Technology Management Division, Fluid Machinery & Systems Company
Apr.	2017	General Manager, Global Sales and Marketing Department, Standard Pump Business Division, Fluid Machinery & Systems Company
Apr.	2018	Executive Officer*2 (to present)
		Division Executive, Corporate Strategic Planning Division (to present)

Toru Nakayama

Executive Officer

Division Executive, Legal, Internal Control and Risk Management and General Affairs Division

Sep.	2014	Joined the Company
Apr.	2016	Division Executive, Internal Control and Risk Management Division
Mar.	2018	Executive Officer*2 (to present)
		Division Executive, Legal, Internal Control and Risk Management and General Affairs Division (to present)

\*1. Inside Director (executive)  
(Please refer to pages 63 and 64 for brief personal history.)  
\*2. 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.

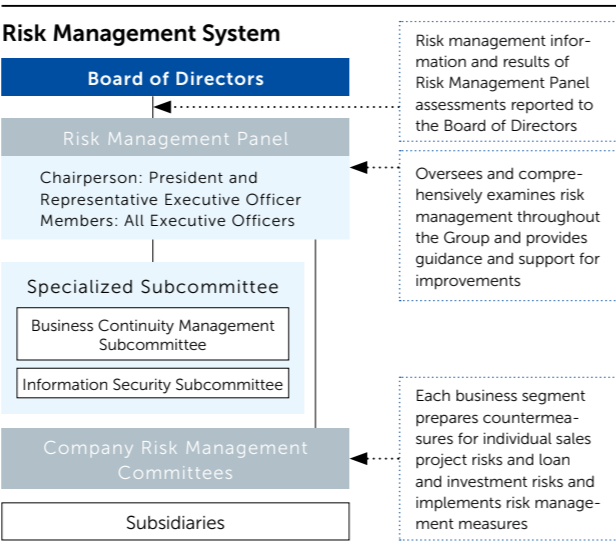
Risk Management

Basic Approach

The EBARA Group continuously reinforces its Group governance and risk management systems in order to support the global expansion of its business.

We have established the Risk Management Guidelines\*1 and the Internal Control Guidelines\*2 as shared risk management guidelines for the Group and utilize them to further support Group companies in developing their risk management and internal control systems. We additionally clearly communicate to all subsidiaries the requirements of the regulations for Group administration, which indicate the essential operating rules and systems for the Group. Based on these frameworks, subsidiaries are required to perform assessments prior to exposure to serious risks with the potential to impact the entire Group and to submit reports after risks have been assumed.

REFERENCE → Basic Policy on Risk Management  
[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

Resolution of Material Issues: Action Policy 5



Priority Strategies	Progress
<ul style="list-style-type: none"><li>Deploy the Internal Control Guidelines at Group companies</li><li>Introduce the Risk Management Guidelines at Group companies</li></ul>	<ul style="list-style-type: none"><li>Supported implementation at Group companies and expanded guideline items</li><li>Head office internal control section conducted on-site evaluations</li></ul>
<ul style="list-style-type: none"><li>Continue risk management centered on the Risk Management Panel</li></ul>	<ul style="list-style-type: none"><li>Assessed policies and issued quarterly activity reports based on the initiatives of the Business Continuity Management Subcommittee and the Information Security Subcommittee</li><li>Arranged discussions on individual projects</li></ul>
<ul style="list-style-type: none"><li>Reinforce risk management systems</li></ul>	<ul style="list-style-type: none"><li>Developed and deployed risk management, crisis management, and information security regulations at all subsidiaries</li></ul>

Main Risks and Countermeasures

Risk category	Risk management
1. Risks associated with ordinary business activities 1) Compliance risks (1) Prohibition of cartels and bid-rigging (2) Prohibition of 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	<ul style="list-style-type: none"><li>The Anti-Corruption Program is implemented at subsidiaries, and support is provided to help subsidiaries establish basic policies on anti-corruption and other relevant rules.</li><li>In Japan, we have set up a specialized committee that spans our organization laterally and discusses policies, establishes regulations, and implements and manages policies and regulations through educational activities.</li><li>A specialized corporate department conducts constant monitoring and provides support as necessary.</li></ul>
2) Risks associated with the reliability of financial reporting	<ul style="list-style-type: none"><li>For consolidated companies, we have established an internal control system and conduct assessments of the maintenance and operational status of this system based on the Financial Instruments and Exchange Act.</li><li>The Internal Control Guidelines are implemented at all subsidiaries to promote improvements through self-checks.</li></ul>
3) Sales project risks 4) Loan and investment risks	<ul style="list-style-type: none"><li>Risk management committees and the Risk Management Panel discuss specific risks and major projects.</li></ul>
5) Environmental risks	<ul style="list-style-type: none"><li>We acquire and maintain ISO 14001 certification at all sites in Japan.</li><li>Environmental assessments are conducted with regard to installation work performed at Group companies in Japan.</li><li>On-site surveys regarding environmental management are performed at overseas production bases and guidance for improvements is provided on an ongoing basis.</li></ul>
6) Other operational risks	<ul style="list-style-type: none"><li>We have established specialized committees pertaining to procurement and occupational health and safety.</li><li>The Information Security Subcommittee has been established as a subcommittee under the Risk Management Panel.</li><li>Activity policies and action plans are formulated and instituted.</li></ul>
2. Crisis	<ul style="list-style-type: none"><li>We have established the Business Continuity Management Subcommittee.</li><li>Each division has a business continuity plan and conducts education and training.</li><li>We have established a contact system and prepared a manual for measures in response to emergencies overseas.</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

Compliance

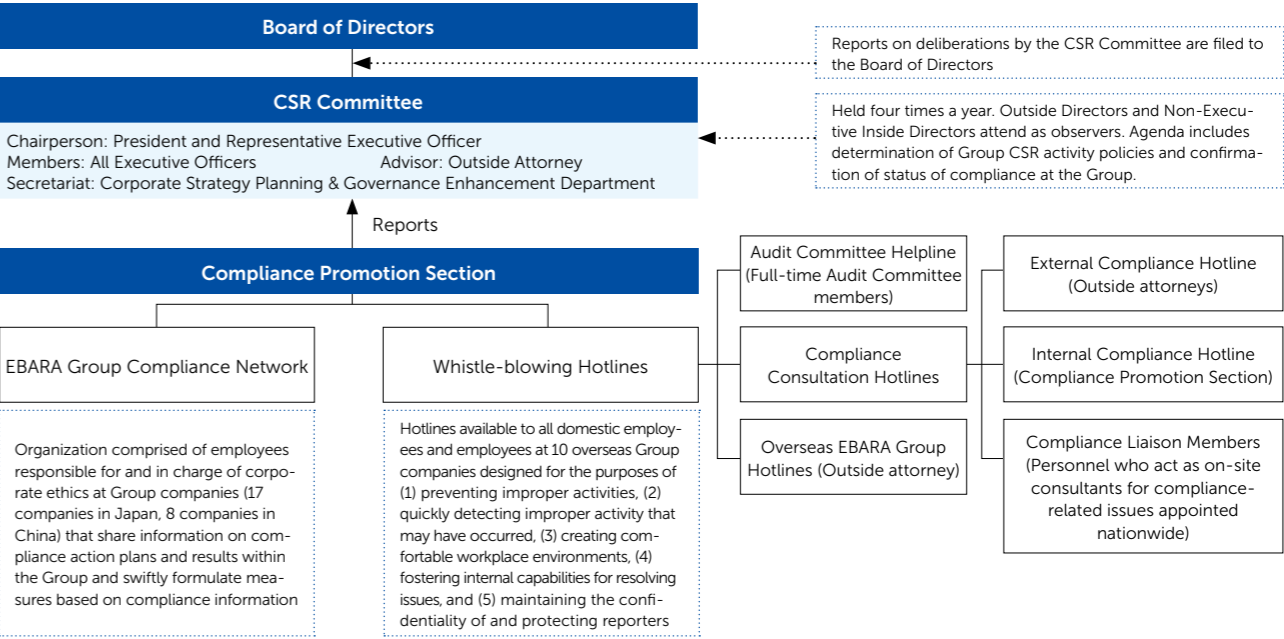
Basic Approach

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 Risk Management Guidelines, which are based on the principle of spreading compliance awareness, guide us in creating systems for detecting risks and preventing their actualization 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)

The EBARA Group’s Compliance System



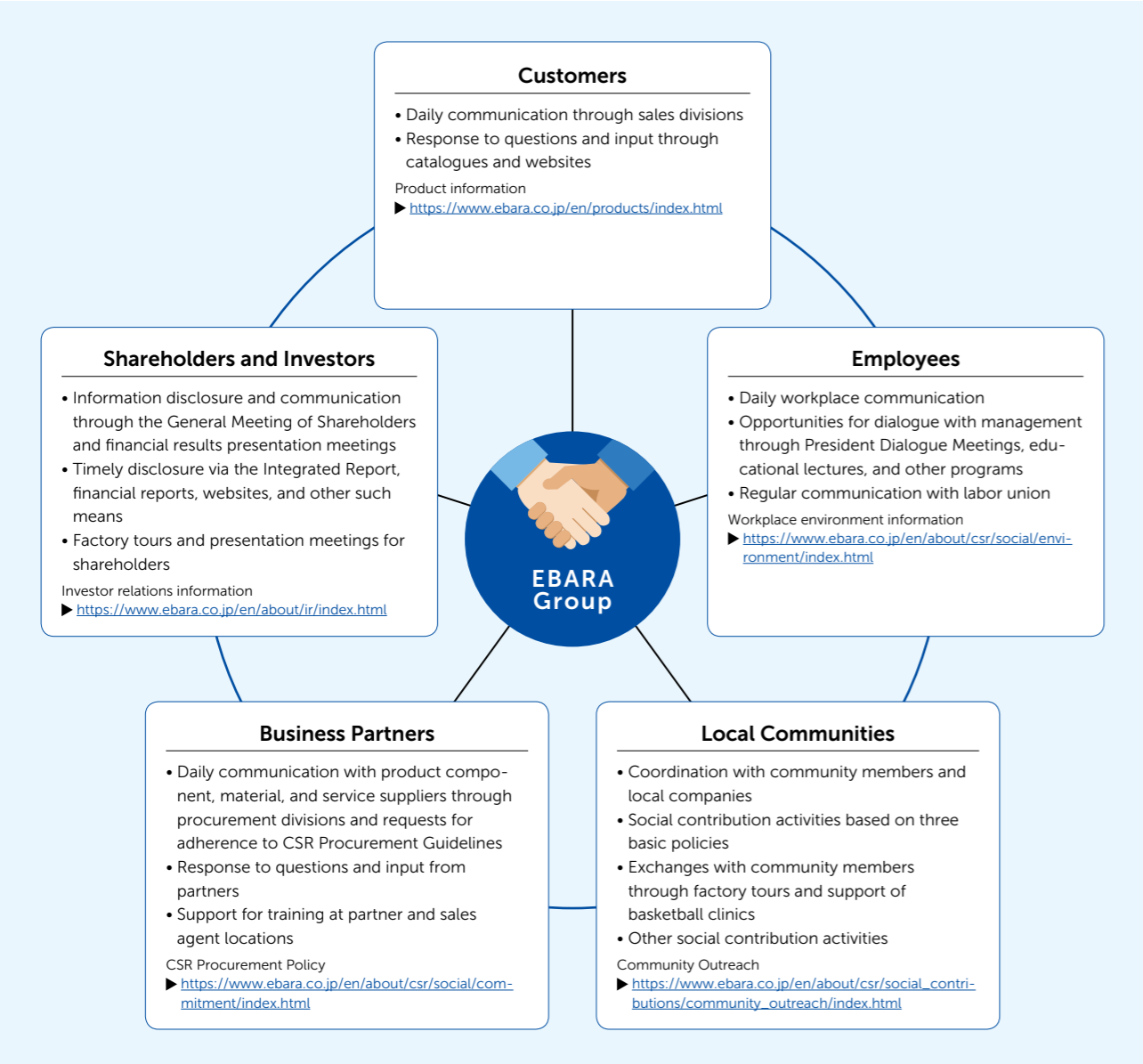
Priority Strategies and Progress

Resolution of Material Issues: Action Policy 5



	Priority Strategies	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 compliance-related regulations at Group companies and provided guidance</li><li>Conducted ongoing anti-corruption training</li></ul>
	Establish overseas EBARA Group hotlines	<ul style="list-style-type: none"><li>Expanded availability of hotlines to overseas Group companies lacking external reporting venues (a total of 10 companies)</li></ul>
	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>Conducted follow-up evaluations of compliance survey risk analysis results</li></ul>
Implement ongoing initiatives for improving ability to maintain internal compliance and for mitigating risks	Prevent and quickly detect and address scandals through swift response to reports	<ul style="list-style-type: none"><li>Transitioned to system assigning responsibility regarding reports based on point of origin (head office, subsidiary, etc.)</li><li>Processed 39 reports (upward trend) received in nine-month period ended December 31, 2017</li></ul>
	Enhance compliance liaison member system to provide familiar workplace consultation venues	<ul style="list-style-type: none"><li>Trained 83 compliance liaison members</li><li>Stepped up communication with compliance liaison members and furnished integrated responses to reported incidents (14 in nine-month period ended December 31, 2017)</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 (Human Rights Week, requests for human rights slogans, etc.)</li><li>Continued to participate in Global Compact Network Japan, the Industrial Federation for Human Rights, Tokyo, and other external organizations</li></ul>

The EBARA Group declares its commitment to valuing its stakeholders in its CSR Policy. This policy calls on us to build trusting relationships with all of the Group’s valued stakeholders and to engage with customers, business partners, shareholders, other investors, communities, and the greater society with passion and dedication. Driven by this commitment, we provide various opportunities for engagement with the goal of practicing high-quality communication.



“EBARA Way” and EBARA Group Code of Conduct Training

Resolution of Material Issues: Action Policy 5



The EBARA Group conducts ongoing training to ensure that all domestic and overseas officers and employees understand the “EBARA Way” and act in accordance with the EBARA Group Code of Conduct.

Scope	KPI	2017/12 Status	2019/12 Target
Japan	Rate of CSR training participation	99.5%	100%
	Rate of CSR training understanding	98.0%	90% or more
Overseas	Rate of CSR training program participation (programs offered in nine languages in regions around the world)	82.3%	100%

Co-Creation of Value with Business Partners

Resolution of Material Issues: Action Policy 4



In pursuit of even greater co-creation of value with business partners (product component, material, and service suppliers), we ask for their understanding and adherence to the CSR Procurement Policy and the Group’s CSR Procurement Guidelines. Recognition regarding the guidelines has been defined as a key performance indicator (KPI), and we are working to improve recognition to accomplish the target of a 100% recognition rate set for the fiscal year ending December 31, 2019.

REFERENCE Details on the CSR Procurement Guidelines  
<https://www.ebara.co.jp/en/about/csr/social/commitment/index.html>

CSR Procurement Guidelines

The CSR Procurement Guidelines request adherence to the following.

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

Engagement with Employees

Resolution of Material Issues: Action Policy 6



In the nine-month period ended December 31, 2017, roundtable discussions were arranged between employees and President and Representative Executive Officer Toichi Maeda. These discussions focused on the challenges EBARA is facing in achieving our medium-to-long-term vision, such as corporate culture reforms, utilization of Internet of Things and artificial intelligence technologies, work style reforms, and creating workplace environments that motivate and excite employees.



Co-Creation with Communities and Society

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.

EBARA Hatakeyama Memorial Fund



Pump assembly demonstration at overseas technical seminar

Events Aimed at Female Junior High and High School Students



Photograph contained in issue No. 50 of *Rikejo* magazine for women interested in science

Sports Sponsorships



Support for basketball clinics led by Tokyo Haneda Vickies of the Women’s Japan Basketball League

Factory Tours and Internships



Factory tour

Support for Youth Cooperation and Creativity Development Training Programs of Japan Institute for Promoting Invention and Innovation



Ebara Youth Award Ceremony

Operation of the Hatakeyama Memorial Museum of Fine Art



16th century Hosokawa ido chawan bowl

EBARA Group History

1912 to 1940s	
Building our foundations	
1912 (Nov.)	Inokuty Type Machinery Office was founded. Issey Hatakeyama was appointed general manager under the supervision of Ariya Inokuty, a professor of Tokyo Imperial University.
1920 (May)	EBARA CORPORATION was established. A plant was constructed in Minami-Shinagawa, Shinagawa-cho, Ebara-gun, Tokyo, marking the establishment of the Company, which assumed the responsibilities of the Inokuty Type Machinery Office and began the manufacturing of centrifugal pumps.
1938 (Apr.)	New plant was built in Haneda, Kamata-ku, Tokyo. The Head Office and manufacturing operations shifted from Shinagawa to the new facility in Haneda.
1941 (Dec.)	New plant was built in Kawasaki.
1945 (Apr.)	The Haneda Plant was damaged in war. All operations, except for a pump testing facility, fabrication and welding shop, and main building, were deemed no longer functional. As a result, production was transferred to the Kawasaki Plant.

1950s to 1970s	
Meeting technological needs	
1955 (Jan.)	The Haneda Plant was reopened to spearhead the Company's manufacturing operations.
1956 (Jan.)	Ebara-Infilco Co., Ltd., was set up to manufacture and sell water treatment equipment.
1964 (Apr.)	EBARA's first post-World War II overseas sales office was opened in Thailand.
1964 (Jun.)	Ebara Service Co., Ltd., was established to provide after-sales service for EBARA's products.
1965 (May)	The Fujisawa Plant was opened as the first facility in Japan to mass-produce standard pumps, and it took over the production of chillers from the Haneda Plant.
1975 (Jan.)	EBARA's first overseas production facility, Ebara Indústria Mecânicas e Comércio Ltda. (currently Ebara Bombas América do Sul Ltda.), was established in Brazil.
1975 (Nov.)	The Sodegaura Plant was opened to manufacture mainly compressors and turbines.
1979 (Dec.)	P.T. Ebara Indonesia was established in Indonesia to manufacture standard pumps in Southeast Asia.

1980s to 1990s	
Spreading our technology	
1981 (Jan.)	Ebara International Corporation was established in the United States to provide a North American base for the pumps business.
1986 (Jan.)	EBARA realigned its production systems by integrating the Kawasaki Plant into the Fujisawa Plant.
1987 (Jul.)	A precision machining facility was opened at the Fujisawa Plant dedicated to the production of vacuum equipment for the semiconductor industry.
1989 (Jan.)	Ebara Italia S.p.A. (currently Ebara Pumps Europe S.p.A.) was established to manufacture stainless steel standard pumps.
1992 (Aug.)	EBARA QINGDAO CO., LTD., was founded in China as a center for boiler production.
1994 (Oct.)	Ebara-Infilco Co., Ltd., was merged into the Company.

2000s	
Constructing foundations for growth	
2000 (Apr.)	Ebara Techno-serve Co., Ltd., was formed to combine sales and maintenance services for the standard pumps business.
2000 (Apr.)	Elliott Company, a leading company in the compressors and turbines business, became a wholly owned subsidiary.
2001 (Jun.)	Ebara Kyushu Co., Ltd., established in Kumamoto Prefecture for producing CMP and other equipment, went into full operation.
2002 (Apr.)	The compressors and turbines business was split off into a separate company, Elliott Ebara Turbomachinery Corporation, located in Chiba Prefecture.
2002 (Sep.)	The chillers business was split off into a separate company, Ebara Refrigeration Equipment & Systems Co., Ltd.
2003 (May)	Ebara Great Pumps Co., Ltd., was established in China to manufacture and sell pumps in China for the oil and gas industries.
2005 (Apr.)	An in-house company system was introduced with a corporate structure comprising a Corporate Sector for headquarters functions and three core companies: Fluid Machinery & Systems, Environmental Engineering, and Precision Machinery.
2005 (Aug.)	Ebara Boshan Pumps Co., Ltd. (currently EBARA MACHINERY ZIBO CO., LTD.), was established in China to manufacture and sell large-scale, high-pressure pumps in China.
2006 (May)	Ebara Machinery (China) Co., Ltd., was formed to serve as the manufacturing, sales, and service center for standard pumps in China.
2009 (Apr.)	EBARA integrated its water treatment plant businesses into Ebara Engineering Service Co., Ltd.
2009 (Oct.)	EBARA integrated its environmental plant businesses into EBARA Environmental Plant Co., Ltd.

2010s and later	
Pursuing further growth	
2010 (Jan.)	The Futtso Plant was newly established in Chiba Prefecture, and the functions of the former Haneda Plant were transferred there.
2010 (Mar.)	EBARA, Mitsubishi Corporation, and JGC Corporation started a joint venture in the water business, Ebara Engineering Service Co., Ltd. (currently Swing Corporation).
2010 (Oct.)	Ebara Kyushu Co., Ltd., was merged into the Company.
2012 (Apr.)	In a realignment of the pumps business, Ebara Techno-serve Co., Ltd., Ebara Yoshikura Hydro-Tech Co., Ltd., and Ebara Environmental Technologies Hokkaido Co., Ltd., were merged.
2014 (Mar.)	Ebara Pumps Middle East FZE was established in the United Arab Emirates to serve as a sales and service base for pumps in the Middle East.
2015 (Jun.)	EBARA transitioned to a Company with Three Committees.
2015 (Aug.)	An Indonesian company that provides maintenance services for rotating machinery, PT. Turbindo Chikara Surya (currently PT. Ebara Turbomachinery Services Indonesia), was acquired.
2015 (Dec.)	A Brazilian pumps manufacturer, Thebe Bombas Hidraulicas S.A. (currently Ebara Bombas América do Sul Ltda.), was acquired.
2016 (Nov.)	The semiconductor manufacturing equipment production facilities and dry vacuum pump service facilities of the Kumamoto Plant were augmented.
2017 (Aug.)	A new base in South Africa, Ebara Pumps South Africa (Pty) Ltd., was established.

Corporate Profile / Stock Information

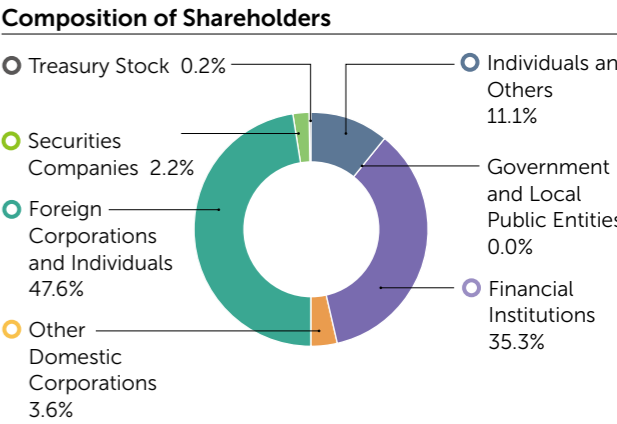
(As of December 31, 2017)

Corporate Profile	
Company Name:	EBARA CORPORATION
Foundation:	November 1912
Head Office:	11-1, Haneda Asahi-cho, Ohta-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:	¥78,815 million
Number of Employees (Consolidated):	16,219

Stock Information	
Securities Code:	6361 (Japan)
Number of Shares Issued:	101,783,253
Number of Shareholders:	21,421
Securities Traded:	Tokyo Stock Exchange
Number of Shares Constituting One Unit:	100
Transfer Agent and Registrar:	Sumitomo Mitsui Trust Bank, Limited 4-1, Marunouchi 1-chome, 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)	8.4
ICHIGO TRUST PTE. LTD.	7.1
Japan Trustee Services Bank, Ltd. (Trust Account)	6.9
THE BANK OF NEW YORK 133522	2.8
National Mutual Insurance Federation of Agricultural Cooperatives	2.0
Mizuho Bank, Ltd.	2.0
STATE STREET BANK CLIENT OMNIBUS OM04	1.7
Japan Trustee Services Bank, Ltd. (Trust Account 7)	1.6
Japan Trustee Services Bank, Ltd. (Trust Account 5)	1.5
The Bank of Tokyo-Mitsubishi UFJ, Ltd.	1.4

Notes: 1. Treasury stock has been eliminated from the total number of shares issued in calculating the percentage.  
2. The Bank of Tokyo-Mitsubishi UFJ, Ltd., changed its name to MUFG Bank, Ltd., as of April 1, 2018.



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

Morningstar Socially Responsible Investment Index

As of May 1, 2018

MSCI Japan Empowering Women Index

2018 Constituent  
MSCI Japan Empowering Women Index (WIN)

MSCI Japan ESG Select Leaders Index

2018 Constituent  
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.

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.