

2020 Yokogawa Report

For the year ended March 31, 2020

Yokogawa will resolve social and environmental issues in partnership with customers through business activities.

2020 Yokogawa Report Concept

This report was designed to provide shareholders, investors, and other stakeholders with an understanding of Yokogawa's initiatives to "resolve social and environmental issues in partnership with customers through business activities" based on the Guidance for Collaborative Value Creation established by the Ministry of Economy, Trade and Industry in the context of Yokogawa's value creation story.

What is Guidance for Collaborative Value Creation?

The Guidance for Collaborative Value Creation is officially known as Guidance for Integrated Corporate Disclosure and Company-Investor Dialogue for Collaborative Value Creation which was established by the Ministry of Economy, Trade and Industry on May 29, 2017.

The Guidance was formulated to deepen mutual understanding between companies and investors through information disclosure and dialogue/engagement and promote collaborative activities to create sustainable value.



Overview of the Guidance for Collaborative Value Creation



| | |
|-------------------------------------|--|
| Values | Corporate philosophy and management vision which serve as the basis for business models and management decisions |
| Business Model | Provision of value through business activities, building of mechanisms for sustained cash flow creation |
| Sustainability/ Growth Potential | Risks and threats to the sustainability of the company's business model, and the company's recognition of ESG |
| Strategy | Distribution of management resources and business model evolution toward enhancing the company's strategic competitive advantages and contributing to solving society's challenging issues |
| Results and KPIs | Formulation of original KPIs, management of progress in financial and non-financial strategies, status of economic value creation, as well as analysis and evaluation of earnings performance by the management side and the link in between |
| Governance | Sustained growth in corporate value based on disciplined governance systems and functions, as well as establishment of effective governance framework |

Editorial Policy

This report has been prepared to provide a comprehensive understanding of Yokogawa's non-financial and qualitative information such as Yokogawa's values, business models, sustainability, potential for growth, strategies, corporate governance policies, and other sources of Yokogawa's competitiveness and profitability in addition to financial information in the context of Yokogawa's value creation story for the Yokogawa Group's initiatives to achieve sustainable growth and enhance mid-to-long-term corporate value. This report has been compiled and edited in reference to the Guidance for Collaborative Value Creation formulated by the Ministry of Economy, Trade and Industry, the International Integrated Reporting Framework published by the International Integrated Reporting Council (IIRC) and other relevant frameworks.

As original content, the report for this fiscal year features our initiatives toward medium- to long-term energy transition, efforts for achieving sustainability goals including the response to climate change (TCFD), and views of our outside directors and outside audit & supervisory board members on their roles. We hope the provided information will contribute to further understanding by shareholders, investors and other stakeholders.

Period covered by the Report: Fiscal year 2019, the period from April 1, 2019 to March 31, 2020 (includes some information on fiscal year 2020)

Scope of the Report: Yokogawa Electric Corporation and its subsidiaries and affiliates

*Co-innovating tomorrow, CENTUM, CENTUM VP, ProSafe-RS, OpreX, IA2IA, LCA, DP harp, ScopeCorder, amnimo, FluidCom, DLM, CSU, CSU-W1, and GLOBAL Response Center are registered trademarks or trademarks of Yokogawa Electric Corporation and its subsidiaries and affiliates.

Yokogawa's Values

Century-Old Unwavering Aspirations for
Solving Social Issues
Determination to Make the World a Better Place
for Future Generations

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Yokogawa's Business Model

Business Model for the Industrial Automation
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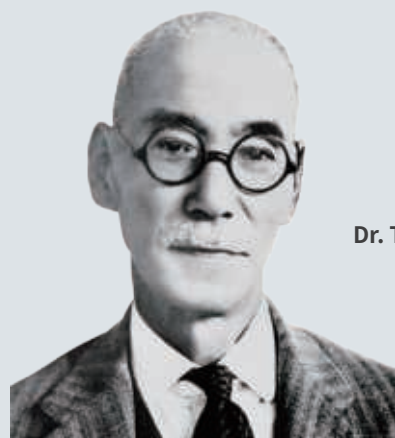
Further information is available on our website:

- Website of Yokogawa Electric Corporation: <https://www.yokogawa.com/>
- Investor Relations website: <https://www.yokogawa.com/about/ir/>
- Sustainability website: <https://www.yokogawa.com/about/sustainability/>
- Corporate Governance website: <https://www.yokogawa.com/about/ir/governance/>
- Yokogawa Report website: <https://www.yokogawa.com/about/ir/reports/annual/>

Cautionary statement regarding forward-looking statements

Statements made in this report regarding Yokogawa's plans, estimates, strategies, and beliefs are forward-looking statements about the future performance of Yokogawa. These statements are based on management's assumptions and beliefs in the light of currently available information. Yokogawa cautions that a number of important factors, such as general economic conditions and exchange rates, could cause actual results to differ materially from those discussed in the forward-looking statements.

Century-old Unwavering Aspiration to Resolve Social Issues



Dr. Tamisuke Yokogawa, founder

Founding Principles

Quality First

Pioneering spirit

Contribution to society

The Yokogawa Philosophy

As a company, our goal is to contribute to society through broad-ranging activities in the areas of measurement, control, and information.

Individually, we aim to combine good citizenship with the courage to innovate.

Focusing on measurement, control, and information, Yokogawa Electric Corporation supports social infrastructure and industries essential to people's lives, such as oil, gas, chemicals, power, water, materials, foods, and pharmaceuticals. We do business in various fields beyond "electric" today but still hold it in the company name for more than a century. The reason traces back to the founder's pioneering spirit.

Following Western countries, Japan began to use electric lights in the 1880s. By 1912, light bulbs were in use throughout central Tokyo and a few railway lines had been electrified. However, electric meters were still all imports and the outbreak of World War I in 1914 made it difficult to import them from Western countries. There also was a movement to shift the supply of electricity from flat-rate to tiered-rate plans, and so there was an urgent need to produce electric meters for Japanese industry.

Under such circumstances, on September 1, 1915, the Electric Meter Research Institute was established in Shibuya, Tokyo (currently, the vicinity of Shibuya 3-chome, Shibuya Ward, Tokyo) with four members.

Upon request from society, the Institute produced and sold electric meters in Japan for the first time. This was made possible because of a strong belief of Tamisuke Yokogawa, the founder of the Company. He thought, without using electric meters, it would be impossible to attain the level of measuring precision required to develop the country's industries. Our founding principles, namely quality first, pioneering spirit and contribution to society originated in this belief, and, together with the company name, have been valued and handed down as our foundations.



Determination to Make the World a Better Place for Future Generations



To make the world a better place for future generations

Yokogawa has long been involved in industries relating to utilization of natural resources. Therefore, our key mission is to make our beautiful, abundant planet into a better place before passing it on to future generations. Yokogawa supports the idea of the Sustainable Development Goals (SDGs), and has been accelerating its efforts to achieve them.

Statement on Yokogawa's aspiration for sustainability

Yokogawa will work to achieve net-zero emissions, make a transition to a circular economy, and ensure the well-being of all by 2050, thus making the world a better place for future generations.

We will undergo the necessary transformation to achieve these goals by 1) becoming more adaptable and resilient, 2) evolving our businesses to engage in regenerative value creation, and 3) promoting co-innovation with our stakeholders.

Sustainability goals to create sustainable society Three goals



Our business activities that resolve issues in cooperation with customers supporting various industries, such as energy, materials, pharmaceuticals and foods and social infrastructure, can make significant contribution to achieving a sustainable society. In light of SDGs and the Paris Agreement, we established sustainability goals (Three goals), that will help us turn our vision for society in the year 2050 into a reality.

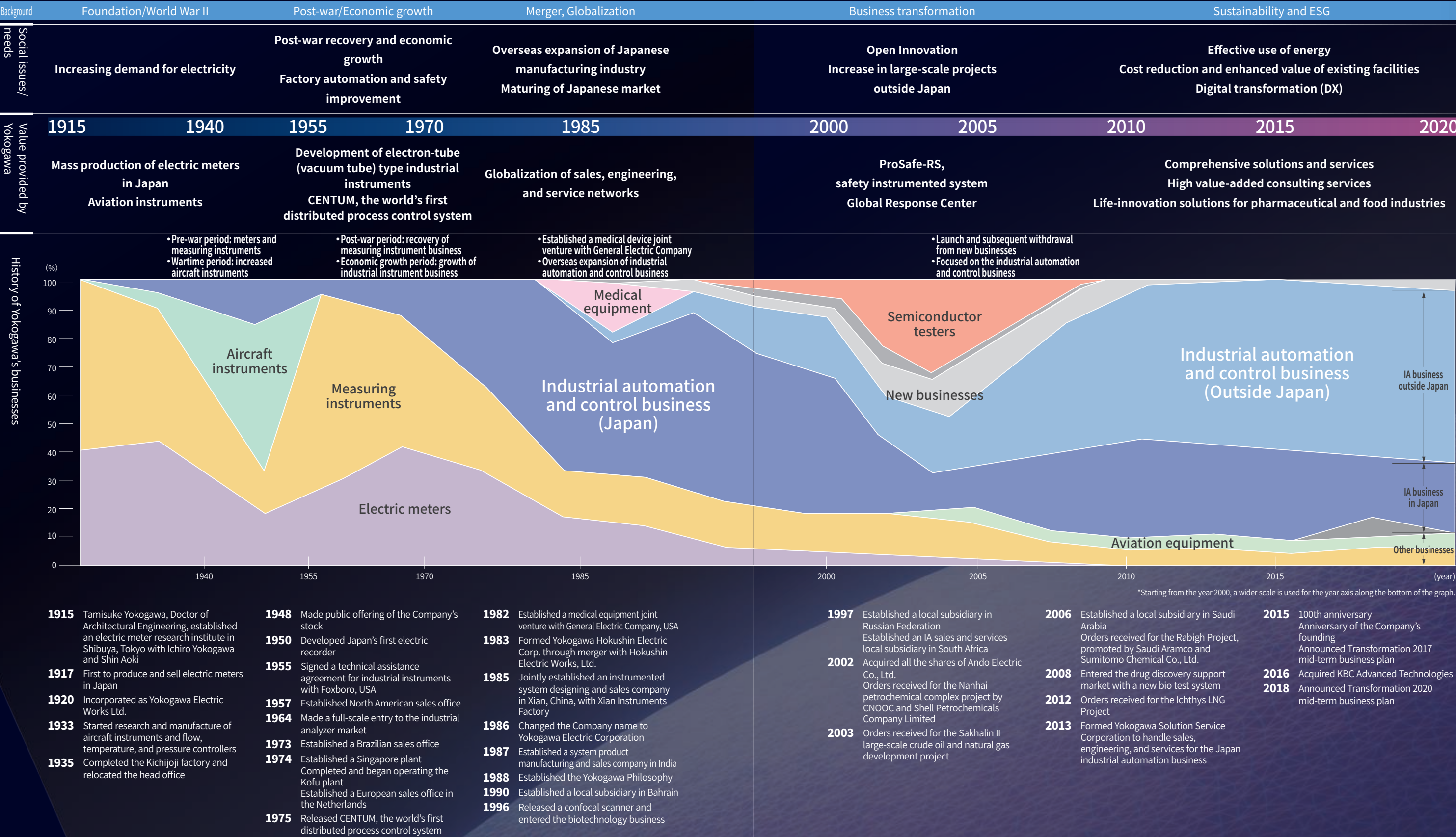
To preserve the precious earth and maintain an affluent society for another century, Yokogawa will go hand-in-hand with its customers in resolving social issues closely connected to SDGs.

Tireless Efforts for Continuous Transformation

The Founder's Aspirations

In his instructions to Ichiro Yokogawa and Shin Aoki, Dr. Tamisuke Yokogawa said, “You don’t need to worry about profits. Just learn and improve our technology. You must make products that earn us the respect of our customers.” This is the origin of the founding principles that have been handed down for more than a century as the pioneering spirit.

Although first set into words in 1988, the Yokogawa Philosophy is based on these founding principles, and is embodied in the code of conduct that guides employees in the performance of their daily tasks and in all pronouncements on our corporate objectives.

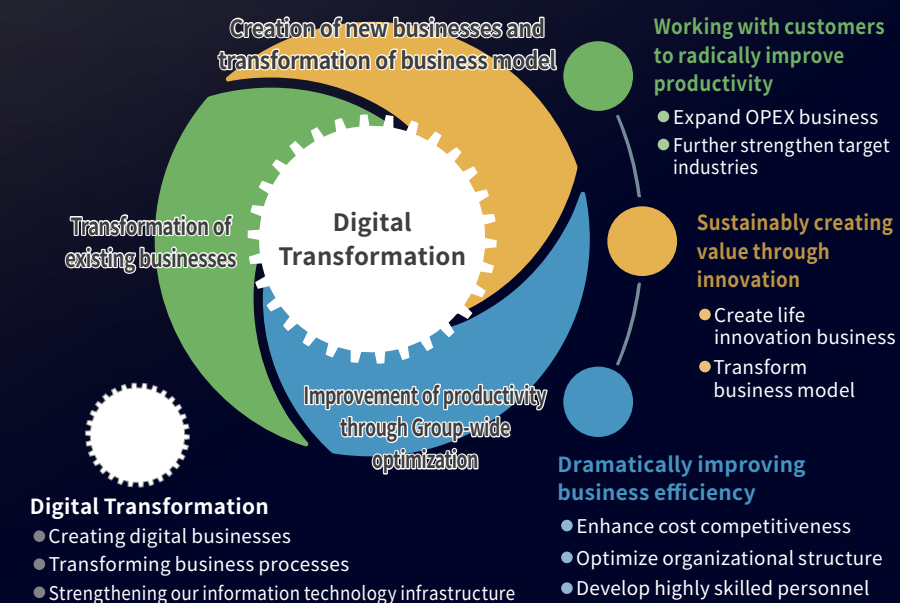


Roadmap Toward Sustainable Growth



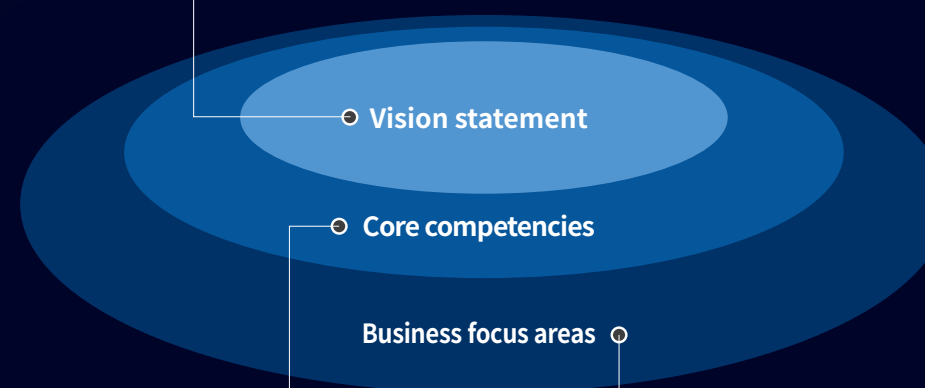
1 Up to 2020 Mid-term business plan

The Transformation 2020 defines as follows the ideal that Yokogawa is striving to achieve: "A company that seeks to build a sustainable society by using its core measurement, control, and information technologies and pursuing digital technology innovation and co-innovation with its customers that revolutionizes productivity in a wide range of business processes." To achieve this, the company will implement the following basic strategies for transforming itself in three ways.



2 Up to 2030 Long-term business framework

Through "Process Co-Innovation," Yokogawa creates new value with its clients for a brighter future.



Three core competencies that are to be strengthened
These include the co-creation of value by uncovering and resolving clients' potential issues.

Three core competencies that are fundamental
These include the capability to create highly reliable products and solutions to support industries and society.

Mid- to long-term view
• Natural resources-, energy-, and material-related industries
• Industries supporting people's health and the enrichment of lives

Long-term view
• Bioeconomy business

3 Up to 2050 Sustainability goals (Three goals)

Yokogawa made a statement on its aspiration for sustainability and established sustainability goals (Three goals) for 2050 in order to help make the world a better place for future generations. The Three goals comprise of net-zero emissions, well-being, and circular economy, which correspond to the environmental, social, and economic aspects of sustainability.



Net-zero emissions
Achieve net-zero emissions; stopping climate change

Climate change is an urgent issue that requires a united global response. Our goal is to reach net-zero emissions through the use of renewable energy and greater energy efficiency. By net-zero emissions, we mean a balance between greenhouse gas emissions and absorption, preventing an increase in the concentration of greenhouse gases in the atmosphere.

Well-being
Ensure well-being; quality life for all

Well-being means a state of physical, mental, and social contentment. Yokogawa supports people's health and prosperity through the achievement of safe and comfortable workplaces and our pursuits in such areas as the pharmaceutical and food industries. We promote diversity and inclusion, providing education, training, and employment in local communities.

Circular economy
Make the transition to a circular economy; circulation of resources and efficiency

We are seeing a movement that rejects the one-way take, make, and dispose economy. This new economy circulates resources and emphasizes services over physical products. Yokogawa aims for making a transition to a circular economy that uses resources without waste and makes effective use of assets.

Message from Chairman and President & CEO



Takashi Nishijima
Chairman

Hitoshi Nara
President and CEO

To Our Shareholders and Investors

We wish to take this opportunity to express our heartfelt gratitude for your ongoing support.

The Yokogawa Group marks its 105th anniversary this year. Since its founding in 1915, Yokogawa has supported industry growth by providing cutting-edge products and other solutions based on its core competences in measurement, control, and information technologies. Based on a Yokogawa founding principle that calls for us to contribute to society, we have sought to build trust with our customers and society, and have gained in knowledge as we have worked with our customers to resolve issues. Given the present great need for sustainability with the environment, society, and the economy, Yokogawa is working with customers to develop innovations that will create value and ensure that we leave a healthy planet to future generations.

Fiscal year 2020 is the final year of our Transformation 2020 mid-term business plan (TF2020), and it is a very critical year in which the environment that we do business in experiences rapid and significant change. The COVID-19 pandemic has had an unprecedented impact not only on company activities but also on the global economy and society. Looking ahead, as efforts to combat COVID-19 are balanced against the resumption of economic activities, we expect to see a gradual recovery, although the future is hard to predict. Even in times of adversity like what we are experiencing today, Yokogawa is a resilient company that will remain on a long-term growth track. Amidst difficulties and temporary setbacks, we will forge ahead and resume growth. Key to this effort will be our execution of a growth strategy. Although circumstances may dictate a reconsideration or the acceleration of certain measures, we believe that the TF2020 plan and our long-term business framework match up well with what will be needed once COVID-19 is behind us. We will maintain financial stability, transform key businesses and business models, set clear priorities on what must be done to drive growth, and quickly implement our action plans.

COVID-19 has had a great impact on society and the economy, and the Yokogawa Group is taking an extensive variety of measures to prevent the further spread of the virus and mitigate its impact on our customers. While living up to our customers' expectations and ensuring our continuity as a business enterprise, we will keep moving ahead with our efforts to achieve a sustainable society.

The Yokogawa Group has an unwavering commitment to expanding its businesses and enhancing its corporate value, and thereby meeting the expectations of its shareholders and investors. We ask for your continued support.

Chairman

President and CEO

Process of Creating Value

By offering value to customers that includes “high-quality, highly reliable products,” “efficient, safe, and stable operation” and “resolution of management issues,” the Yokogawa Group is addressing and resolving issues affecting society, the environment, and industry in partnership with customers so as to contribute to society.

Yokogawa will continue investing for further enhancement of corporate value and sustainable growth of the Company. For shareholders and investors, we aim for continuous and stable increases in dividends.

Co-innovating tomorrow™

Yokogawa is committed to pursuing the transformations needed to achieve continued growth in the next century. Under the corporate brand slogan of “Co-innovating tomorrow,” Yokogawa seeks to establish ever greater levels of trust with its customers and to work with them to create new value for a brighter future, both for its customers and society.

YOKOGAWA

Customers

Resolving social issues with customers

Co-innovating tomorrow™

Customers' issues Social, environmental, and economic issues

Changing positioning of energy resources

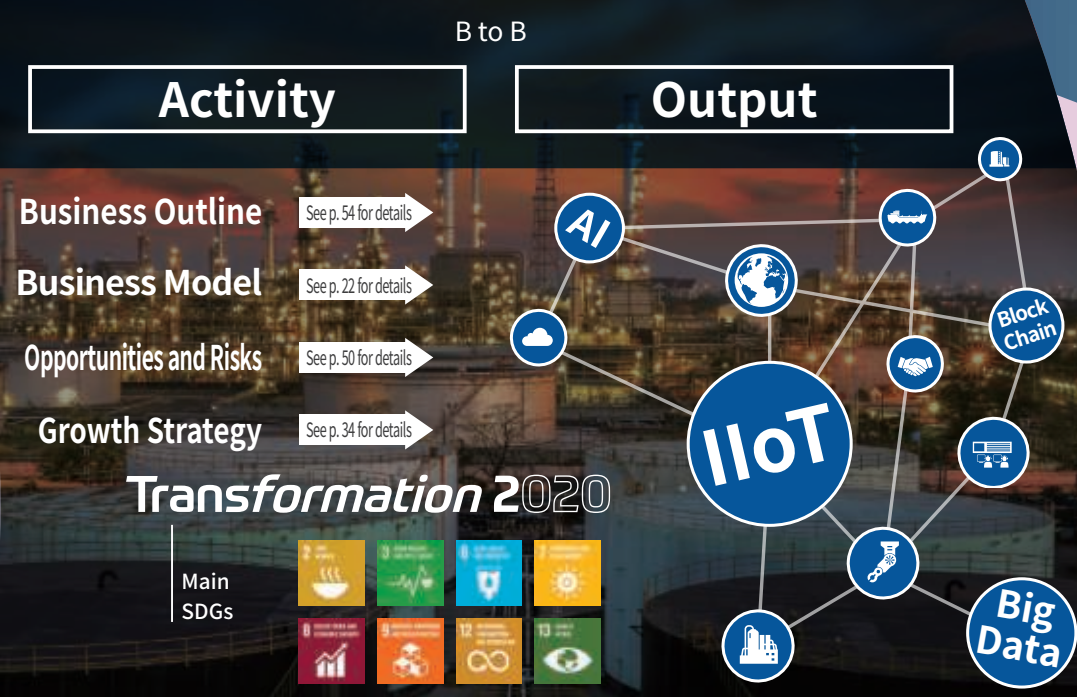
- Economic slowdown in emerging markets
- Decarbonization
- Shale revolution
- Role of oil

Digital transformation

- IIoT
- Blockchains
- AI
- Big data

Growing need to resolve social issues

- SDGs
- Paris Agreement
- TCFD
- Localization
- Remotization
- Autonomy



Outcome

- Enhance customers' economic value
- Contribute to promoting health and well-being

- Oil
 - Petrochemicals
 - Chemicals
 - Iron and steel
 - Pulp and paper
 - Gas and LNG
 - Power
 - Pharmaceuticals
 - Water and wastewater
 - Foods
 - Motors and inverters
 - Automobiles
 - Machinery and mechatronics
 - Medical equipment
 - Life sciences
 - Renewable energy
 - Aviation and aerospace
 - Smart city
 - Environmental measurement
 - etc.
- Users (consumers)

Impact

Realization of a sustainable society

To make the world a better place for future generations

Sustainability goals (Three goals)



Universal goals



Sustainable improvement in corporate value



Yokogawa Resources

Contribution through Management Resources (the Group’s foundation)

Progress of Medium-term Sustainability Targets

In connection with our contributions through management resources (the Group’s foundation), we have laid down medium-term sustainability goals regarding human resource management, which is key to Yokogawa’s growth, and environmental management, which is the basis of corporate survival, toward realizing the “Three goals” of sustainability. We are working to achieve the goals by running a PDCA (Plan-Do-Check-Action) cycle using key performance indicators (KPIs).

| | SDGs | Value creation themes | KPI | Goals | FY2019 Review |
|-----------------|-----------------------------------|--|---|--|--|
| Human capital | 5 Gender Equality | Diversity and inclusion | Female ratio out of total number of managers | 12.0% (FY2020) | 10.2% |
| | 8 Decent Work and Economic Growth | | Employment rate of persons with disabilities (Group companies in Japan) | 2.3% (FY2020) | 2.27% (as of June 1, 2020) |
| | 8 Decent Work and Economic Growth | Talent attraction and engagement | Engagement survey score | 80% (FY2021) | 78% (Implemented Jan-Mar 2020) |
| | 8 Decent Work and Economic Growth | Elimination of occupational accidents | Frequency rate of accidents resulting in lost workdays | Reduction | 0.34 incidents /1 million hours |
| Natural capital | 6 Clean Water and Sanitation | Efficient utilization of water resources | Water consumption | Enhance efficient utilization of water resources | Consumption amount: 513 km ³ |
| | 7 Affordable and Clean Energy | Reduction of energy usage | Energy usage (compared to FY2013) | 13% reduction (FY2020) 18% reduction (FY2030) | 15.5% reduction Consumption amount: 1,463,397GJ |
| | 13 Climate Action | Reduction of greenhouse gas emissions | Greenhouse gas emissions (compared to FY2013) | 20% reduction (FY2020) 34% reduction (FY2030) | 23.8% reduction Greenhouse gas emissions: 78,770t-CO ₂ e |



Human capital

Global human resources: 18,107 persons
(11,714 outside Japan, 6,393 in Japan)

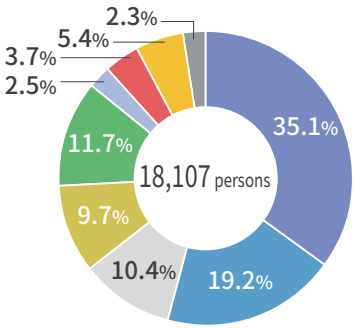
Number of cumulative total of Yokogawa University courses: Over 75,000 courses

Percentage of female new graduates joining the Company (Yokogawa Electric on a non-consolidated basis): 41.3%

Frequency rate of accidents resulting in lost workdays: 0.34 incidents/1 million hours

Composition of employees by region

- Japan
- Southeast Asia/Far East
- China
- India
- Europe
- Russia
- North America
- Middle East/Africa
- South and Central America



A diverse workforce is an indispensable resource and a key driver for Yokogawa’s growth and creation of value. To achieve the targets of the Transformation 2020 mid-term business plan, whose overall goal is the creation of new value through co-innovation with our customers, Yokogawa is pursuing a human resources strategy that is focused on transformation through the **strengthening of human resources, promotion of diversity and inclusion, and management of health and productivity**. Moreover, to be a good partner, a good corporate citizen, a going concern, a good brand, and a good employer, we will work to establish a productive, healthy, and rewarding work environment throughout the Yokogawa Group.

Yokogawa’s Approach to Human Resources

A company, through its business activities, must continue to deliver value that contributes to society in order to achieve sustainable growth. To this end, it is necessary for each employee to support Yokogawa’s mission, objectives, and targets expressed in its philosophy and sustainability targets (Three goals), and at the same time autonomously pursue their own career.



Keep taking on a challenge and providing new value for customers

- Create a corporate culture that tolerates positive failures and utilize those experiences to the next level

Share the Company’s objectives and targets across the board and aim to achieve them together

- Act autonomously but work together as a team
- Improve engagement by making a real contribution to society and business

Maximize the potential of individuals

- Maximize individual abilities and strengths while supporting autonomous career development

Build a team in which everyone exercises leadership and diverse human resources can be connected cross-sectionally

- Demonstrate leadership and act across organizational boundaries
- Building awareness of diversity and acceptance of differences between ourselves and others

We will implement these initiatives to develop human resources Yokogawa aims for and create culture where employees and the Company work together to take on challenges and grow.

Human capital

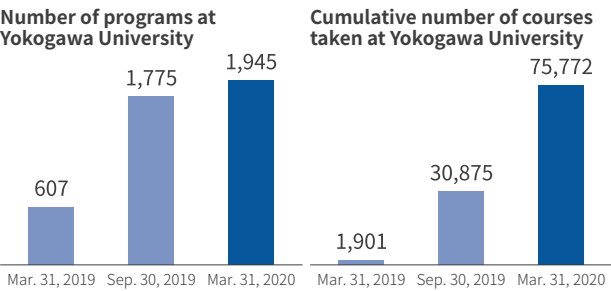
Transformation through the Strengthening of Human Resources

Promote culture of mutual learning through Yokogawa University

With the goal of ensuring Yokogawa can continue to create greater value for our customers and society in a fast-changing world, in October 2018 we established Yokogawa University, an in-house institution, to provide our employees an environment to learn and increase the level of expertise and skills in a broad range of areas. Courses are mainly available online so that employees of global companies can learn anytime and from anywhere they like. Also, we are developing instructors at each region who can deliver the trainings at all our locations. By offering employees opportunities to take up new challenges and supporting motivated employees to learn while cultivating a corporate culture where employees can learn from each other (“Learning Company”), Yokogawa aims to transform itself into an enterprise that is able to achieve sustained growth.

Expanding the program content with a focus on business contribution

Education programs offered at Yokogawa University are divided into roughly three major categories: Business literacy, which is a set of basic skills in leadership, finance, and other areas expected of a professional; themes based on functional areas of business such as sales and services needed to transform existing businesses and to impart knowledge; and themes from perspectives of new technologies and other resources needed to create new businesses and transform business models. External e-learning resources have also been incorporated to expand the programs. A cross-departmental steering committee plays a central role in preparing each program while keeping in mind how an employee will be able to contribute to Yokogawa’s business by taking the program. In fiscal year 2019, the Company’s officers provided trainings and e-learning sessions as an instructor and talked about their knowledge and experience. While the University started with some 120 programs when it opened in October 2018, the number of programs was significantly increased to 1,945 by the end of March 2020, with more on the way. More than 75,000 courses have been taken in total. Employees will apply what they learned from the programs to day-to-day work and generate more value, so as to realize growth for the Company.



Promotion of Diversity and Inclusion

Yokogawa embraces an environment where people respect each other’s differences, recognize them as diversity and treat each other fairly. Yokogawa will actively hire, develop, and promote people from a variety of backgrounds who differ in terms of experience, knowledge, sensibility, perspective, cultural background, and values, and in so doing will not discriminate based on ethnicity, nationality, gender, religion, age, social position, or disability. In addition, by utilizing digital technology and cultivating a safe working environment, we make it possible for every employee to demonstrate his or her full potential and to work comfortably, with a flexible workstyle. Good communication and constructive collaboration based on mutual respect facilitates the co-creation of new value. Furthermore, we will also globally accelerate our initiatives for diversity and inclusion going forward.

See p. 83 for efforts to solicit candidates for female directors.



Promoting the Success of Women

In April 2015 Yokogawa set up a dedicated organization for promotion of diversity, and, through Group-wide initiatives, has since been pursuing its goal of achieving the female manager ratio of 7% (non-consolidated) and 12% (global) by fiscal year 2020. We are working proactively to develop the female leaders, including by formulating plans for nurturing each female leader candidate and tracking the progress. We also conduct career development training for female employees as well as trainings and seminars to raise awareness among managers.

In recruitment activities, our target rate for female employees is 30% or more, with the long-term aim of optimizing Yokogawa’s workforce gender composition. Women made up 41.3% of the new graduates joining the Company in April 2020.



Promoting the Active Participation of Persons with Disabilities

Yokogawa has been actively hiring persons with disabilities since 1992, and such individuals have been working in

various capacities within the Company, in functions such as engineering, manufacturing, sales, and administration. As of June 1, 2020, the employment rate of persons with disabilities at Group companies in Japan was 2.27%. Yokogawa will continue to make vigorous efforts in this area by such means as holding briefings for Group companies in cooperation with labor affairs-related institutions and will remain active in hiring persons with disabilities and encouraging their active participation in the workforce.

Work-Style Reform

We are carrying out various measures to foster a supportive work environment that allows all members of our diverse workforce to challenge themselves and develop their careers. The establishment of Yokogawa University is one such important measure. At the same time, we are undertaking workstyle reforms that will enhance our co-creation of value by improving productivity, motivating employees, and encouraging personal growth.

To give our employees greater flexibility by minimizing constraints on when and where they work, Yokogawa introduced a flex-time option without core time, an hourly paid leave, telecommuting systems and other measures, and is cultivating a change in mindset that is conducive to the use of these systems. Nursing leave and sick / injured child care leave can be taken on an hourly basis, and the first five days of parental leave are paid. In this and other ways, Yokogawa is helping employees maintain a good work-life balance.

We are also promoting new work practices such as enhancement of our Web conferencing tools by incorporating digital technology as well as introduction of robotic process automation (RPA) and other means to improve operational efficiency. Furthermore, Yokogawa realizes an efficient and comfortable workspace by setting up a flexible workspace (a “collaboration area” that encourages employees to work together, a “relaxation area” conducive to new ideas and innovation, and a “focus area” where employees work on their individual tasks), thus creating an environment where employees are free to choose where they want to work depending on their circumstances.

Management of Health and Productivity

The individual circumstances and priorities of our employees may change over time as they pass through different life phases. Yokogawa provides a comfortable working environment including a friendly and safe workspace for all employees tailored to their evolving circumstances, so that they can continue to perform to the best of their abilities in their optimum physical and mental conditions. We look after the well-being of everyone in the Yokogawa family by promoting good physical and mental health and seeking to ensure that they stay motivated and content.

Occupational Health and Safety

Yokogawa shall, in recognition that good Occupational Health and Safety (OHS) management is essential for the Group, autonomously strive to promote the health and safety of its personnel, create and maintain a suitable working environment. The Yokogawa Group implements the Occupational Health and Safety Management System (OHSMS) to promote continual improvements of occupational health and safety activity level and to eliminate and reduce occupational accidents. Through initiatives to eliminate and reduce potential OHS risks based on OHS hazard identification and evaluation and periodic review of these initiatives by internal audit of Group companies, we are working to enhance the Group’s quality of occupational health and safety step by step.



Initiatives to Eliminate and Reduce Occupational Accidents

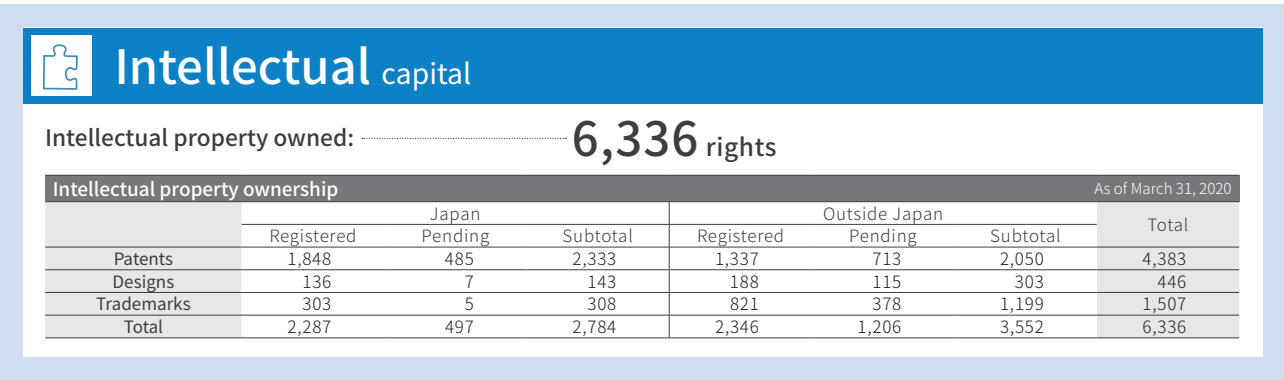
The Yokogawa Group aims to eliminate and reduce occupational accidents by integrating conventional activities, such as health and safety inspections and use of information on near misses, with occupational health and safety risk control initiatives. The data on occupational accidents in the Group are aggregated and analyzed quarterly and the lessons learned are shared throughout the Group to prevent recurrence of the same or similar accidents.

Yokogawa Safety Handbook

This guidebook, common to the Group, can be used by all employees working in the Group as a guide to ensure safety and safe behavior. It comprises nine safety principles and three tips on occupational health and safety.

The nine safety principles focus on reducing the risk of occupational accidents. The three tips introduce topics helpful in building and maintaining a safe work environment. We are using the handbook to achieve elimination of occupational accidents (medium-term sustainability targets).

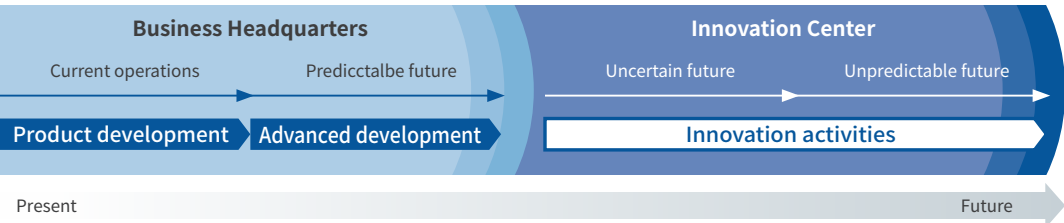




Innovation (R&D)

R&D activities at Yokogawa are classified into two types. Firstly, product development and advanced development activities are geared to meeting customer needs and target a relatively predictable future. Secondly, innovation activities are conducted from a longer-term perspective, involve greater uncertainty, and are directed toward the identification and generation of new business opportunities. Whereas business headquarters are mainly responsible for the former, the latter is primarily the task of the Innovation Center.

R&D structure at Yokogawa



By engaging in innovation activities, Yokogawa not only provides systems but also creates technologies and solutions together with customers that prompt them to change their perspectives and approaches. The innovation process consists of three layers. Information from the field and signs of change obtained by scanning the “external environment,” such as markets and customers, is reflected in “open

The mission of the Innovation Center is twofold:

- 1 Research and develop new technologies that complement those of each business headquarters and address customer issues, leading to expansion of the business scope.
- 2 Prepare for an uncertain and unpredictable future and open a path to the creation of new businesses by working with customers to uncover latent issues and find ways of addressing them.

innovation, intellectual property, and standardization,” which support “innovation activities.” In innovation activities, we generate ideas, refine them through R&D and incubate them. Repeated execution of these stages leads to commercialization.

See the website below for details.

<https://www.yokogawa.com/about/research-development/>

Activities Supporting the Innovation Process

Open innovation

Yokogawa is vigorously promoting open innovation, the use of external seeds and resources (e.g., advanced technologies, know-how, human resources), and collaboration with other parties for innovation. We are aiming to maximize the value provided to our customers by collaborating with other organizations. In pursuit of best partners, we invest in the Nippon India Digital Innovation Fund of Funds, collaborate with universities and research institutions inside and outside Japan, and utilize matching

services for venture capitals. These measures allow us to greatly expand our opportunities to promote co-innovation with leading startups and unicorns as well as acquire leading-edge technologies and the most updated information at an early stage to support the development of new businesses. Specifically, we will focus on transformation of existing businesses through digital transformation, and developing new markets related to biotechnology, life sciences, water, the ocean, and space by leveraging open innovation.

Intellectual property

Yokogawa positions intellectual property as an essential asset for maintaining the high value of its products and solution services and providing value to all customers. Based on this, we have developed an intellectual property strategy in linked to our business strategies and R&D activities. By appointing personnel in charge of intellectual property in not only Singapore and India but also in the U.S. and Europe, we are engaged in activities globally.

Yokogawa will acquire rights for and use intellectual properties created at the Company in accordance with the above-mentioned intellectual property strategy. In the context of these activities, Yokogawa positions intellectual property rights not only as legal rights but also as marketable assets.

The Company will continue to provide unique and unrivaled products and solution services. As we see more M&As, we have broadened the range of our work to include intellectual property due diligence, and actively disseminate information, for example by delivering presentations as a guest speaker at international conferences.

Standardization

International standards have an important bearing on our business strategy since they have an impact on whether a product or solution service will be able to establish dominance at the global level. International standards are also an important part of the research and development strategy since they determine whether the technology in which the Company has made prior investment will find support in the market.

Yokogawa actively engages in international standardization activities as members of many international standardization organizations such as IEC and ISO in a broad range of fields while linking its activities with the Company’s R&D and intellectual property strategies. Due to their inherent nature, however, international standards may conflict with intellectual property and lead to patent disputes. Yokogawa puts priority on enhancing value for its customers and focuses on international standards that set forth requirements on interoperability in telecommunication technologies and software. The Company’s policy is to disclose its intellectual property if needed or issue a license through a licensing agreement.

Advanced Solution Topics

Apply AI technologies Group-wide and lead their application research in future fields

Yokogawa is developing businesses and technologies focusing on customers’ issues and needs so as to make artificial intelligence (AI) the “new normal” in the industrial automation field. To accelerate this, the Group established AI CoE (Center of Excellence), a Group-wide cross-departmental function, and promoting its operation. With great potential for application, AI technologies are expected to drive industrial autonomy in the future. In the manufacturing sector, for example, it is possible to conduct R&D while dealing with issues unique to a production site by applying the technologies in specific processes, such as equipment abnormality detection and visual inspection. Meanwhile, the agricultural sector, which faces food shortage due to population growth and abnormal weather, started applying AI to analysis of various environmental conditions and growing state in vegetable growing process, aiming for stable supply of agricultural produce. AI technologies are also actively used to accelerate a paradigm shift toward bio-economy, such as image function measuring of induced pluripotent stem (iPS) cells and artificial enzymes as biopolymer catalysts.

See p. 56 for industrial autonomy.

Development of cell production system for advancement of regenerative medicine

To put regenerative medicine into practical use, it is expected to produce cells, tissues and organs using stem cells such as induced pluripotent stem (iPS) cells. It is necessary to grow stem cells into cells with expected functions. Moreover, for making them applicable in medical practice, it is essential to produce cells that function as well as actual cells and have consistent quality. To meet these two conditions, we have been developing technologies for identification of iPS cell lines, cell scaffold forming, measurement of signaling substance, and cell quality evaluation. Furthermore, using imaging-based cell evaluation and in-line measurement of cell culture conditions, we support produce cells that are highly functional and stable in quality. By establishing production system combining these technologies and contributing to stable production of functional cells, tissues and organs, we aim to make many people benefit from regenerative medical treatment.

Manufactured capital

Production sites in **13** countries

production sites in Japan **4**

production sites outside Japan **14**

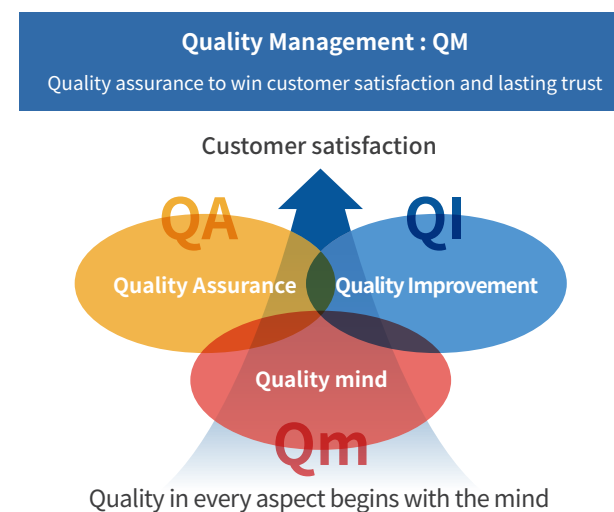
Quality First

Ever since the foundation of the Company, putting quality first has been the fundamental principle of Yokogawa. Thorough customer-focused quality management has fueled Yokogawa's development. Guided by the quality-first principle, the Yokogawa Group autonomously implements quality management to ensure uniform quality worldwide responding to changing social demands. Offering products and solutions that achieve customer satisfaction, the Yokogawa Group is making a concerted effort to reinforce the image of Yokogawa brand.

Customer Satisfaction and Quality

The Yokogawa Group has satisfied customers' expectations by providing products and solutions of uniformly high quality. The driving force behind this is our founding principle of quality-first, which we have followed faithfully for over 100 years.

The Yokogawa Group's quality management consists of three basic elements: Quality Assurance (QA), Quality Improvement (QI), and Quality mind (Qm). We believe that we can satisfy our customers' expectations and build long-lasting bonds of trust only when all of these elements are engaged. The Quality First mindset is critically important for maintaining the high quality of Yokogawa products and services. All employees of the Group recognize the importance of having the Quality First mindset and quality is built into every business process in accordance with the rules and approaches shared throughout the Group.



Value of "Never Stop"



Released CENTUM, the world's first distributed process control system (1975)



CENTUM VP continuously offering value of "never stop"

Control system that plays a central role in customer's plant operations must not stop. Excellent in quality supported by technological factors, such as long-term stability, high reliability, and environmental resistance, CENTUM, an integrated production control system, maintains extremely high DCS^{*1} uptime ratio^{*2} of 99.99999%, and is well recognized by customers across the world.

^{*1} DCS: Distributed process control system
^{*2} uptime ratio: {(1 - downtime/uptime) x 100}

Social capital

Customer base established through over **40,000** control system projects

230 service centers in **80** countries with approx. **2,200** service engineers

Development centers in **8** countries outside Japan
 (Singapore, India, China, USA, UK, Netherlands, Germany, Norway)

Global delivery centers in **4** countries
 (India, China, Philippines, Romania)

Yokogawa Festival held for the **54th** time
 with approx. **12,000** visitors (in July 2019)

Global Service Network

The Yokogawa Group puts the highest priority on safety with its provision of high-quality and highly reliable backward-compatible systems, maintenance services, consulting, and other solutions, and aims to benefit society through the co-creation of value with its customers.

Working with its customers throughout the 30-year or so lifecycle of their plant facilities, Yokogawa has developed close relationships based on trust. This customer base is Yokogawa's most important asset, and it underpins the ongoing development of the Company's business.

On the firm foundation of this customer base, Yokogawa is expanding the scope of its solutions to cover entire value and supply chains, thereby leading to the co-creation of even more value for its customers.

Global service network



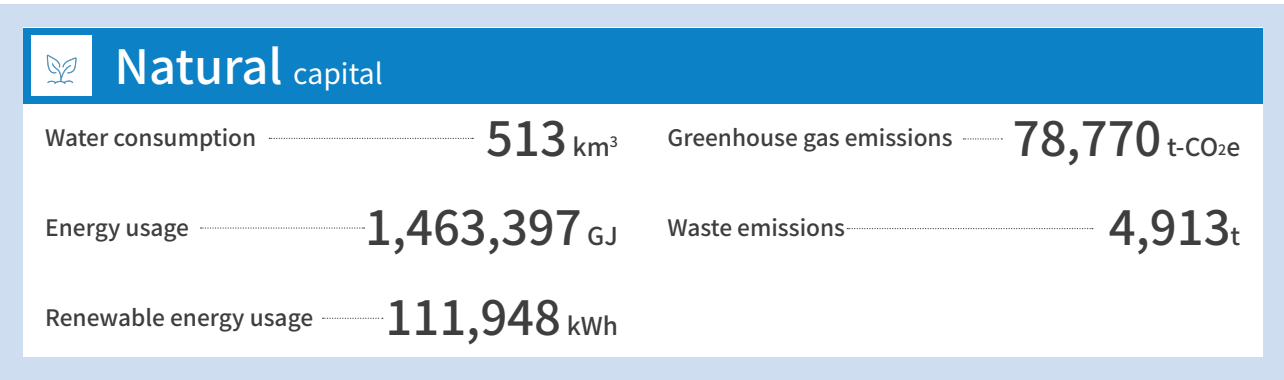
Operations in harmony with local communities

As a good citizen, Yokogawa continues to grow and develops together with local communities.

- Yokogawa Festival is an annual summer event, gathering employees' families, customers, business partners and residents in the community.
- We annually hold an IR briefing session targeting individual investors living in the proximity of Yokogawa Electric headquarters.
- We have stockpiled food and other supplies for local residents in case of a disaster. We also keep a water storage tank in the basement of the headquarters, to be available for daily lives during and after a disaster.



Yokogawa Festival 2019



Yokogawa has set sustainability indicators for efficient use of water resources, reduction of energy use, and reduction of greenhouse gas emissions at its Group company offices and factories, and has promoted the environmental management. The Company has set a medium-term greenhouse gas emissions reduction target for the year 2030 based on the 2 degrees Celsius target defined in the Paris Agreement.

Reduction of Environmental Impact : Medium-Term Sustainability Targets

| | |
|--|--|
| Promote efficient utilization of water resources | <div>● Enhance monitoring at production factories</div> <div>● Enhance water recycling with cooling water circulation system</div> <div>● Use recycled water in areas difficult to secure water resource</div> <div>and many more</div> |
| Reduction of energy usage | <div>● Upgrade air conditioning system to more energy-efficient models, switch to LED lighting</div> <div>● Promote energy saving through proper operation of manufacturing process</div> <div>● Promote work efficiency by using digital technologies such as telecommuting and web conferencing</div> <div>and many more</div> |
| Reduction of greenhouse gas emissions | <div>● Use renewable energy (electricity from solar power generation)</div> <div>● Purchase electricity derived from renewable energy sources</div> <div>● Introduce electric vehicles</div> <div>and many more</div> |

Design for Environmentally Friendly Products

Yokogawa has set design and assessment standards for the development and manufacture of environmentally friendly products. At each phase of product design, namely, initial design, intermediate design, and final design, assessment is performed based on standards including energy saving, resource saving, and safety.

In addition, we use lifecycle assessment (LCA) standards to evaluate energy consumption and CO₂, NO_x, and SO_x emissions at each stage throughout the product lifecycle, from materials and parts production to assembly, distribution, use, and disposal, and make the results publicly available. Products that have cleared these standards are considered to be highly environmentally friendly, and help our customers reduce their environmental impact.

Safety instrumented system

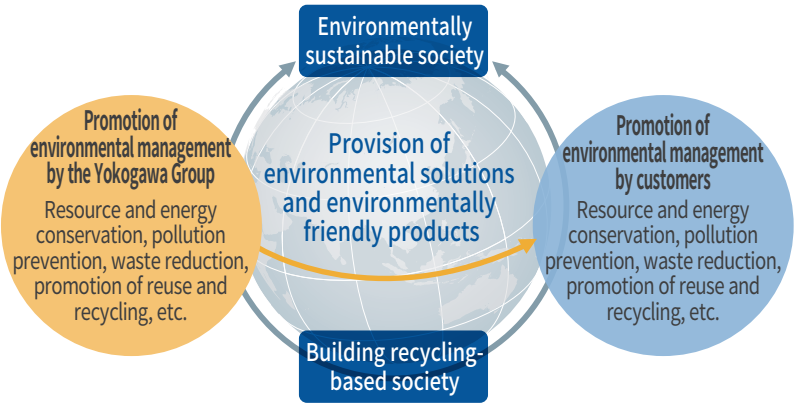
Optical spectrum analyzer

ScopeCorder

*The LCA logo is displayed on the website for applicable products.

Contributions toward a Sustainable Global Environment

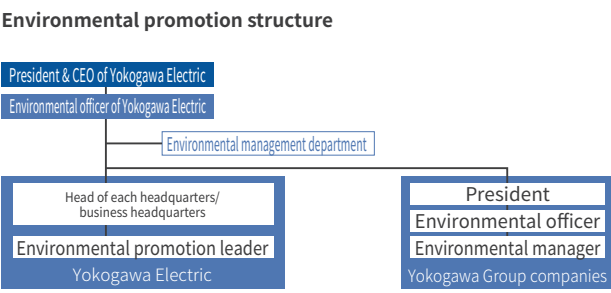
At Yokogawa, we take seriously our responsibility to protect the global environment and, recognizing our responsibility to future generations, practice environmental management from a medium- to long-term perspective. We promote efficient use of resources and significant reductions in greenhouse gas emissions together with our customers and actively work to develop environmentally friendly products and further reduce environmental impacts of the Yokogawa Group’s business operations.



Environmental Promotion Structure

Group companies have set environmental targets based on the Yokogawa Group Environmental Policy and are conducting environmental activities closely linked with business activities. In order to promote global environmental management, under the supervision of Yokogawa Electric headquarters, Group companies consider measures and review activities in cooperation with environmental managers of regional headquarters.

The Group’s major offices and manufacturing sites around the world are ISO 14001 certified.



Awarded the highest CDP evaluation for sustainable water resource management

Yokogawa was named for the first time by CDP one of A List companies, winning the highest level of recognition in the Water Security category, one of the three categories evaluated by CDP, because its practices and information disclosure for water security contribute to sustainable water resources management. CDP is a global prestigious non-profit organization in the environment field. Yokogawa has also earned a place on the Supplier Engagement leader board for actions to tackle climate change, recognized for its efforts to manage greenhouse gas emissions and address climate-related risks across its supply chains.

| Three categories scored by CDP | | | |
|--------------------------------|----------------|----------------|---------|
| | Water security | Climate change | Forests |
| YOKOGAWA | A | B | — |

Business Model for the Industrial Automation and Control Business

Our business model provides the framework whereby we deliver value to customers and society and sustainably enhance corporate value through our business activities.

Overall composition / Overview

Business model

1

Changes in macro environment

- Energy demand trend
- Increasing needs for solutions to social issues (SDGs/TCFD)
- Development of decarbonization technologies
- COVID-19's acceleration of change (Society 5.0/Smart city)

2

Changing business environment for customers

- Changes in customer mindset and the customer relationship
- Value creation as trusted partner
- New environment management model based on SDGs

7

Cumulative business model

3

Industrial automation and control business, and its strengths

- Abundant expertise and know-how as manufacturer specializing in industrial automation and control for diverse industries
- Evenly-distributed geographical coverage unmatched by competitors, and large installed base
- Problem-solving capabilities (hands-on approach, trust, co-creation, OpreX/IA2IA)
- Resilience (OPEX stability)

4

Competitive environment

- Competition with conglomerates
- Trusted as a manufacturer specializing in industrial automation and control business
- Problem-solving approach

5

Value chain

- Customer CAPEX/OPEX investment
- Value creation throughout plant lifecycle

6

Offering value to customers' value chains

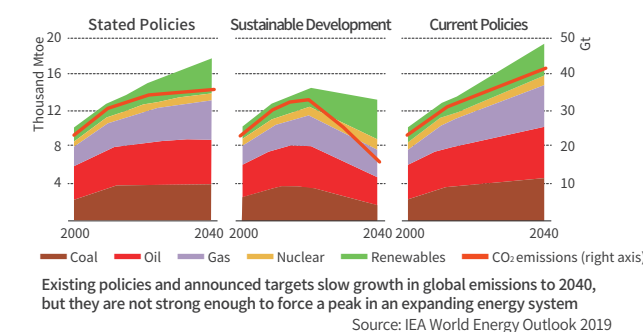
- Expansion of OPEX range through digitalization
- Comprehensive solutions across value chains
- Visualization solutions for monitoring of operations at existing facilities

1 Changes in macro environment

Most recently, a wave of digital transformation driven by technologies such as artificial intelligence (AI) and big data has swept across the industrial and business landscape, leading to a growing interest among customers in the adoption of new digital technologies that will improve productivity. These trends, combined with the shift from oil to other energy sources and the pressing need for solutions to environmental, social, and other issues such as those addressed in the United Nations' Sustainable Development Goals (SDGs) and by the Financial Stability Board's (FSB) Task Force on Climate-related Financial Disclosures (TCFD) present the Group a wider range of opportunities to exercise its long-standing problem-solving capabilities and utilize its decarbonization technologies. Meanwhile, starting at the beginning of the fourth quarter of fiscal year 2019, the COVID-19 pandemic has had a major impact on global affairs and caused great economic uncertainty. Since it is unclear when the pandemic will end, we recognize the risk that this could have an increased impact on the Yokogawa Group's business performance. At the same time, we see new business opportunities for the Group to exercise its strengths in response to the rising need by society and industry for solutions that enhance safety, security, and productivity; contribute to overall optimization; and facilitate the transformation from industrial automation to industrial autonomy.

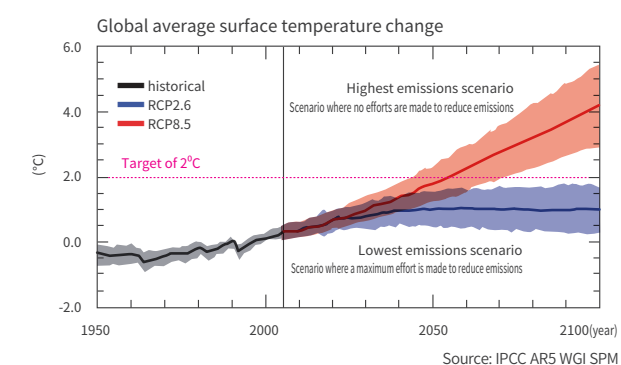
Energy demand trend

World primary energy demand by fuel and related CO₂ emissions by scenario



- Surge in global energy demand driven primarily by electricity demand in Asia.
- The demand for fossil fuels (coal, gas, and oil) increased in 2018. The supply of renewable energy has not kept up with this rise in demand.

Climate change—COP21/Paris Agreement



- If no action is taken, the global mean temperature is expected to rise by 4°C, as compared to pre-industrial levels.
→ It is likely this will have a serious and irreversible global impact.
- To achieve the 2°C target, we need to reduce greenhouse gas emissions.

COVID-19's acceleration of change (increase in opportunities)

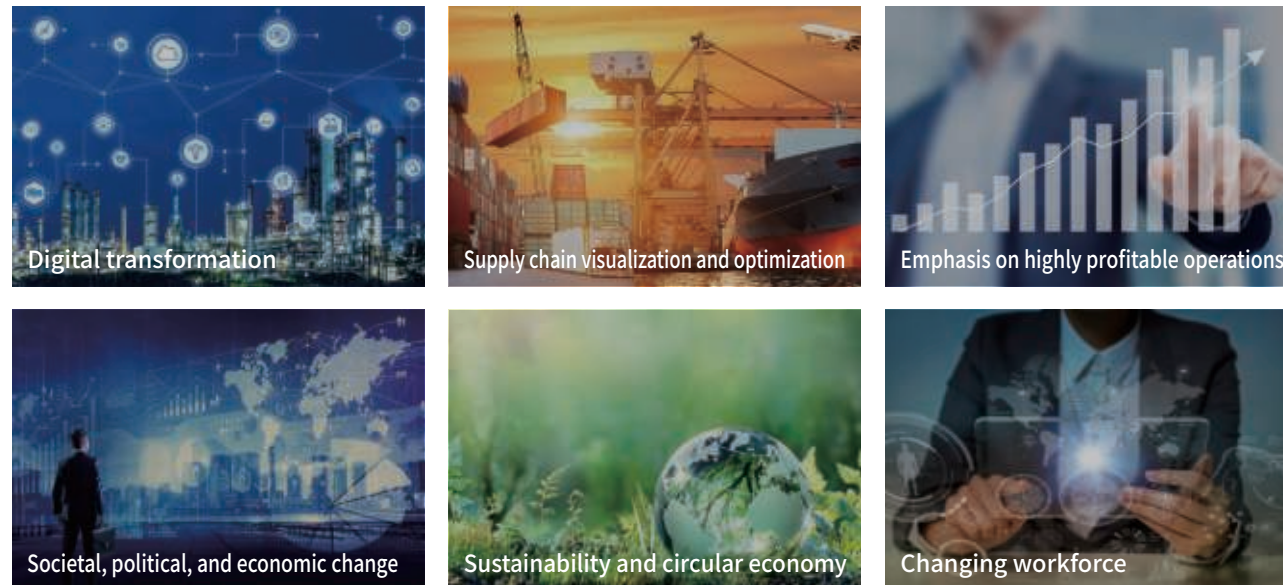


- Increase in percentage of engineering performed remotely (Digital transformation → Enhance efficiency)
- Increase in remote maintenance contracts with customers (Digital transformation → Expand OPEX)
- Changing societal needs → IA2IA: Industrial autonomy

See Opportunities and Risks on p. 50 for details.



2 Customers' changing business environment



In the midst of growing uncertainty in the global economy, which is due in part to the impact that the COVID-19 pandemic has had since the beginning of the fourth quarter of fiscal year 2019, our customers are seeing rapid changes in their business environment. They face challenges that include keeping up with innovations in digital technology and responding to accelerating global initiatives for sustainability, as well as the need to enhance productivity in their own operations. Under these circumstances, Yokogawa sees its role as being the creation of high-value added solutions that, for example, will enhance safety and productivity, enable overall optimization, and support eco-friendly business activities.

To help its customers respond to a changing business environment and address critical issues, Yokogawa is moving beyond the traditional automation supplier role to the role of trusted partner. Through co-innovation, an approach for the co-creation of value with customers, the Company will support the digitalization of their operations and continuously create value through the offering of comprehensive solutions that cover not only production processes but also entire businesses, including the supply chain.

From automation supplier to trusted partner

Automation supplier

- Product-oriented (products are the starting point)
- Clearly defined issues and needs
- Based on invitation to bid and request for quotation/proposal
- Focused on CAPEX
- Technology development for control applications
- Products and services centered on process control

Trusted partner

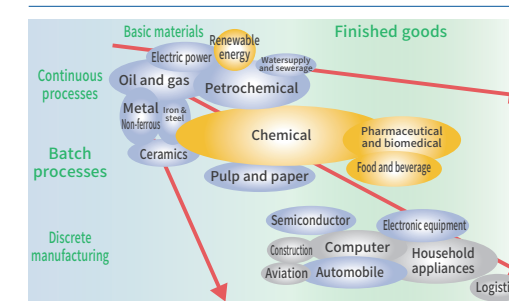
- Customer-oriented (customer value is the starting point)
- Issues and needs not clearly defined
- No invitation to bid and no request for quotation/proposal
- Focused on TOTEX*
- Co-creation of value with customers
- Comprehensive solutions/services for process optimization and business performance improvement

* Total expenditures throughout the business lifecycle: the sum of capital expenditures (CAPEX) and operating expenses (OPEX)

3 Industrial automation and control business, and its strengths

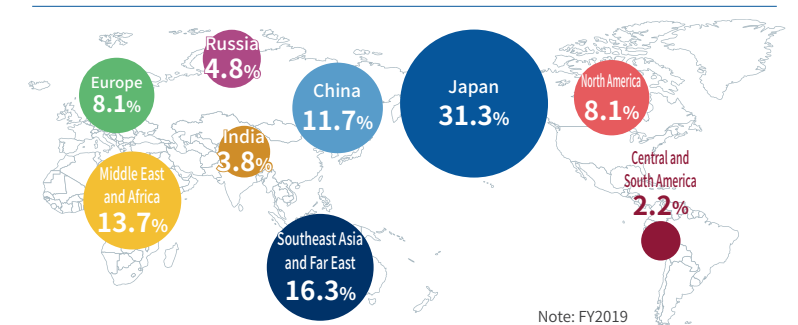
As regards its mainstay industrial automation and control business, Yokogawa has a large Japan market share in a wide range of industries, including oil & gas, chemicals, power, iron and steel, pulp and paper, pharmaceuticals, and foods. By taking advantage of the expertise and know-how gained through serving diverse industries in Japan, the Company also has gained a large market share in emerging and resource-producing countries and regions, such as Russia, China, the Middle East, and the countries of ASEAN. The percentage of sales generated outside Japan grew to around 70% in fiscal year 2019. Since its first efforts 60 years ago to launch a global business, Yokogawa has realized an even geographical distribution in its operations that its competitors cannot match, and has accumulated a wealth of experience gained through over 40,000 plant control system projects worldwide. Making full use of its extensive track record, the Yokogawa Group focuses on solutions that enhance productivity at its customers' plant facilities and improve the efficiency of their maintenance operations. In so doing, the Company has become a resilient organization that can withstand any changes in its external environment.

Expertise and know-how in a diverse range of industries



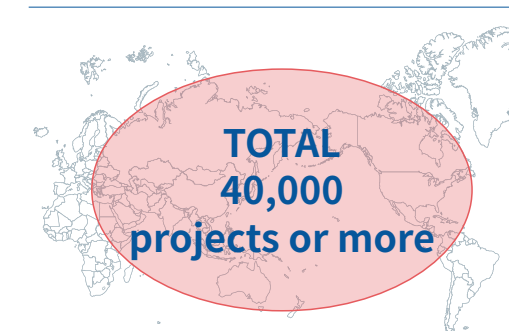
Note: Overview of industries we serve

Even geographical distribution unmatched by competitors

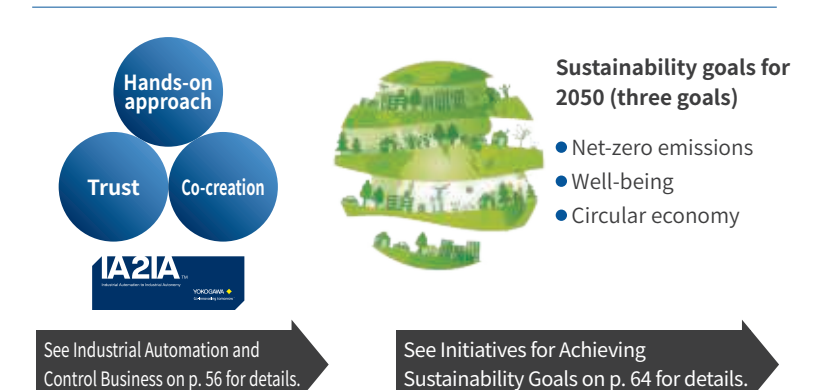


Note: FY2019

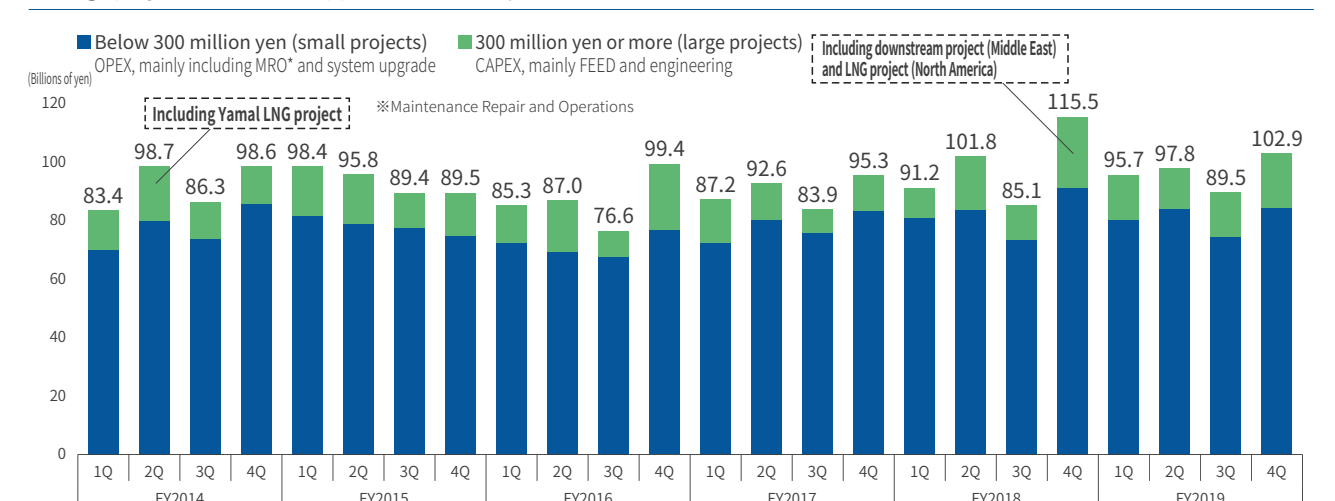
Large installed base mainly in Asia and the Middle East



Problem-solving capabilities



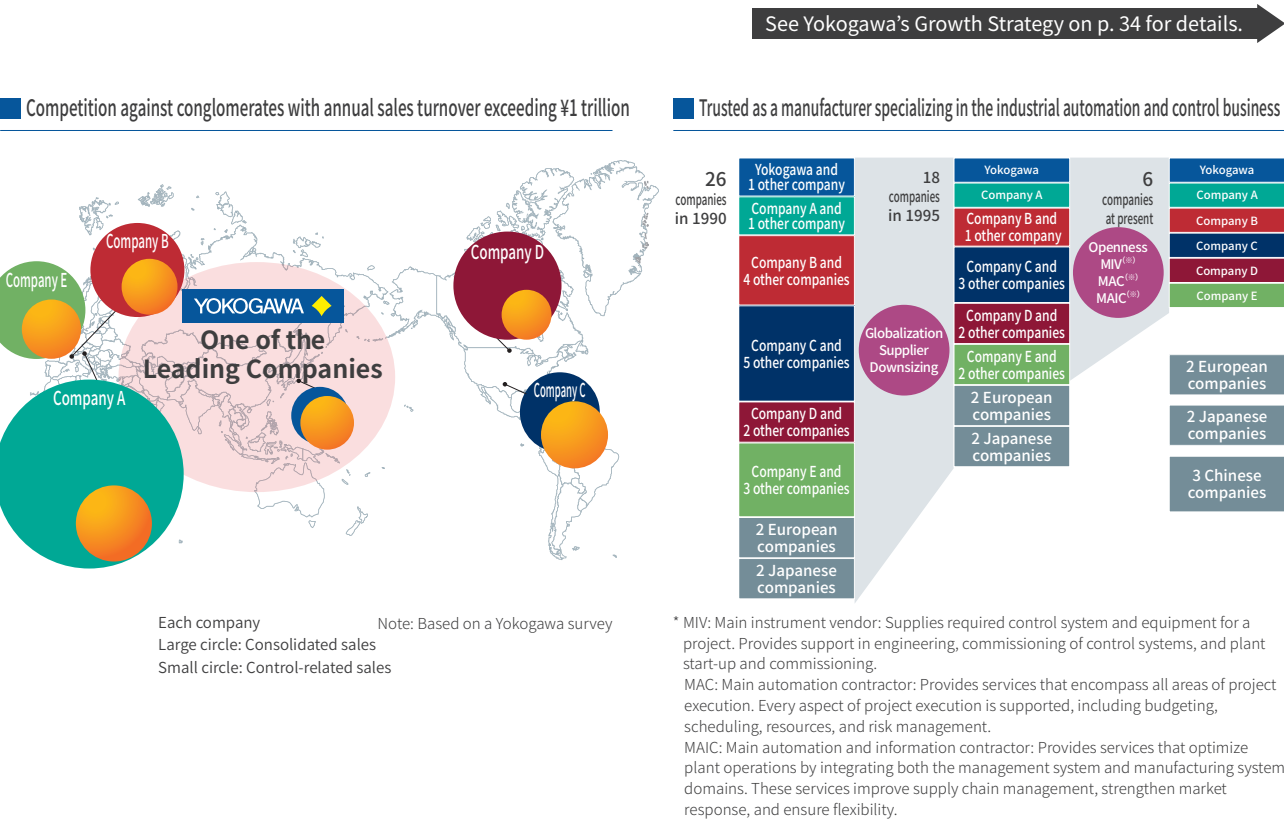
Large projects worth over approx. 300 million yen in the amount of each order taken account for some 10 to 15% (for reference)



4 Competitive environment

In its mainstay industrial automation and control business, Yokogawa is competing mainly in the process automation (PA) field with conglomerates whose annual turnover exceeds ¥1 trillion. Of the 26 global players that were doing business in 1990, only six remain. Yokogawa has capitalized on its ability to offer comprehensive control solutions and its excellent hands-on approach to cultivate trust and co-create value with its customers. Our strong problem-solving capabilities have enabled us to gain a large market share and build up a large installed base not only in Japan but also in emerging and resource-producing countries and regions, such as Russia, China, the Middle East, and the ASEAN countries. We also have built trust with EPCs around the world. Thanks to our efforts to localize our operations and contribute to local economies, growing energy demand driven by population growth, and the need to respond to societal and environmental issues, we are well positioned in resource-producing and emerging countries.

To sustainably grow in fiercely competitive markets, Yokogawa must accomplish the three transformations outlined in its TF2020 mid-term business plan and ensure the implementation of a digital transformation (DX) that will be conducive to its efforts to create value.



Problem-solving capabilities

| | |
|-------------|---|
| Actuality | <ul style="list-style-type: none">Professionals go and see for themselves actual sites, actual objects, and actual situations, and localize their business activities24/7 support service |
| Trust | <ul style="list-style-type: none">Trust in products that have the same quality, durability, and environmental-resistance around the worldCapability to optimize industrial and social processes (engineering)Perseverance and ability to bring projects to completion |
| Co-creation | <ul style="list-style-type: none">Co-creation of value through communication with all levels of the customer organization, from the shop floor to the executive suitePossession of not only industry-related knowledge, but also knowledge of the manufacturing process and broad engineering expertiseBeing good citizens, striving for harmony, and sharing our customers' dreams |

5 Value chain

Achieving sustainable growth, with a good balance between the CAPEX and OPEX businesses

Yokogawa provides solutions over the entire lifecycle of plants that can remain in use for as long as 30 years or more, starting with the capital investments (CAPEX) that are made for the construction of new facilities and extending to operational expenditures (OPEX) for existing facilities in which the focus is on the identification and resolution of issues to improve productivity and the provision of maintenance services.

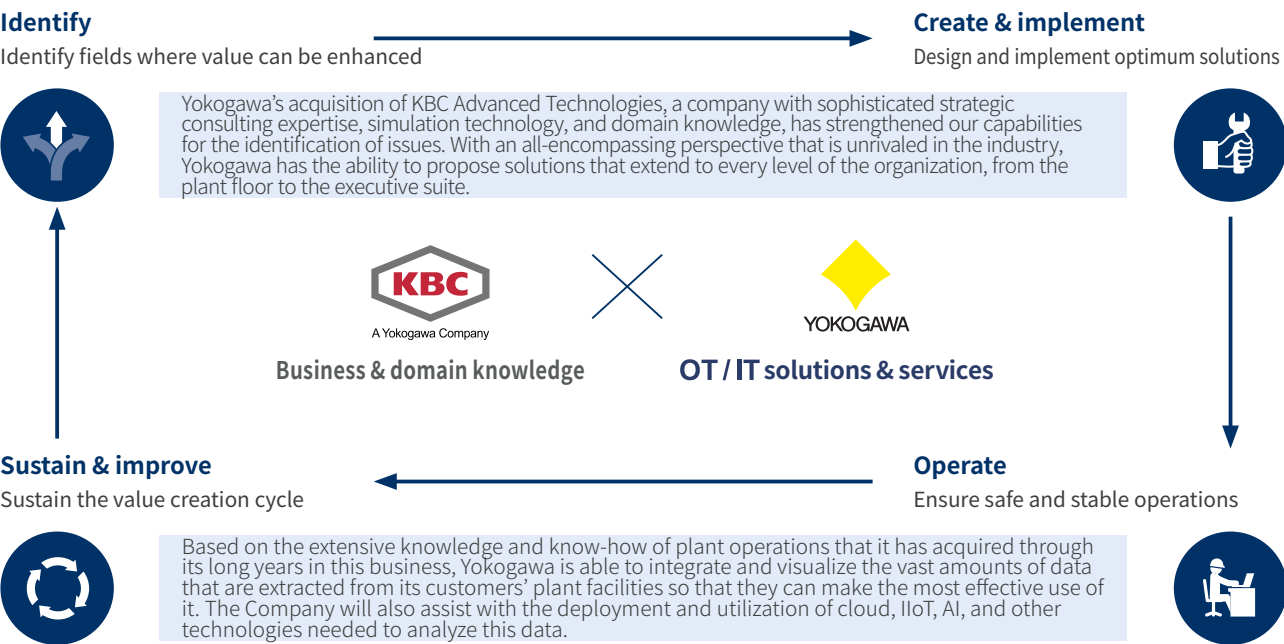
Our business is thus premised on taking a long-term perspective, and it is therefore crucial that we earn the trust of the personnel who are working at our customers' facilities. Customer trust is the foundation on which Yokogawa will realize sustained growth as it targets and strives to achieve a balance between the CAPEX and OPEX businesses.



* Front End Engineering Design

Continuous value creation throughout the plant lifecycle

We seek to analyze all of our customers' business activities to identify hidden issues, and then design and implement optimum solutions that ensure safe and stable operations and sustain and improve performance. By combining cutting-edge information technology (IT) with the strengths in operational technology (OT) that the Company has cultivated over the years, we help to automate and optimize processes, manage risks, and improve efficiency throughout the value chain, including the supply chain.



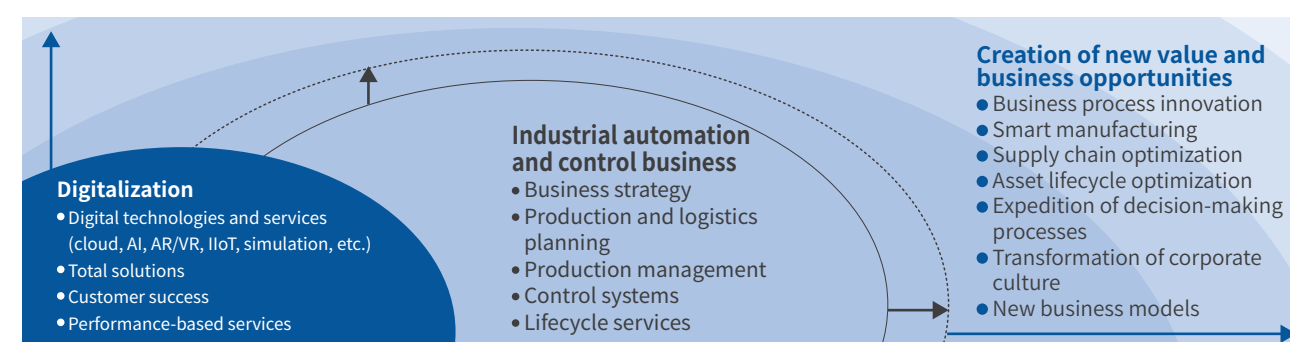
6 Offering value in customers' value chains

In-depth business development and creation of new business opportunities made possible by digitalization

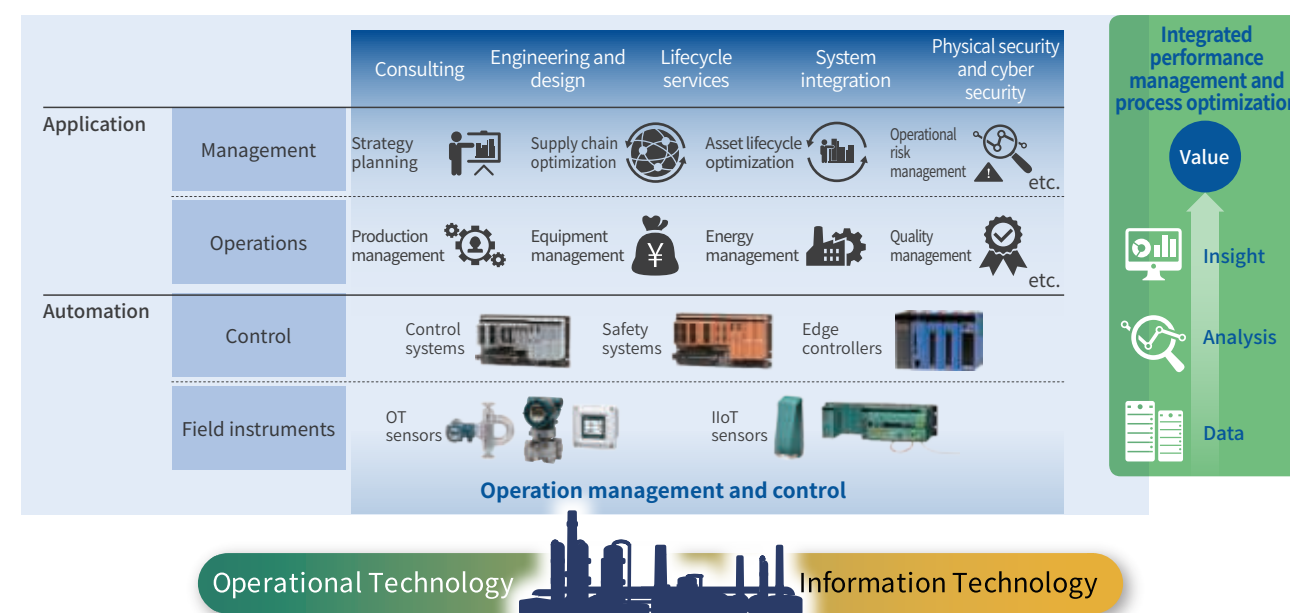
Yokogawa offers its customers a one-stop service covering the entire plant lifecycle and all levels of a company's operations, from the plant floor to the executive suite. The Company's expansive array of technologies and solutions are the product of long years of experience in the industrial automation and control business, and are critical assets for its future business. Through the digitalization of business processes, we will endeavor to further develop our customers' businesses and generate new opportunities based on existing business areas. Further, we will pursue digital transformation (DX) with the ultimate goal of helping our customers digitalize their management practices. We will provide complete solutions that drive these changes.

Yokogawa will help create new value for its customers by visualizing issues wherever they may occur in their business processes (their entire value chain, including the supply chain) and implement optimizations that will assist them in their effort to achieve a speedy and flexible management process.

Driving growth in the industrial automation and control business through digitalization



Digitalization of customers' business operations, provision of comprehensive solutions for the entire value chain

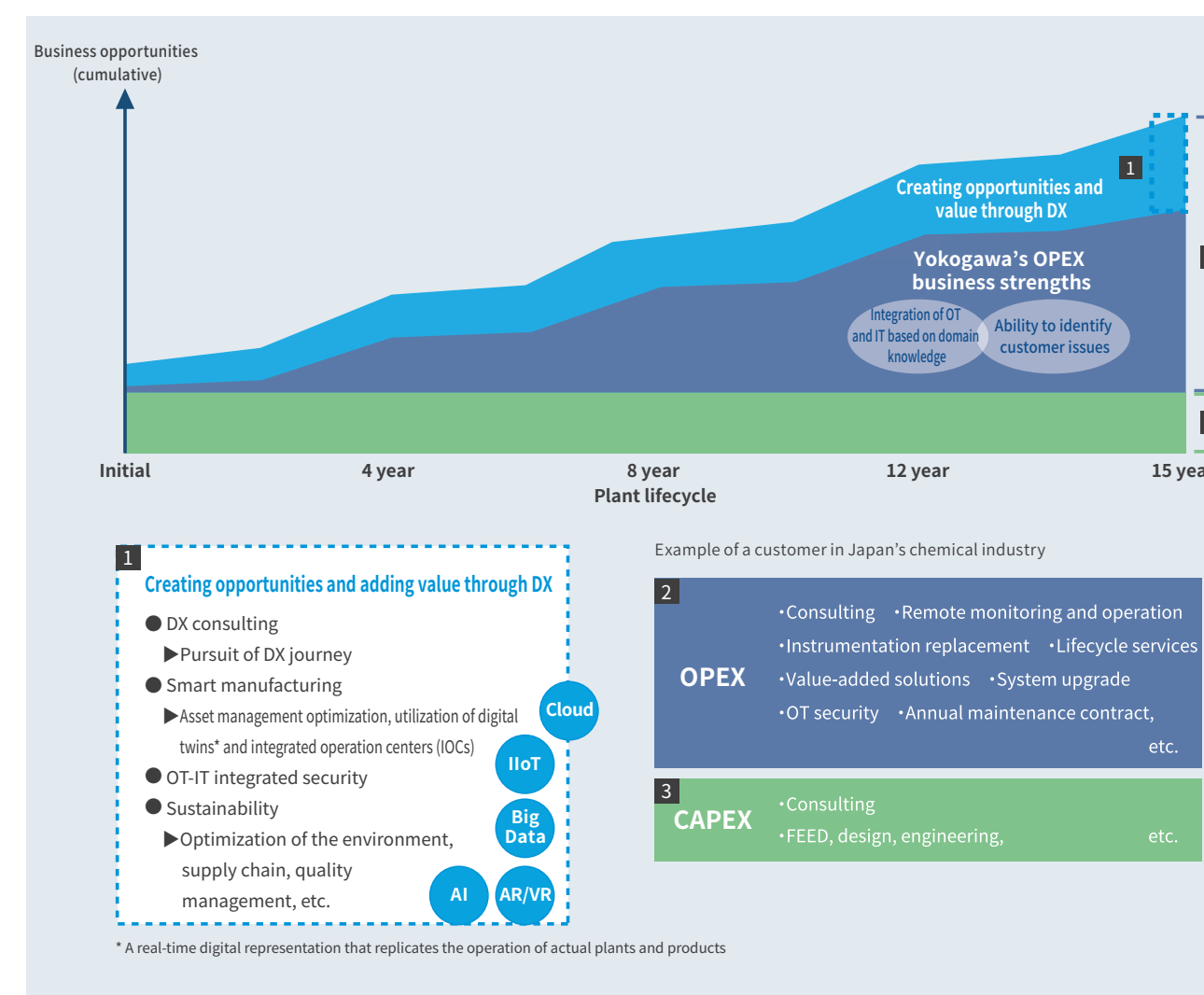


7 Cumulative Business Model

Creating business opportunities and value for customers through digital transformation (DX)

The OPEX business is cumulative, providing solutions over the entire lifecycle of customers' plant facilities.

Through DX, Yokogawa generates new business opportunities that will allow it to make use of its strengths, and provides comprehensive solutions for both OPEX and CAPEX requirements. Our customers' efforts toward DX and sustainability will open up new opportunities for us to expand our business.



Special
Feature

Initiatives Driven by the Mid- to Long-term Transition to Clean Energy

Yokogawa is partnering with its customers to find solutions to social and environmental issues that will help to make the world a better place.

The Mid- to Long-Term Shift to Clean Energy

Due to environmental issues and demographic change, energy demand is expected to shift toward clean energy in the mid- to long term. The development of new technologies for the use of wind, solar, and other renewable energy sources will accelerate and, therefore, the use of renewable energy is likely to expand. At the same time, the power derived from renewable energy sources is not yet sufficient to meet the world's rising energy needs, which are being driven by economic and population growth, especially in emerging countries. This means that fossil fuels will remain a primary energy source for the time being. Given such conditions, **increased attention is being paid to natural gas as it burns cleaner** than coal and oil, and its use is expected to increase.

To achieve its three sustainability goals and contribute to the achievement of the Sustainable Development Goals (SDGs), which call for the combat of climate change, Yokogawa will work to reduce CO₂ emissions by **helping its customers make the transition to LNG and other low-carbon energy sources**, and **offer solutions for the generation of renewable energy**. The TF2020 mid-term business plan includes **initiatives for low-carbon energy**.



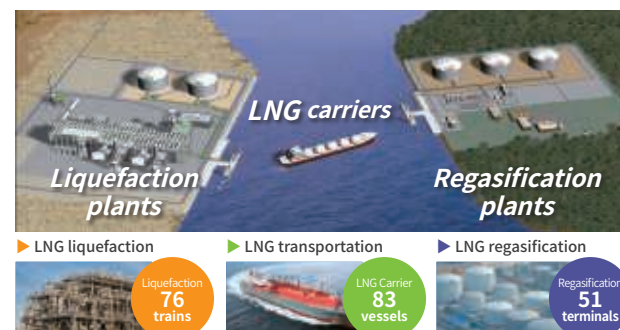
LNG Supply Chain Solutions

Expansion of our business targeting the LNG supply chain/value chain

Natural gas, which consists primarily of methane, is extracted from onshore and offshore wells and then either transported via pipelines or cooled to a liquid state for shipment as LNG. Much of the world's LNG goes to Japan, South Korea, and China, and it is expected that **demand for LNG will continue to grow**, especially in Southeast and South Asia.

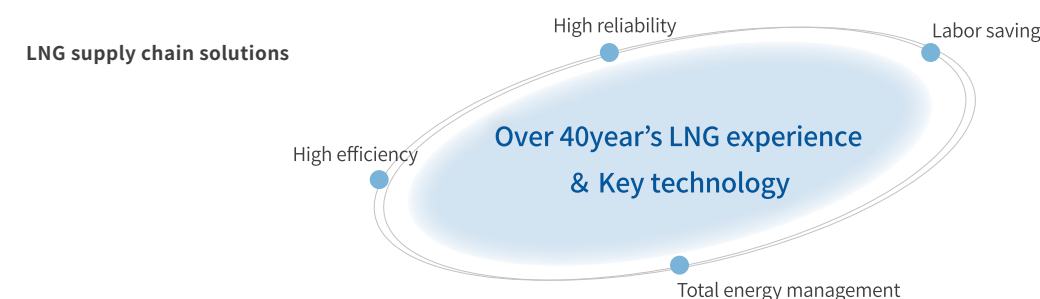
For over 40 years, since the LNG industry's infancy, Yokogawa has supported the LNG supply chain by providing optimal solutions such as the latest control, monitoring, and information systems, measuring instruments, and analyzers, as well as maintenance services. Yokogawa is proud to be **a world leading supplier** targeting LNG supply chain processes such as liquefaction, transport, and regasification. Around two thirds of the regasification terminals in Japan use Yokogawa systems. In addition to its provision of production control systems, safety instrumented systems, plant information systems, device management software, analyzer systems, and operator training systems that support efficient and safe operations, Yokogawa provides plant design services and maintenance, upgrade, and other after-sales support services that cover the entire plant lifecycle.

Yokogawa needs to keep its customers' systems running 24/7 so that there are no interruptions in their production operations. On top of providing **highly reliable products**, we offer **enhanced engineering-support services** that include the setting up of service centers near liquefaction plants and other types of production facilities that often are in very remote locations. In addition, the Group has promoted localization to accommodate the needs of its customers and their communities, and thus is contributing to regional economic growth by **creating jobs and developing human resources**.



(*Results as of 2019. Certain methods for calculating data were changed in 2019.)

In recent years, Yokogawa has been helping customers **visualize issues in their overall business activities** and **optimize their operations** by drawing on its deep operational and industry knowledge to provide management-level consulting on aspects such as the optimization of supply chain and the allocation of business resources. In this way, Yokogawa is **partnering with its customers** to foster the creation of value and enable sustained growth.



LNG plant solutions

Support safe, efficient, and stable LNG production at LNG plants that cool down and liquefy extracted natural gas.

LNG is produced by cooling natural gas to -162°C. Abrupt cooling can damage facilities by causing thermal expansion and contraction. On the other hand, if cooling is too slow, production can be delayed. To safely start up production and stay on schedule, it is important to have both skilled and experienced operators who are knowledgeable about the process, and standardized and automated operations that are based on an analysis of existing procedures and logs. Yokogawa's modular procedural automation (MPA) consulting services for the automation of manual operations can optimize a cooling

process to reduce start-up time and prevent device damage.

Yokogawa's next-generation advanced process control (APC) solutions are based on the company's expertise in process automation and over 20 years' experience in APC licensing and consulting. These solutions help to maximize throughput by optimizing and stabilizing production operations.



LNG carrier solutions

Supporting the safe operation of carriers that transport LNG around the world.

Yokogawa provides multi-purpose dynamic simulators that can be used over the entire lifecycle of an LNG carrier to perform rigorous tests on systems under any operating conditions, train operators, and validate gas system design.

Yokogawa also offers a solution for the secure transmission of data in real time, ensuring access to accurate and up-to-date information that is needed to make timely decisions on carrier management.



LNG regasification solutions

Yokogawa supports stable and reliable operations at LNG regasification terminals.

In certain countries we are seeing an increase in the number of gas-to-power projects that involve the construction of LNG regasification terminals and gas power plants. At such facilities, the efficient supply of gas to meet power demand and the ability to respond quickly and appropriately to any problems are essential. To coordinate these operations, an integrated system environment is desirable. Based on its long experience and wealth of expertise in plant automation, Yokogawa offers an integrated operational environment that is able to protect the data of individual customers.

Yokogawa's Mirror Plant can perform accurate and dynamic simulations of plant operations by using values

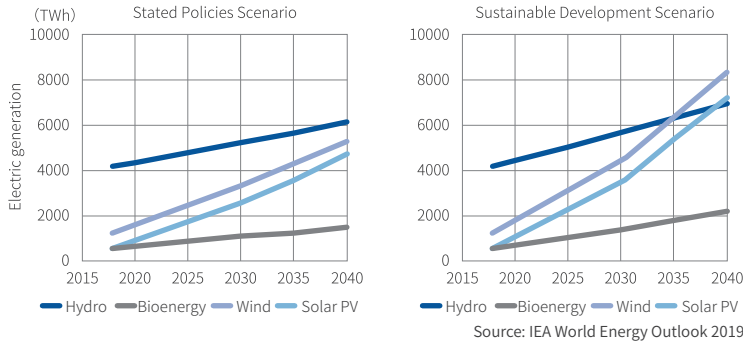
(pressure, temperature, flow rate, etc.) obtained from the operation of an actual plant. For instance, this system is able to calculate and make predictions on such essential factors as the LNG calorific value and the quality of the gas that is supplied (amount of heat generation and odor concentration), and it can visualize this data by such means as displaying it in a chart. Mirror Plant is also able to make predictions on plant behaviors and possible alarm states that operators can use to take prompt and appropriate actions, ensuring stable and reliable plant operations.



Initiatives to Create a Low-carbon Society through the Use of Renewable Energy

The Potential of Renewable Energy

Wind power, a segment of the renewable energy industry, has excellent prospects for growth. According to the Sustainable Development Scenario (SDS), which is aligned with the goals of the Paris Agreement, wind power will produce more electricity than any other renewable energy source by the year 2040.



Initiatives to Create a Low-carbon Society

For projects around the world that seek to introduce renewable energy and improve energy efficiency, Yokogawa will aggressively propose solutions that make use of its measurement, control, and information technologies and know-how. Together with our customers, we will work to combat climate change.

Co-creation of solutions that improve the stability and efficiency of wind power generation, and reduce energy consumption at sewage treatment plants

Goldwind and Yokogawa have agreed to **use each other's technologies in a joint effort to achieve a low-carbon society**. Goldwind Group owns an over 20-year track record in providing comprehensive, energy-efficient wind power generation solutions in China. In recent years, this company has been expanding its activities as a provider of integrated services to the environmental protection industry, utilizing its advanced technologies and abundant experience in water resource investment and management.



One of Japan's largest wind farms relies on a Yokogawa control system

Wind Farm Tsugaru, one of the largest wind farms in Japan, is now operational. A Yokogawa control system **monitors the operation of its wind turbines and performs integrated supervisory control of the remote substations and system interconnection switching stations**. Located in Tsugaru City, Aomori Prefecture, Wind Farm Tsugaru was built by Green Power Tsugaru GK. It has 38 wind turbines and has a total power generation capacity of 121,600 kW. A host of cutting-edge technologies and techniques were employed through every phase of the Wind Farm Tsugaru project, from the civil engineering and the transport and installation of the wind turbines to the construction of the underground transmission and distribution lines and the electrical substations. The collaboration with Green Power Tsugaru GK and the design of Yokogawa's system involved lengthy discussions with local stakeholders on how the wind farm should operate. Expectations are high that the project will not only **contribute significantly to revitalizing the local economy**, but that the formidable knowledge gained from the design, construction, testing, and operation of this facility **will benefit the wind power industry as a whole going forward**.



Driving the Continued Evolution of Renewable Energy with Progressive, Dynamic, Efficient Operational Support

Wind power generation requires the balancing of advantages like 24/7 operation and relatively high efficiency against drawbacks such as intermittent fluctuations in wind speed and direction. The remote locations of most wind power facilities also bring challenges such as harsh weather conditions, difficult terrain, and an inability to station people there. To resolve these challenges, a monitoring control framework that integrates IoT technology and infrastructure becomes a necessity. Wind power generation plants often combine products from multiple manufacturers, so a wide mix of measuring instruments will most likely be used. This presents quite a challenge in terms of effectively managing power station and substation information as well as operational status and time, alerts, and other information from wind power equipment. But Yokogawa is up to the task. Our real-time OS-based next-generation Linux controller performs measurement and control functions in parallel. Based on information ranging from control signals to communications data collected from interfaces, this enables the control of power generating equipment dispersed over a wide area. And our supervisory control and data acquisition (SCADA) operator interface integrates the handling of data from components supplied by different manufacturers, enabling remote monitoring that can detect abnormalities early on, enhance operational efficiency, and reduce operating costs. Yokogawa is now looking to apply insights gleaned from the analysis of big data to optimize maintenance. To improve power generation efficiency, we are also investigating the use of climate-related data to make regional energy demand forecasts and supply plans. And we are collaborating with information and communication companies and electrical device manufacturers to leverage advanced energy management technologies, remote control of energy resources, and integrated management in the construction of a new decentralized framework that will function as an integrated power plant (virtual power plant). To support the stable supply of power from wind power facilities and expand their use, Yokogawa is also pursuing the development of storage battery and related technologies. The company will continue to accelerate its efforts to drive the transition to renewable energy.



Protecting the Environment

Quality first. Pioneering spirit. Contribution to society. These principles reflect the philosophy of company founder Dr. Tamiyuki Yokogawa, and they permeate the activities of the Yokogawa Group even today. Yokogawa's continual driving force—its purpose—is the desire to make the world a better place. The company's pioneering and proactive efforts to engage in co-innovation with its partners has allowed it to hone its technologies and know-how. And the information technologies that have been carefully crafted have made big data a source of valuable intelligence for customers. And though our efforts may not lead to overnight success, we are venturing into new business areas. With an unwavering desire to serve society, we hope to be part of changes that will be historic and of a global scale. Over its 100+ year history in the innovation of measurement, control, and information technologies that have gained recognition as mother tools of manufacturing, Yokogawa has worked closely with its customers in a wide range of fields and has provided them vital R&D support. Through our business activities, we are determined to redouble our efforts to find solutions for social and environmental challenges around the world.

Message from the President & CEO



We will accelerate our transformation, seeing changes in the business environment as an opportunity for further growth.

T. Nara

President and CEO

Business Environment Changes and Perception of Current Situation

Our previous mid-term business plan that concluded with fiscal year 2017 produced many good results and everyone in the company shared the same sense of crisis that the company could not survive without accelerating its transformation, but this was not proceeding as quickly as had been hoped. Under the current mid-term business plan, we have forged ahead and once again have placed a high priority on speed. Most recently, however, the COVID-19 pandemic has raised concerns of the possibility of an unprecedented economic recession and prompted us to think that our transformation must take place at an even faster and unparalleled pace. In February, we first began noticing signs of slowing investment by our customers. In addition to the ongoing slump in crude oil prices and the shift to clean energy, CAPEX*1 and OPEX*2 investment by the oil majors and the national oil companies has contracted about 20% due mainly to travel restrictions and the shrinking demand for fuel. Thus, the widening impact of COVID-19 is spreading to our business. Customers in the petrochemical industry, the downstream segment of our oil business, have also tightened their investment criteria. KBC Advanced Technologies, which provides high-level consulting and software to the oil refining sector, has been hit hardest by these developments.

See p. 58 for details on KBC.

*1 Business related to capital investment in new plants
*2 Business focused on improving productivity of existing equipment and providing maintenance services

With past economic recessions, their impact used to spread upstream from consumer goods to the industrial materials sector, affecting Yokogawa's earnings performance about one year later. But the impact in fiscal year 2020 has been much more immediate: orders received in the first quarter were down 20% year on year. We feel the impact of this crisis has spread rapidly around the globe. Should the COVID-19 pandemic soon come to an end and our daily lives return to normal, it is unlikely that demand will recover quickly. It is my guess that corporate activities will remain at around 70% of their normal level, and will remain there for some time.

It is assumed that travel restrictions stemming from COVID-19 will continue, and we believe that demand for solutions for the remote execution of business processes and plant operations will increase. I have the impression that Yokogawa's opportunities in this area, some of which were apparent even before the current plight, are increasing. Already, contract intake is on the rise for remote engineering and remote maintenance related work that will bring benefits such as improved efficiency. With demand for remote services expected to increase further, Yokogawa has set its eyes on the transition from industrial automation to industrial autonomy (IA2IA) that lies ahead. The industrial autonomy advocated by Yokogawa is a state in which plant assets and operations will have learning and adaptive capabilities that allow responses with minimal human interaction, empowering operators to perform higher-level optimization tasks. Specifically, they will be able to collect non-control-related information on items such as changes in products, quality, or demand, and flexibly make adjustments based on management objectives. The spread of COVID-19 has unexpectedly become a trigger for the acceleration of the move towards industrial autonomy, and we view the changing needs of society as opportunities for our next stage of growth.

See p. 56 for details on IA2IA.

Meanwhile, looking ahead at the business environment from a mid- to long-term perspective, we perceive that a shift in the energy mix and the economy will occur and a balance will be achieved between the needs for economic efficiency and environmental preservation. Over the long term, demand for renewable energy will increase, and demand for oil will gradually fall. And regarding the oil-related business, which is one of the pillars of Yokogawa's business operations, we expect to boost profitability by taking new approaches such as improving efficiency through digital transformation (DX), applying our know-how and expertise, and allocating necessary resources, while maintain our top line.

See p. 30 for more information about our initiatives Driven by the Mid- to Long-term Transition to Clean Energy.

Progress in Mid-Term Business Plan

The Transformation 2020 (TF2020) mid-term business plan sets out the three basic strategies of transforming existing businesses, creating new businesses and transforming our business model, and improving productivity through Group-wide optimization. As a basis for these three strategies, the plan seeks to create growth opportunities and establish a foundation for growth by promoting DX. Over the past two years, generally good progress and some positive results have been achieved in the implementation of these strategies, though certain aspects of the plan have

been delayed due to COVID-19's dramatic impact on the business environment; certain challenging issues remain to be addressed. As for the transformation of existing businesses, our OPEX business focusing on our installed base is growing, and we are making headway in becoming less dependent on CAPEX. In particular the maintenance repair and operation (MRO) and lifecycle service businesses are faring well. In the targeted chemical and renewable energy businesses, we have exceeded our goals thanks to factors

such as our strategic partnership with Saudi Basic Industries Corporation (SABIC) and our supply of a control system for one of Japan's largest wind farms. Moreover, we have taken steps to beef up priority businesses by, for example, taking stakes in APB Corporation, an all polymer battery manufacturer, and JEPLAN, INC., a developer of an innovative chemical recycling technology. Regarding the creation of new businesses, our Life Innovation Business Headquarters is pursuing initiatives to grow new businesses and expand our scope of operations in the pharmaceutical and food industries. Looking at the results of the life innovation business and the preceding life science business, earnings reached an all time high in fiscal year 2019. Although the business environment has been overshadowed by COVID-19, investment in the pharmaceutical and food sectors remains strong here in Japan. As for the transformation of our business model, we face challenges with our establishment of a recurring-type business model as we seek to respond to standards outside Japan and build awareness of industrial IoT (IIoT) and widen the use of such technology among small- and medium-sized enterprises in Japan. Despite such circumstances, our Group company amnimo Inc has expanded its offering of services. We have also recently been receiving a growing number of inquiries regarding AI-based image analysis solutions in Japan offered by Grazper Technologies ApS, which we acquired in March 2020, and regarding a sensor-based data monitoring/ collection system that is used in applications such as

tracking river water levels (for disaster response). As such, we are starting to receive good feedback from the market. Regarding the improvement of productivity through Group-wide optimization, we have achieved some positive results through the continual execution of cost-cutting measures such as the introduction of robotic process automation (RPA) to improve business efficiency, the use of business intelligence (BI) tools for the use of quantitative data in our business activities, and business process outsourcing (BPO). But we think there is room for improvement in such areas as the visualization of quantitative data to improve profitability. Going forward, we will step up initiatives that include the optimization of the Group's structure through the integration of in-house functions common to each company, improving the quality of business processes, and providing training to personnel at the company's in-house educational program, Yokogawa University. As for DX, a driving force in carrying out these basic strategies, we have pushed ahead with the automation of business processes through the use of RPA, and to date have saved over 70,000 man-hours. Moreover, in the second half of fiscal year 2019, more than 18,000 Group employees began working from home (teleworking) in response to the COVID-19 pandemic, taking our DX to the next level. We will make use of this capability to expand the service menu provided for external DX and improve the customer experience. As described above, we are making progress with the implementation of the basic strategies and achievement of



the DX set out in the TF2020 plan. Having said that, output in the form of monetization and visualization is not sufficient yet, so we must work to expedite these transformative initiatives. To survive this COVID-19

pandemic, we will need to speed up the pace of these efforts and overcome a number of challenging issues.

See p. 42 for a review of TF2020.

Priority Measures and Directionality of Future Business Development

In fiscal year 2020, the final year of the TF2020 plan, we will focus on efforts to reap benefits from the completion of measures such as the above-mentioned three transformations and the achievement of DX, while seeking to minimize the impact of COVID-19 and prepare for life after the pandemic.

The impact of the COVID-19 pandemic has intensified since April, causing problems with parts supply and manufacturing delays in countries where lockdowns and other measures were imposed. Production is back on track now, but efforts must be made this fiscal year to adapt to the so-called “new normal” and implement individual initiatives and measures. These will include the response to problems in supply chains. We are improving our resilience as an enterprise by, for example, improving our visualization of supply chains so that we can promptly secure alternative suppliers when parts procurement becomes insecure. We have also worked to respond to an increasing number of

customer requests for remote solutions that can be used to perform engineering, conduct factory acceptance tests (FAT), and provide maintenance services. Up to now, companies have tended to be cautious about introducing remote operations, but this has changed during the COVID-19 pandemic with the realization that such operations can be both useful and convenient. Our remote services have become indispensable not only for improving safety and efficiency for our customers, but also for our own business operations, ensuring business continuity and protecting the health and safety of employees and their family members.

In sales, we have made use of webinars and virtual exhibitions to win orders. Changing social needs have led society and industry to place a greater emphasis on safety and peace of mind, security, productivity, optimization, remote control, and industrial autonomy. Against that background, I firmly believe that Yokogawa will continue to win customer confidence and remain a preferred partner



because of the on-site response capabilities made possible by its global network, and its ability to provide DX solutions that integrate both the virtual and real worlds.

Furthermore, in line with the development of our business, we will continue to make the investments needed for such aims as establishing new businesses and business models and promoting DX. We will not only pursue M&A deals, but will also actively recruit personnel from within and without the organization who can contribute to our transformation. Some of the ideal qualifications to be sought include an expert knowledge of robotics, a thorough grounding in both operational technology (OT) and information technology (IT) (both of which are necessary to meet the demands of remote operations), and an expert knowledge of targeted new business areas.

Regarding finances, we are required to ensure a certain level of cash reserves so that we can respond to unexpected situations such as radical shifts in demand. There are no concerns regarding our cash position, but we will work to improve in such areas as fluidity and the cash conversion cycle.

See p. 44-45 for KPIs, capital policy/financial strategies, etc.

To respond to a changing business environment and help our customers address critical issues, Yokogawa is moving beyond the traditional role of an automation supplier to become a trusted partner. In other words, it means a switchover to a business model in which we get customers to recognize the value of what we supply and receive compensation for that, not just for the sale of goods and services. To reach that level, however, we must establish strong relationships with our customers that are based on trust. It will be important to make deep discoveries on challenging issues that may not yet have even come to the attention of the customer, to share this knowledge, and to convince the customer to accept this. What matters is how one goes about this. It is safe to say that this is a switchover that is extremely difficult to achieve. We will enhance our corporate value and sustain growth by achieving a transformation of our corporate culture and the mindset of our employees, and will switch

from being a company that passively responds to requests to one that takes the initiative to proactively make proposals. Rather than having a conventional workforce of specialists, we will aim for a transformation in our human resources, where people will be armed with the expansive knowledge and expertise needed to cope with all kinds of changes in such areas as business and DX. It will be key to our future growth to accumulate best practices and combine IT expertise with the OT-related expertise that we already possess so that we can better execute solutions to issues that our customers have with their business processes and businesses, and to make use of DX to apply such best practices in areas where we can scale up businesses. We have so far depended to a great extent on CAPEX related large-scale oil and gas projects, where returns can be expected over the course of a project and throughout the facility lifecycle, including both the new plant construction phase and maintenance services provided thereafter. To improve profitability, it will be necessary to consider new ways in which we can do our business, and to implement those ideas. The direction we should take is to press ahead with new businesses to realize mid- to long-term growth, while at the same time maintaining a balance with the volume and stability of our existing businesses, such as those related to energy. These new businesses will be in such areas as life innovation, in sectors such as pharmaceuticals and foods. For this purpose, it will be necessary to improve productivity through internal DX, introduce marketing automation, and accelerate activities that ensure prices are set appropriately and appropriate payment is received from our customers. Regarding pricing, we will push ahead with a pricing project that will give us a better grasp of situations by visualizing data that links customers with our products and solutions. Moreover, we should be aware of the risk that new players can enter our business domains, and not just the usual Western competitors who may be ahead of us in transforming their business models, but also IT industry players. Given such prospects, we will act to speed up our transformation under the strong leadership of our people in each region and business headquarters.

Commitment to Stakeholders (Management Based on ESG/SDGs)

In 2017, Yokogawa announced its aspirations for sustainability and established three sustainability goals for realizing a low-carbon and circular society for future generations. We have defined net-zero emissions, well-being, and circular economy as these three goals, and seek to contribute through our business activities to the respective important themes of renewable and low-carbon energy, life innovation and safety, and energy saving and resources.

Yokogawa's businesses are associated with a broad array of social and industrial segments, and we contribute to environment, social and governance (ESG) and the

achievement of the Sustainable Development Goals (SDGs) through our customers' businesses. In a changing business environment, we are shifting our business focus to the provision of solutions and services that will add value both for society and the environment, and will seek out growth opportunities in industries and fields that lead toward the achievement of our three goals. In so doing, we consider it necessary to quantify the indirect contributions that we make through our customers in protecting the environment, in such areas as CO₂ emissions reduction and energy saving, thus identifying the total contribution that is made. Regarding the environment, society's perception



of climate change has dramatically changed, and we see a rapidly changing situation in which companies that do not contribute in this area will be unable to win the trust of their stakeholders. Although there are differences in initiatives depending on industry and company, we have reason to believe through our dealings with customers in a wide range of business areas that a positive attitude toward environmental conservation is supported by society as a whole. This can be seen in recent renewable energy investments made by oil majors with the aim of becoming general energy companies, and in the concerns expressed by chemical companies about the microplastics issue.

At Yokogawa, management based on ESG and the SDGs has gained recognition and become more widespread in the past two to three years, and there is a considerable awareness of the connection between such concepts and our business. But more can be done. We would like to make Yokogawa a company where all employees consider ESG and the SDGs as a matter of personal concern, see them as being directly connected to their own work, and act on their own initiative to achieve results. Of course, it is important as well for a company to make rational business decisions and to seek to improve its corporate value, in tandem with the focus on ESG and the SDGs. We think it necessary for all employees to be aware of the need to create value that contributes to society and the environment, and to be accountable to all stakeholders, including customers, shareholders/investors, and members of the local community. It is especially important for Yokogawa, which has grown together with its customers and enjoyed the backing of energy-related companies in

such sectors as the oil and gas industries, to take seriously its great responsibility for contributing to society and protecting the environment by undertaking initiatives for sustainability. We have a number of outside directors and auditors who possess a wide range of management experience and knowledge related to ESG and the SDGs, and are discussing these matters with them on a regular basis based on the belief that Yokogawa must be able to make a greater contribution to society.

It is difficult to convey in an easy-to-understand manner the contributions that we are making to the achievement of a sustainable society through our business activities. Also, there are unique aspects that are difficult to understand due to the B2B nature of our business. We hope to deepen understanding of Yokogawa's ESG and SDG-based management by increasing opportunities for communication with shareholders/investors and other stakeholders, and by providing concrete information that will convey the economic effects on our customers and the value that we contribute to society and the environment. At the same time, we wish to hear the views of others on new ways in which we can create value for society and the environment.

See p. 64 for initiatives to achieve the sustainability goals.

Though the current business environment is harsh, we will continue to be open to new challenges as we pursue growth and aim to become an even more profitable company. Acting with a sense of crisis, we will seize opportunities to complete the transformations laid out in the TF2020 plan, and prevail in the difficult days ahead.

Progress and Review of Mid-term Business Plan

In fiscal year 2015, Yokogawa drew up the Transformation 2017 ("TF2017") mid-term business plan and worked on "Establishing a foundation for growth by transforming our business structure." Changes in the business environment over the three-year period of TF2017 were greater and swifter than anticipated, and the energy industry, which is one of Yokogawa's primary markets, has undergone an upheaval. Moreover, a wave of innovations in digital technology is driving unprecedented industry changes, and this is having a major impact on the Company's business environment.

In this business environment, to increase our corporate value over the mid- to long-term, Yokogawa needs to fundamentally transform the structure of its businesses.

Under TF2020, the Company seeks to further enhance its corporate value by making full use of digital technologies to transform existing businesses and improve their profitability, create new businesses and establish new frontiers for growth, and by taking measures to dramatically improve the productivity of the operational foundation that supports our business activities.

Recently, every aspect of our lives from social and economic activities to daily life has been greatly affected by COVID-19. In fiscal year 2020, the final year of TF2020, we will maintain financial stability, transform our priority sectors and business models, clearly prioritize what we should do for growth, and promptly implement action plans. We have also started working on the next mid-term business plan.

| Transformation 2017 “TF2017” | | | Transformation 2020 “TF2020” | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|--|-------------------|--|---------|---------|-----|--------------|------|-----|------------|------|-----------|-----------------|-------------------|------------------|----------------|------------------|-----|-------|------|-----|-----------------|-----------|--------------|-----------------|-------------------|---|--|--|--|---------|------------------------------|-----------|---------------|-----------|-----|----------------------|-----|----------------------|-------------|--|
| Phase1: FY2015-2017 | | | Phase2: FY2018-2020 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vision | Establishing a foundation for growth by transforming our business structure | | Creating opportunity and consolidating the foundation for growth | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Business environment (initially) | <ul style="list-style-type: none">• Expansion of energy demand in line with growth of emerging economies• Technology innovations in oil and gas development and in manufacturing processes• ICT advancement and penetration into industrial base• Oil price volatility• Concerns over intensifying competition | | <ul style="list-style-type: none">• Market downturn, intensifying competition Economic slowdown beyond expectation including stagnant crude oil prices and decelerating growth in emerging countries• Declining investment by our customers CAPEX stagnation ⇄ OPEX firm growth• Our existing businesses facing an uphill struggle High dependency on energy-related business, leveling-off sales and volume• Reforming growth model Opportunities for growth brought by innovations in digital technology, SDGs, and other changes in our external environment | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Strategy | <div><div>Focusing on customers<ul style="list-style-type: none">• Develop business by pursuing strategic partnerships with customers• Expand our business with our current customer base</div><div>Creating new value<ul style="list-style-type: none">• ICT advances are leading to new business opportunities• Co-create value across companies and industries by improving efficiency and achieving overall optimization</div><div>Becoming a highly efficient global company<ul style="list-style-type: none">• Globally optimize all functions and operations• Be more profitable than our competitors</div></div> | | <div><div><div><div>Creation of new businesses and transformation of business model</div><div>Working with customers to radically improve productivity</div><div>Sustainably creating value through innovation</div><div>Dramatically improving business efficiency</div><div>Improvement of productivity through Group-wide optimization</div></div><div>Transformation of existing businesses</div><div>Digital Transformation</div></div><div>See p. 42 for details</div></div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| KPIs and targets | <table><tr><th></th><th>Targets</th><th>Results</th></tr><tr><td>ROE</td><td>11 % or more</td><td>8.1%</td></tr><tr><td>ROA</td><td>6% or more</td><td>4.8%</td></tr><tr><td>Net sales</td><td>440 billion yen</td><td>406.6 billion yen</td></tr><tr><td>Operating income</td><td>45 billion yen</td><td>32.7 billion yen</td></tr><tr><td>ROS</td><td>10.2%</td><td>8.0%</td></tr><tr><td>EPS</td><td>100 yen or more</td><td>80.27 yen</td></tr><tr><td>Operating CF</td><td>100 billion yen</td><td>103.1 billion yen</td></tr></table> | | | Targets | Results | ROE | 11 % or more | 8.1% | ROA | 6% or more | 4.8% | Net sales | 440 billion yen | 406.6 billion yen | Operating income | 45 billion yen | 32.7 billion yen | ROS | 10.2% | 8.0% | EPS | 100 yen or more | 80.27 yen | Operating CF | 100 billion yen | 103.1 billion yen | <table><tr><th></th><th>Targets</th></tr><tr><td>Growth in orders / net sales</td><td>3-5%/year</td></tr><tr><td>Growth in EPS</td><td>7-9%/year</td></tr><tr><td>ROS</td><td>10% or more (FY2020)</td></tr><tr><td>ROE</td><td>10% or more (FY2020)</td></tr><tr><td>Organic FCF</td><td>85 billion yen or more (cumulative over three years)</td></tr></table> <div>See p. 44 for details</div> | | | | Targets | Growth in orders / net sales | 3-5%/year | Growth in EPS | 7-9%/year | ROS | 10% or more (FY2020) | ROE | 10% or more (FY2020) | Organic FCF | 85 billion yen or more (cumulative over three years) |
| | Targets | Results | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ROE | 11 % or more | 8.1% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ROA | 6% or more | 4.8% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Net sales | 440 billion yen | 406.6 billion yen | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating income | 45 billion yen | 32.7 billion yen | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ROS | 10.2% | 8.0% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EPS | 100 yen or more | 80.27 yen | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating CF | 100 billion yen | 103.1 billion yen | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Targets | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Growth in orders / net sales | 3-5%/year | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Growth in EPS | 7-9%/year | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ROS | 10% or more (FY2020) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ROE | 10% or more (FY2020) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Organic FCF | 85 billion yen or more (cumulative over three years) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Review | <div><div>Achievements<ul style="list-style-type: none">• Expanded and grew business based on strong customer base, and improved profitability, our top priority.• Broadened the range of value proposition for our primary industries and improved financial balance sheet.</div><div>Issues<ul style="list-style-type: none">• Drastically improve profitability to build a structure that is resistant to fluctuation in trade volume, and accelerate transformation.• In addition to transformations set out in TF2017, drastic business restructuring is needed for mid- to long-term improvement of corporate value in changing business environment.</div></div> | | <p>Under TF2020, we will make full use of digital technologies to grow existing businesses and improve their profitability, create new businesses and establish new frontiers for growth, as well as take measures to dramatically improve the productivity of the operational foundation that supports our business activities.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Transformation 2020 Mid-term Business Plan

Review

Progress ○△



Transformation of existing businesses

Working with customers to radically improve productivity.

Industrial automation and control business: Expansion of OPEX business

- We will focus on expanding the OPEX business, which focuses on solving issues to improve productivity at existing plants and on providing maintenance services at these facilities.
- We will continue with the efforts to establish and globally expand the solutions business that it pursued under TF2017.

| Background | Strategy | Product portfolio |
|--|--|---|
| <ul style="list-style-type: none">● Customers are shifting from capital investment in new plants (CAPEX) to investments that seek to improve the efficiency of operations at existing plants (OPEX). | <ul style="list-style-type: none">● Expand our Japan solutions business and KBC's consulting business to other regions and industries.● Utilize data obtained from a rich installed base to optimize the service business | <ul style="list-style-type: none">● Control systems, field instruments● KBC consulting● Other solutions (energy conservation, cyber-security measures, etc.) and more |
| Targets & results | | |
| <ul style="list-style-type: none">● OPEX growth rate outside Japan: 7 to 10% per year ➡ FY19 result: approx. 8%/year ○ | | |

*FY17 result: approx. 70 billion yen
*OPEX business divided into outside Japan and domestic categories, and outside Japan category further divided into (1) maintenance and operations and (2) solutions segments

Industrial automation and control business: Further strengthen in target industries

- Continue to focus on chemical industry outside Japan, following a large share in Japan
- Find opportunities in renewable energy markets with growth potential and social significance

| Background | Strategy | Product portfolio |
|--|--|--|
| <ul style="list-style-type: none">● Investment is expected to increase in the chemical industry due to economic growth in emerging markets and strengthening environmental regulations.● With the aim of reducing CO₂ emissions, companies are accelerating their shift to renewable energy sources. | <ul style="list-style-type: none">● Expand bulk chemical and specialty chemical businesses outside Japan● Develop new renewable energy-related markets. | <ul style="list-style-type: none">● Control systems, field instruments● Manufacturing execution systems (MES)● Information systems (facility management systems)● KBC consulting and more |
| Targets & results | | |
| <ul style="list-style-type: none">● Growth: 3 to 5% per year ➡ FY19 result: approx. 12%/year ○ | | |

*Control orders in chemical and renewable energy industries
*FY17 result: approx. 40 billion yen

Test and measurement business, aviation and other businesses

- Test and measurement business**
 - Focus on competitive/unique products (maximizing capital efficiency)
 - Target new growing markets
- Aviation and other businesses**
 - Transferred the shares of Yokogawa Denshikiki Co., Ltd., which specialized mainly in the marine navigation equipment business (end of December 2018)
 - Focusing resources on transformation of aviation-related business (improve profitability)



Creation of new businesses and transformation of business model

Creating sustainable value through innovation

Establishment of the life innovation business

We will strive to leverage its strengths in the pharmaceutical and food industries by establishing service businesses that improve productivity throughout the value chain, including R&D, product development, manufacturing, and logistics.



| Vision | Strategy |
|---|--|
| <ul style="list-style-type: none">● Through the use of measurement, control, and information technology, support people's health and enrich lives by radically improving productivity across the entire value chain, from basic research to logistics and services. | <ul style="list-style-type: none">● Expand this business based on existing pharmaceutical/food industry businesses and new technologies and products that are under development. |
| Targets & results | |
| <ul style="list-style-type: none">● Increase sales 2 to 3 times by FY2020 (compared to FY17) ➡ FY19 result: approx. 1.5 times (compared to FY17) ○ | |

*FY17 result: approx. 12 billion yen

Establish a recurring business model

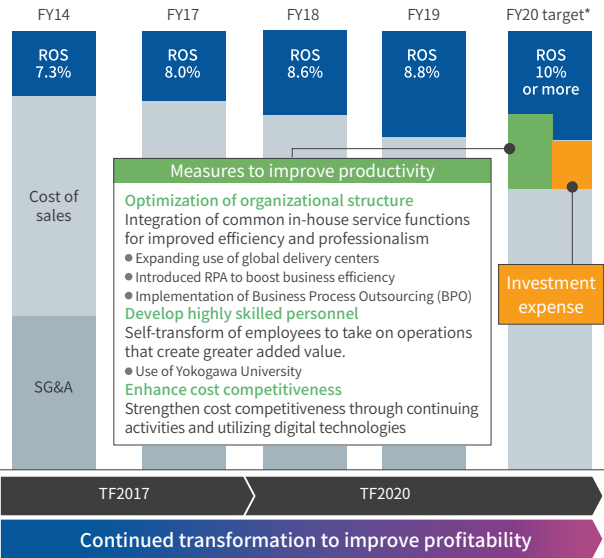
Yokogawa will transform its business model from the simple selling of products and services ("sell-once") to a recurring business model that includes performance-based business and emphasizes the offering of services.

| Main activities |
|---|
| <ul style="list-style-type: none">● Acquired Danish startup Grazper Technologies, specialists in AI for image analytics● Expanding provision of services by amnimo Inc. |



Improvement of productivity through Group-wide optimization

We will dramatically improve business efficiency through Group-wide optimization.

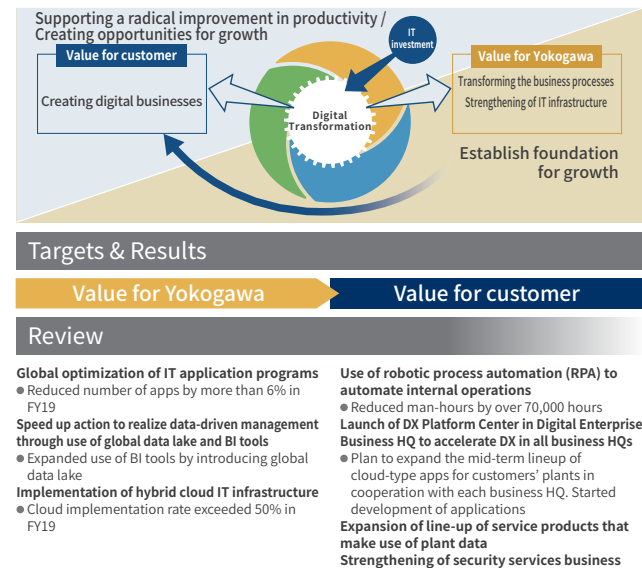


*Initial plan



Digital transformation (DX)

Create value in-house that will allow us to accelerate value delivery to our customers



Mid-term Business Plan: KPIs & Capital Policy/Financial Strategy

Key Performance Indicators and Targets for TF2020 Mid-term Business Plan

Under the TF2020 mid-term business plan, which was announced in May 2018, Yokogawa is seeking to maximize both corporate and shareholder value over the medium- to long-term, and will be guided in this effort by the five key performance indicators of growth in orders/net sales,

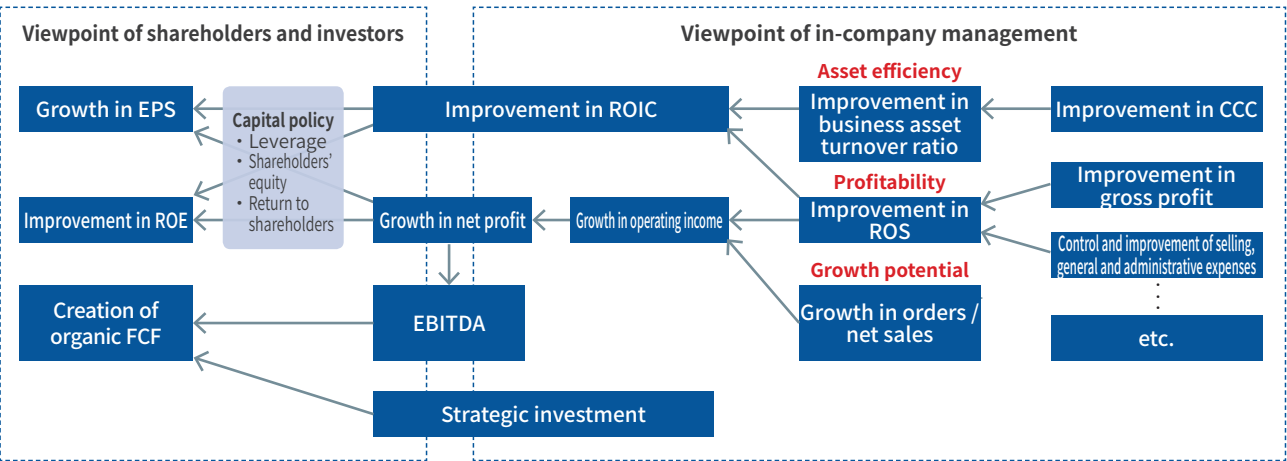
earnings per share (EPS) growth, return on sales (ROS), return on equity (ROE), and organic free cash flow (FCF)*¹. By increasing profits, generating cash, and improving capital efficiency, we aim to outperform market expectations.

| KPIs | Targets |
|--------------------------------------|--|
| Growth in orders / net sales | 3-5%/year |
| Growth in earnings per share (EPS) | 7-9%/year * ² |
| Return on sales (ROS) | 10% or more (FY2020) |
| Return on equity (ROE) | 10% or more (FY2020) |
| Organic free cash flow* ¹ | 85 billion yen or more (cumulative over three years) |

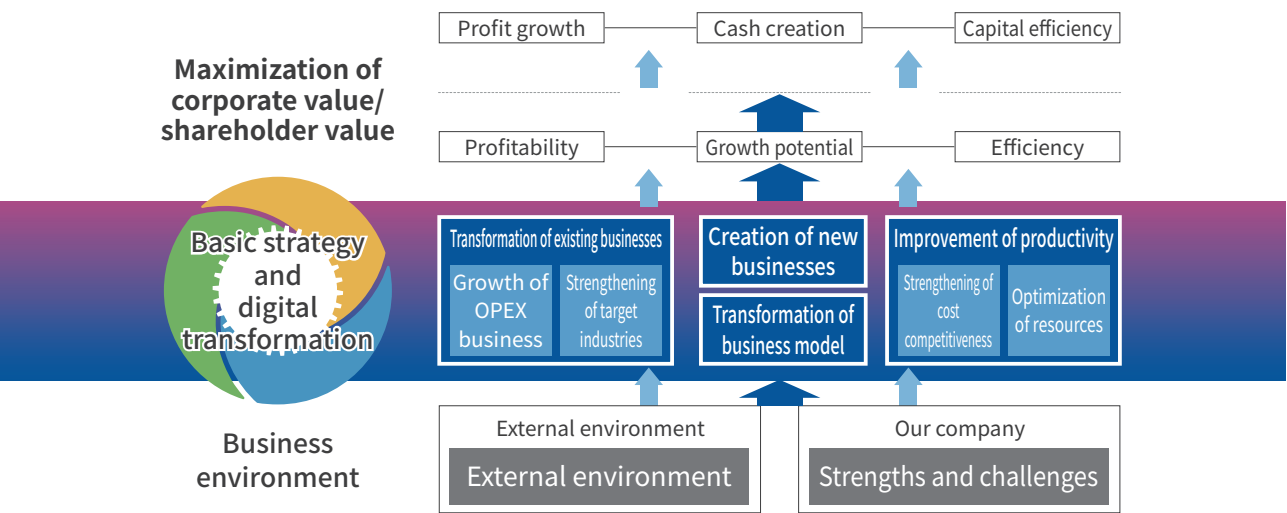
Estimated exchange rate: 1 U.S. dollar = 110 yen
*¹ Organic FCF = FCF + strategic investments (a cumulative amount of 70 billion yen over three years)
*² The growth rate is real growth, excluding temporary factors in FY2017 (e.g., impairment of goodwill, the recording of allowance for doubtful accounts, and gain on sale of assets)

Main initiatives for achieving KPIs and targets

- Expand priority businesses and exceed market growth rate
- Improve profitability regardless of what happens in the market environment
- Strategically allocate resources to focus areas
- Maximize cash creation by growing profits and improving capital efficiency

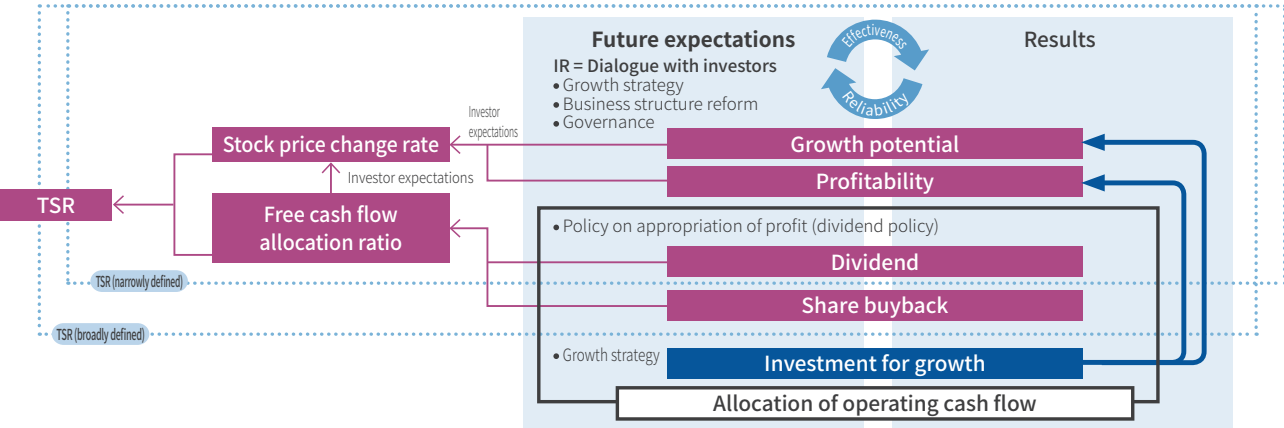


Relationship between corporate value, shareholder value maximization and basic strategy



For more information on the external environment and other topics, please refer to Business Model in the Industrial Automation and Control Business on p.22.

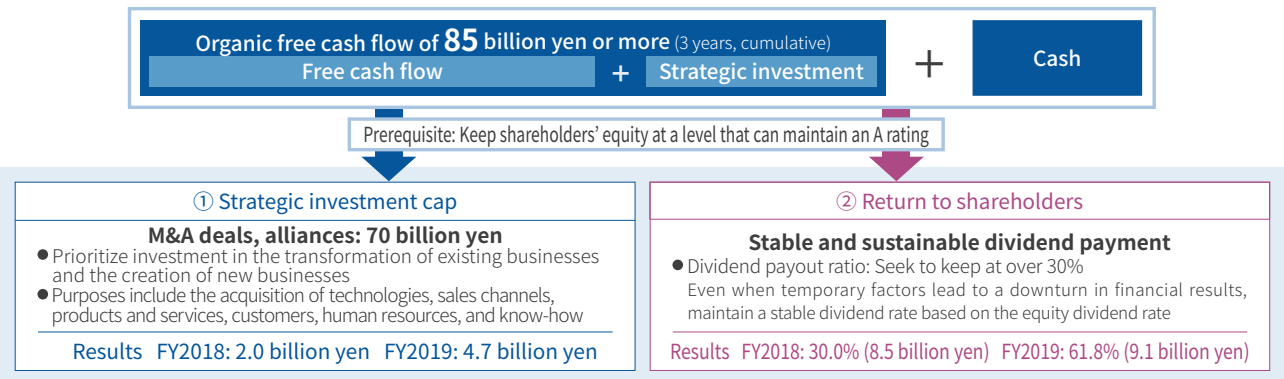
Capital Policy and Financial Strategy



Under the TF2020 plan, Yokogawa is seeking to maximize cash flows. The Company intends to prioritize allocation of the cash that it generates to investments for growth with the goal of maximizing corporate value. Through these investments Yokogawa will aim to enhance its growth potential and profitability and further augment cash flows to continuously enhance its corporate value. The Company also aims to realize a total shareholder return (TSR)* that exceeds shareholders' cost of equity. Yokogawa intends to vigorously enhance shareholder return, providing that the Company remains on a sound financial footing. It will seek to secure a consolidated payout ratio of at least 30% and an increase in dividend payments aligned with increased profits. Yokogawa will strive to maintain stable dividend payments based on the

dividend on equity (DOE) ratio even if a large loss is expected due to some temporary factors. To realize strategic investments for growth and aggressive shareholder returns, maintaining a sound financial footing is crucial. The Company needs to anticipate discontinuous risks such as drastic changes in the external business environment. In our view, an optimal capital structure is achieved by maintaining a shareholders' equity at a level needed to retain an A rating and securing investment funds to ensure future growth even if risks materialize. In fiscal year 2020, Yokogawa will continue to actively allocate its funds while maintaining an optimal capital structure.

*TSR: Total shareholder return



① Capital investments for growth (strategic investments)

Assuming that it maintains an optimal capital structure, the Company will set aside 70 billion yen for capital investments such as M&A and alliances over the three-year period of the TF2020 plan.

Actual examples of investment in M&A and alliance deals necessary for the transformation of existing businesses and "creation of new businesses"
• FY2018: Bayshore Networks (U.S.), IIOT (industrial IoT) security company; NKS (Japan), calibration/validation service provider; AlgaEnergy (Spain), microalgae-based biomass company
• FY2019: Sensire (Finland), cold chain solution provider; RAP International (UK), provider of digitalized solutions for plant maintenance; BioStinger (U.S.), specialist company in nanopipette technology for life science applications; Grazper Technologies (Denmark), provider of AI for image analytics; APB (Japan), all-polymer battery maker

② Dividend policy (basic policy on allocation of profits)

The Company will also actively improve dividend payments based on the following dividend policy.

The distribution of earnings to shareholders is a top priority for Yokogawa. By improving profitability, the Company aims to secure the funds needed to continue increasing its dividend payments. Specifically, Yokogawa will strive to exceed a 30% consolidated dividend payout ratio while ensuring it retains the financial base required to make investments needed to maximize business performance, deliver value to shareholders over the mid- to long-term, and ensure continued growth. The Company also aims to maintain a stable dividend based on the dividend on equity (DOE) ratio, even when business performance deteriorates due to temporary factors.

Message from the Head of the Corporate Administration Headquarters

Junichi Anabuki
Director and Executive Vice President



Review of Fiscal Year 2019, Progress of Key Performance Indicators for TF2020, and Outlook for Fiscal Year 2020

The Yokogawa Group’s earnings in fiscal year 2019 were affected by such factors as subsidiary transfers, forex swings, and restrictions on economic activities in the latter half of the fourth quarter due to the COVID-19 pandemic. Both sales and operating income were up from the previous year mainly because the industrial automation and control business fared relatively well.

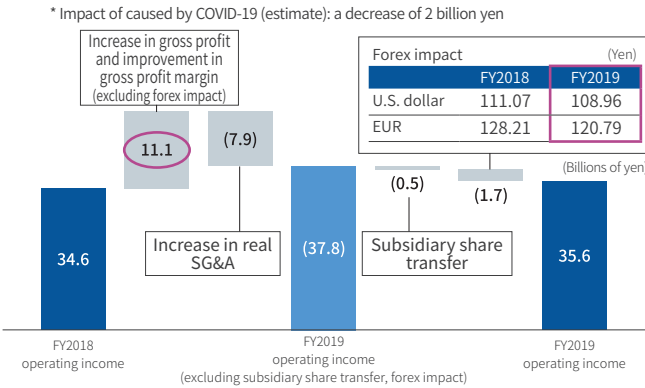
Orders, the basis for sales, declined ¥13.3 billion (3.1%) from the previous year, when orders for a number of major projects were received. If factors such as forex changes and the transfer of subsidiary shares are excluded, orders would be up ¥9.3 billion (2.2%) year on year. Net sales increased by ¥0.7 billion (0.2%) year on year to ¥404.4 billion. If items such as the forex factor and the transfer of subsidiary shares are excluded, this figure would show a

¥23 billion (5.9%) gain year on year. The improvement can mainly be attributed to steady performance in the industrial automation and control business, which is focused on solutions and operations/maintenance. On a regional basis, orders increased in Japan and sales rose in China, India, the Middle East, and other markets, despite an adverse global business environment. By industry, chemicals, a target industry under the TF2020 plan, remained firm thanks to the continued demand for specialty chemicals and other products, and foods and pharmaceuticals showed steady results thanks to growing demand. Moreover, we won orders for biomass and wind alternative energy projects as well as water/sewerage system, seawater desalination, and other water-related projects outside Japan.

| | FY2018 Results (A) | FY2019 Results (B) | FY2020 Forecast (C)* | Difference (B) - (A) | % change (B) ÷ (A) - 1 | Difference (C) - (B) | % change (C) ÷ (B) - 1 |
|---|-----------------------|-----------------------|-------------------------|-------------------------|---------------------------|----------------------|------------------------|
| Orders (Billions of yen) | 432.0 | 418.7 | 350.0 - 380.0 | (13.3) | (3.1)% | (68.7) - (38.7) | (16.4)% - (9.2)% |
| Net sales (Billions of yen) | 403.7 | 404.4 | 360.0 - 390.0 | 0.7 | +0.2% | (44.4) - (14.4) | (11.0)% - (3.6)% |
| Operating income (Billions of yen) | 34.6 | 35.6 | 23.0 - 30.0 | 1.0 | +2.9% | (12.6) - (5.6) | (35.4)% - (15.7)% |
| ROS (%) | 8.6 | 8.8 | 6.4~7.7 | +0.2pt | — | (2.4) pt - (1.1) pt | — |
| Profit attributable to owners of parent (Billions of yen) | 28.4 | 14.7 | 14.0 - 19.0 | (13.8) | (48.4)% | (0.7) - 4.3 | (4.7)% - 29.4% |
| EPS (Yen) | 106.54 | 55.02 | 52.45~71.18 | (51.52) | (48.4)% | (2.57) - 16.16 | (4.7)% - 29.3% |
| ROE (%) | 10.1 | 5.1 | — | (5.0) pt | — | — | — |
| Exchange rate to 1 U.S. dollar (Yen) | 111.07 | 108.96 | 105 | (2.11) | — | (3.96) | — |

* Forecast announced on August 12

Operating income rose ¥1 billion year on year and totaled ¥35.6 billion due to higher sales and an improved gross profit margin, despite increases in net SG&A (selling, general and administrative expenses), excluding the impact of the transfer of subsidiaries’ shares and forex changes. The increase in SG&A is mainly due to strategic investments for the expansion of our business, etc. Meanwhile, the profit attributable to owners of parent of ¥14.7 billion was down ¥13.8 billion from the previous year due to the recording of extraordinary losses that included a goodwill impairment charge for a subsidiary outside Japan, a provision for the reinforcement of measures against soft errors, and other factors, although gains on the sale of subsidiary shares and the sale of a business were posted as extraordinary income.



A review of the key performance indicators (KPIs) for the two previous years under the TF2020 plan shows that fiscal year 2019 orders were up 2.3% from the previous year and net sales were nearly the same for both years. If the impact of items such as forex fluctuations and the transfer of subsidiary shares are excluded, orders and net sales would show annual gains of 5.0% and 2.4%, respectively.

The consolidated earnings forecast for fiscal year 2020 is based on the following assumptions: Although the business environment remains uncertain, it is believed that earnings hit bottom in the first quarter and will gradually recover toward the fiscal year-end as moves are made to resume economic activities, while efforts continue to combat COVID-19. But a substantial recovery is not expected, which will affect our Group’s performance. It is presumed that the price of crude oil will stay in the \$30 to \$40 per barrel range in fiscal year 2020. This consolidated earnings forecast is based on the information that was available at the time of its announcement on August 12. Actual results may differ from the forecast.

Demand for energy and fuel has shrunk greatly due to the effects of COVID-19-related restrictions on economic activities. Customers have significantly scaled down their investment plans and suspended operations at some plants, and this trend has been particularly strong in the oil & gas and petrochemical industries. At the same time,

Meanwhile, in fiscal year 2019, return on sales (ROS) was 8.8% and earnings per share (EPS) fell 17.3% (a 32.5% year-on-year gain had been recorded in fiscal year 2018), and return on equity (ROE) was 5.1%. (In fiscal year 2018 a 10.1% year on year increase for ROE had been recorded, partly due to extraordinary income from the sales of assets.)

For more information, see Key Performance Indicators and Targets for TF2020 Mid-term Business Plan on p. 44.

business conditions have remained relatively firm for the specialty chemical, renewable energy, and food and pharmaceutical sectors, boosting demand for our productivity improvement-, remote operations-, and safety/security-driven OPEX business. Furthermore, we have built up capital and achieved an optimum capital structure that can withstand crises such as the Great Recession of 2007-09. Even during the COVID-19 pandemic, there is no cause for concern regarding our cash reserves and financial strength.

Amidst the increasingly visible effects of COVID-19, in fiscal year 2020, the final year of TF2020, we are maximizing cost efficiency by setting priorities for strategic measures and conducting a sweeping review of our business operations to cut costs and secure profits. Through such measures, we are speedily reaping the results needed to realize the transformation sought in the TF2020 plan.

Segment-by-segment Results (Industrial Automation and Control, Test and Measurement, Aviation and Others) in Fiscal Year 2019

<Industrial Automation and Control Business>

In fiscal year 2019, orders in this segment decreased ¥7.7 billion year on year, to ¥385.9 billion. This can be attributed to major project orders in the previous fiscal year, forex swings, and the COVID-19 pandemic. Thanks to

steady performance in a business that focuses on solutions and operations/maintenance, net sales increased ¥5.8 billion year on year and totaled ¥370.5 billion, and operating income rose ¥0.2 billion and totaled ¥34.2 billion, despite forex fluctuations and the COVID-19 pandemic.

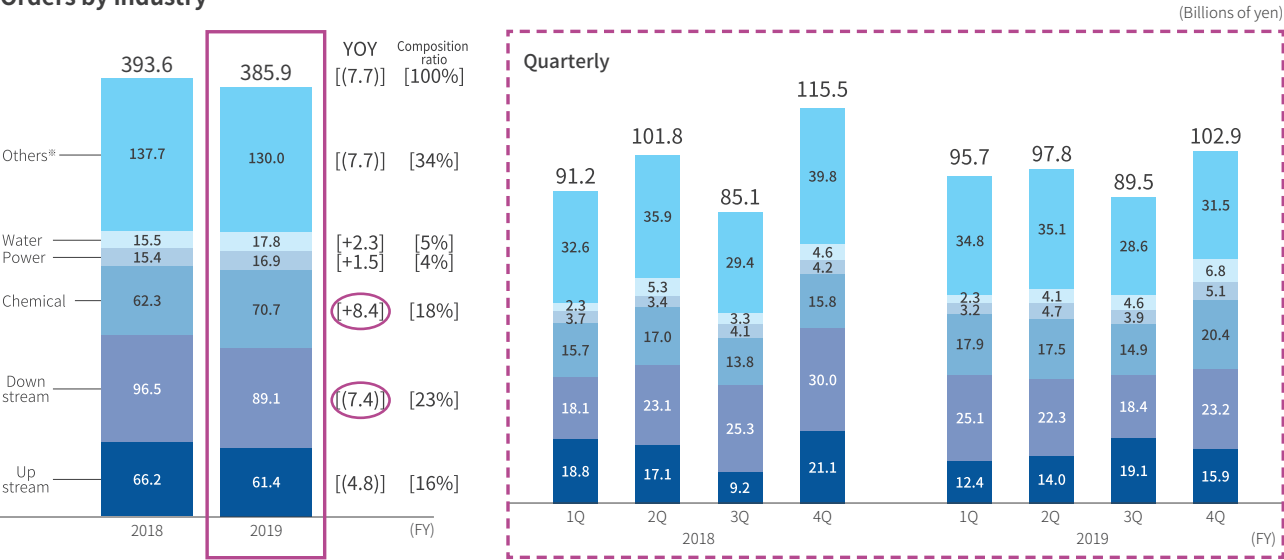
| | Orders | FY2018 (A) | FY2019 (B) | YOY (B) - (A) |
|--------------------------------|-------------------------------|------------|------------|---------------|
| Japan | | 111.4 | 115.4 | (4.0) |
| Asia | | 124.5 | 122.7 | (1.8) |
| | [Southeast Asia and Far East] | [64.3] | [62.8] | [(1.5)] |
| | [China] | [42.6] | [42.3] | [(0.3)] |
| | [India] | [17.6] | [17.6] | [0] |
| Europe/CIS | | 53.2 | 49.7 | (3.5) |
| Middle East/Africa | | 56.7 | 56.8 | 0.1 |
| North America | | 38.2 | 32.2 | (6.0) |
| South and Central America | | 9.6 | 9.1 | (0.5) |
| Subtotal Outside Japan | | 282.2 | 270.5 | (11.7) |
| Total | | 393.6 | 385.9 | (7.7) |
| Exchange rate to 1 U.S. dollar | | 111.07 yen | 108.96 yen | (2.11) yen |

| | Net sales | FY2018 (A) | FY2019 (B) | YOY (B) - (A) |
|--------------------------------|-------------------------------|------------|------------|---------------|
| Japan | | 109.4 | 109.8 | 0.4 |
| Asia | | 120.3 | 118.4 | (1.9) |
| | [Southeast Asia and Far East] | [67.3] | [61.9] | [(5.4)] |
| | [China] | [40.5] | [42.5] | (2.0) |
| | [India] | [12.5] | [14.0] | (1.5) |
| Europe/CIS | | 49.5 | 50.0 | 0.5 |
| Middle East/Africa | | 49.0 | 54.1 | (5.1) |
| North America | | 28.5 | 29.4 | 0.9 |
| South and Central America | | 8.1 | 8.8 | 0.7 |
| Subtotal Outside Japan | | 255.4 | 260.7 | 5.3 |
| Total | | 364.8 | 370.5 | 5.8 |
| Exchange rate to 1 U.S. dollar | | 111.07 yen | 108.96 yen | (2.11) yen |

Message from the Head of the Corporate Administration Headquarters

A regional breakdown for fiscal year 2019 shows that, while orders increased in Japan, they decreased in Europe/ CIS and North America as the result of the receipt of major project orders the previous year and forex swings. Net sales increased in China, India, and the Middle East, and these results were influenced by forex changes.

Orders by industry



* "Other" includes the pharmaceutical, food, electrical & electronic, iron & steel, and pulp & paper industries. The FY2018 results were revised based on a reclassification of industries.

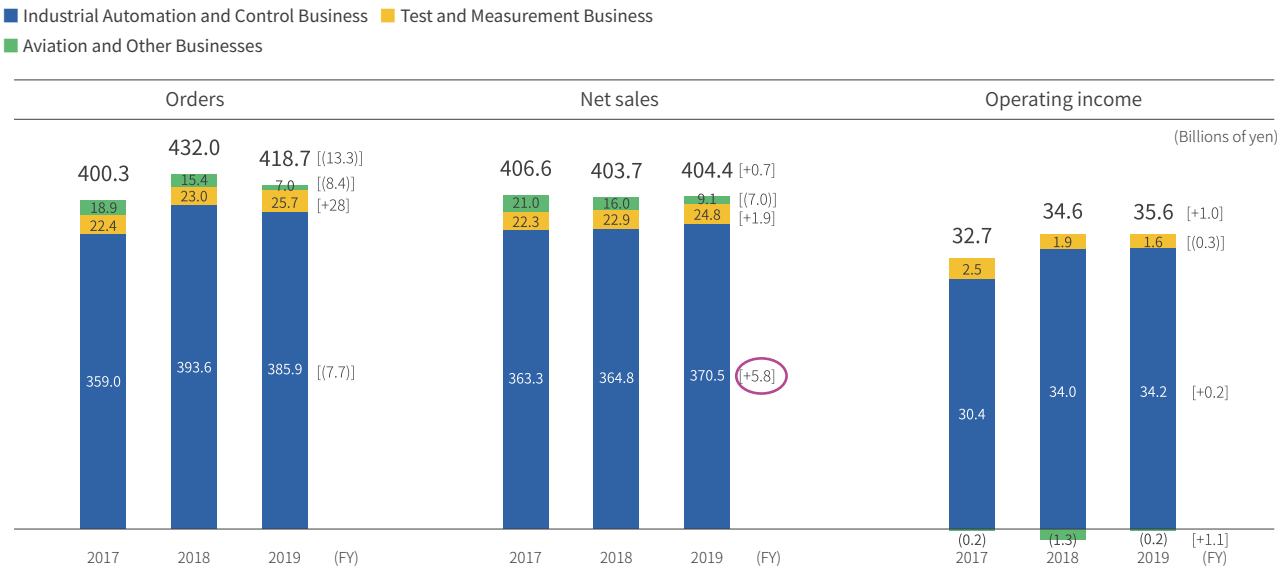
<Test and Measurement Business>

Net sales in this segment showed firm performance in fiscal year 2019, rising ¥1.9 billion year on year to ¥24.8 billion; however operating income dropped ¥0.3 billion year on year to ¥1.6 billion. This was primarily due to the effects of up-front investments in the life innovation business.

<Aviation and Other Businesses>

Net sales in this segment decreased ¥7 billion year on year, to ¥9.1 billion, due to a subsidiary transfer. Despite reduced sales, the operating loss declined ¥1.1 billion year on year, to ¥0.3 billion, due to factors such as an improvement in the gross profit margin.

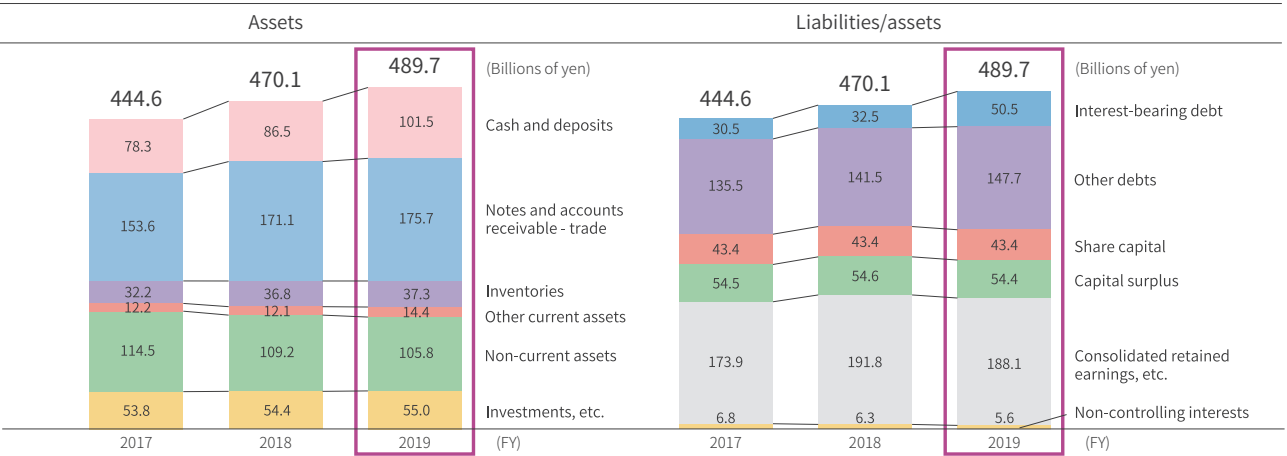
Segment-by-segment trends for orders, net sales, and operating income



Balance Sheet

Total assets at the end of fiscal year 2019 increased ¥19.6 billion year on year, to ¥489.7 billion, which is explained as follows. While a goodwill impairment loss was recorded, cash and deposits increased due to the issuance of commercial paper to prepare for unexpected needs for funds stemming from the impact of COVID-19, and right-of-use assets increased as a result of the application of the IFRS 16 accounting policy on leases. From the end of fiscal year 2018, total liabilities rose ¥24.2 billion and totaled ¥198.2 billion due to the aforementioned issuance of

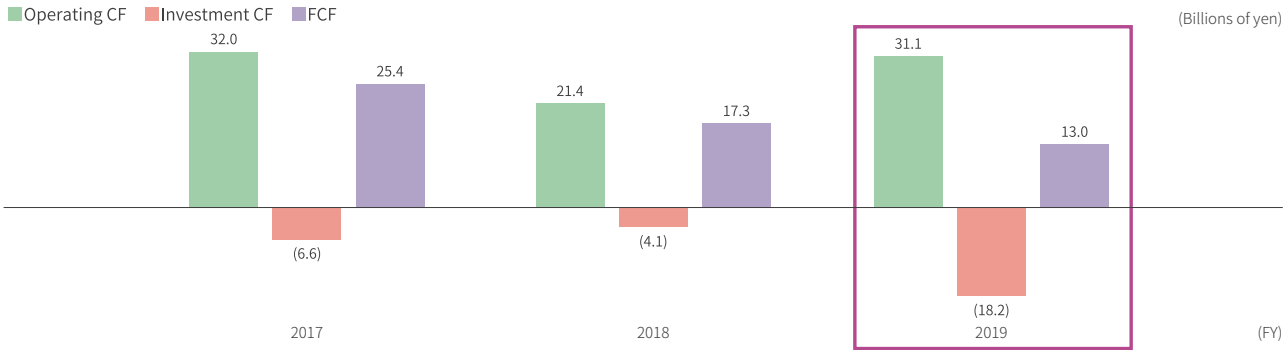
commercial paper and the increase in lease obligations arising from the accounting policy change. Net assets declined ¥4.7 billion from the end of the previous consolidated fiscal year and totaled ¥291.5 billion due to dividends paid and a decrease in the foreign currency translation adjustment, among other factors, while profit attributable to owners of parent was recorded. As a result, the shareholders' equity ratio fell 3.3 percentage points from the end of the previous fiscal year to 58.4%.



Cash Flow

The balance of cash and cash equivalents at the end of fiscal year 2019 increased ¥14 billion year on year to ¥99.7 billion. Cash flow from operating activities in fiscal year 2019 recovered to a normal level; there was a net inflow of ¥31.1 billion, up ¥9.7 billion from fiscal year 2018, when cash flow was down because of the stoppage of liquidation. Regarding cash flow from investing activities in fiscal year 2019, there was a net outflow of ¥18.2 billion (up ¥14.1 billion year on year) mainly due to the purchase of

property, plant and equipment. The cash flow for the past two years include the impact of the sale of idle assets and a gain on the sale of subsidiaries' shares. Regarding cash flow from financing activities in fiscal year 2019, there was a net inflow of ¥4.6 billion (compared to a net outflow of ¥7 billion in fiscal year 2018) due mainly to repayments of long-term debt and the payment of dividends, and as a result of the issuance of commercial paper.



Under the TF2020 mid-term business plan, we aim for organic free cash flow to total over ¥85 billion (three-year cumulative total) as the result of profit growth and capital efficiency improvement. While prioritizing the appropriation of the generated cash to strategic investments for M&A ,

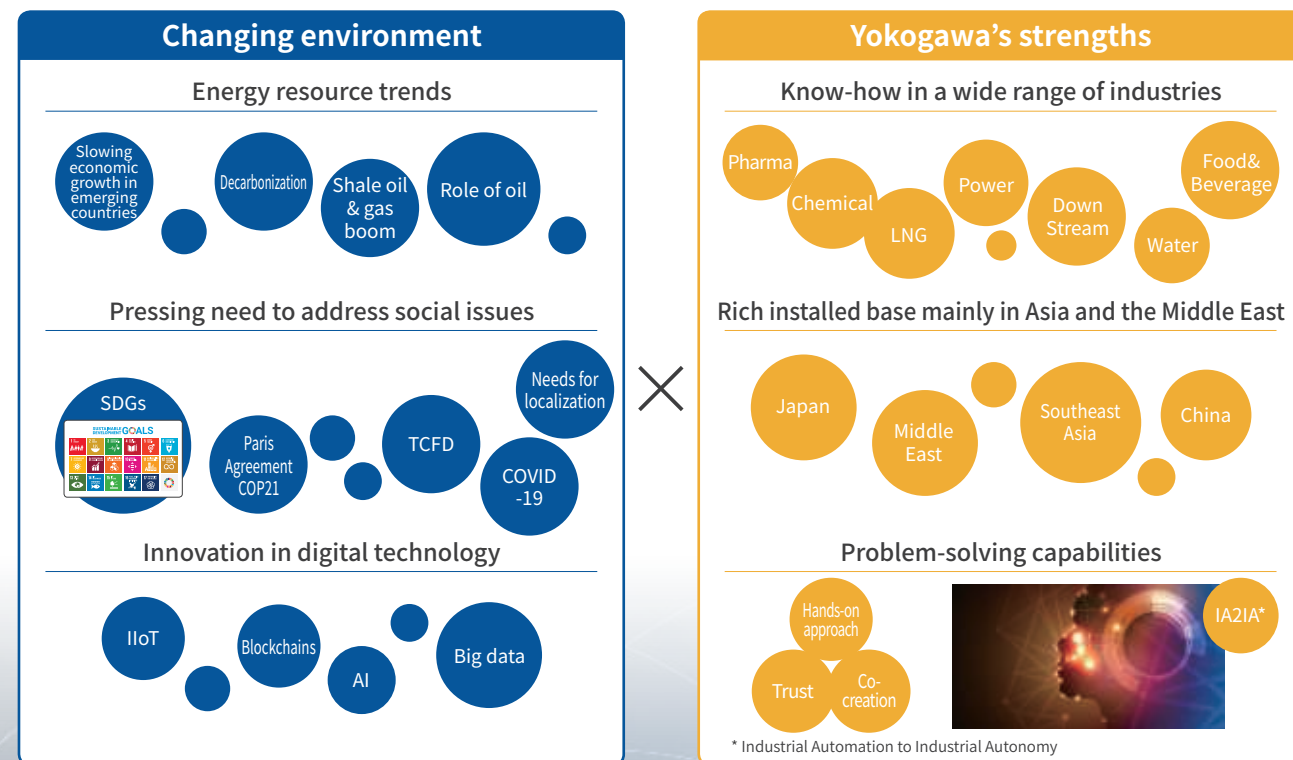
alliance deals, and the like with the aim of maximizing our corporate value in the medium- to long-term, we will also proactively seek to improve return to shareholders in the form of increased dividend payout.

See Capital Policy and Financial Strategy on p. 45 for details.

Opportunities and Risks

Yokogawa is taking on the challenge of transforming itself with the goal of establishing businesses dedicated to realizing a sustainable society based on the TF2020 mid-term business plan. Operating in such an increasingly complex business environment, Yokogawa understands the importance of identifying and accurately evaluating the opportunities and risks that affect sustainability and growth. We also deem it necessary for the Group as a whole to tackle the impact of the spread of the COVID-19 outbreak by sorting out opportunities and risks.

Opportunities

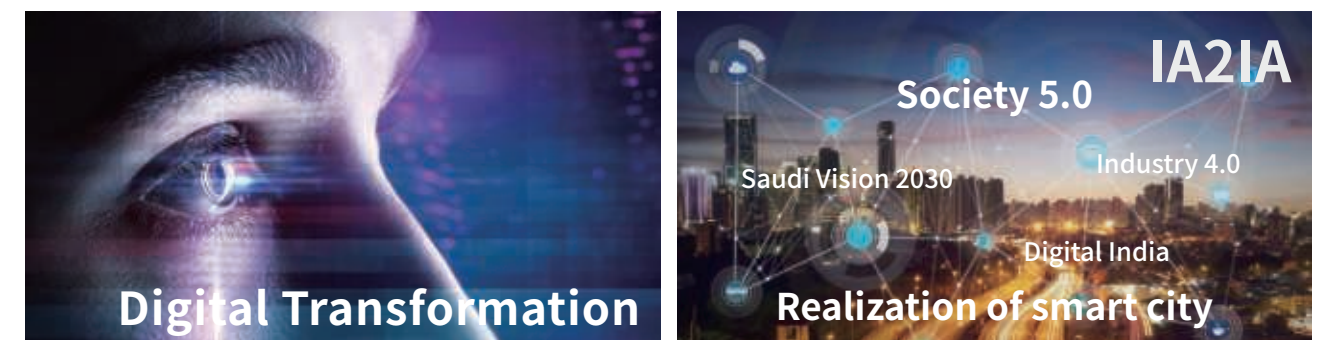


Most recently, a wave of digital transformation driven by technologies such as artificial intelligence (AI) and big data has swept across the industrial and business landscape, leading to a growing interest among customers in the adoption of new digital technologies that will improve productivity. These trends, combined with the shift from oil to other energy sources and the pressing need for solutions to environmental, social, and other issues such as those addressed in the United Nations' Sustainable Development Goals (SDGs) and by the Financial Stability Board's (FSB) Task Force on Climate-related Financial Disclosures (TCFD present the Group a wider range of opportunities to exercise its long-standing problem-solving

capabilities and utilize its decarbonization technologies. Meanwhile, starting at the beginning of the fourth quarter of fiscal year 2019, the COVID-19 pandemic has had a major impact on global affairs and caused great economic uncertainty. Since it is unclear when the pandemic will end, we recognize the risk that this could have an increased impact on the Yokogawa Group's business performance. At the same time, we see new business opportunities for the Group to exercise its strengths in response to the rising need by society and industry for solutions that enhance safety, security, and productivity; contribute to overall optimization; and facilitate the transformation from industrial automation to industrial autonomy.

Response to Social Needs in the Post-COVID-19 era

Expanding demand by society and industries for solutions that enhance safety, security, productivity, efficiency, remotization, and autonomy



COVID-19's acceleration of change (increase in opportunities) ▶ Leading the world in remotization and autonomy (IA2IA*) solutions.

- Increase in percentage of engineering performed remotely (Digital transformation → Enhance efficiency)
- Increase in remote maintenance contracts with customers (Digital transformation → Expand OPEX)
- Changing societal needs → IA2IA: Industrial autonomy → Opportunities for next growth

* Industrial Automation to Industrial Autonomy See Industrial Automation and Control Business on p.56 for details.

Why Yokogawa can contribute (strengths)

- 1 We have core competencies in measurement, control, and information technologies that have a direct connection to **addressing social issues (ESG, SDGs)**
- 2 We have continually transformed our **business over the past 100+ years**: it's in our corporate **culture** and our **DNA**.
- 3 We have established **strong relationships based on trust** with customers and other stakeholders (as evidenced by installed base, OPEX business, maintenance contracts, order backlog, etc.) (e.g. installation base, OPEX, maintenance contracts, outstanding orders)

We are a resilient company with the power to withstand COVID-19, and our businesses are centered on areas that will grow in the post-COVID-19 world. Taking changes in social needs as new opportunities for growth, We will utilize digital technologies to steadily take the lead the

world in remotization and autonomy solutions, that is, the world in IA2IA. Moving beyond the traditional role of an automation supplier to become a trusted partner, We are set on building a sustainable society and creating new opportunities for growth.

Risks

Described below are matters related to the Group’s business that are considered to be main sources of risk and that could have a significant effect on investors’ decision-making. Should these risks materialize, they could impact the Group’s business activities as a whole, possibly affecting its earnings performance and financial status.

Recognizing the possibility that such risks may arise, the Group will work to avoid these risks and take appropriate measures should they occur.

See p. 92 for details

| Details of risks | |
|---|--|
| Risks relating to business deployment | Risks relating to management in general |
| <div><div>■ Related to business environment changes</div><div><ul style="list-style-type: none">● Political or economic factors in each country● Impact of taxation and trade restrictions● Differences in commercial practices outside Japan● Natural disasters (earthquakes, fires, floods/tsunami, etc.)● Social turmoil stemming from wars, riots, terrorism, infectious diseases, strikes, and other factors● Cyberattacks against Company products, services and internal infrastructure● Incomplete understanding of regulations, sanctions, patents, etc., in countries where we operate, including for environmental protection</div><div>* COVID-19</div></div> | <div><div>■ Related to recruitment and training of human resources</div><div><ul style="list-style-type: none">● Unable to secure required human resources● Unable to complete training as planned</div></div> <div><div>■ Related to human rights</div><div><ul style="list-style-type: none">● Compensation liability imposed● Decline in corporate value</div><div>* Initiatives for human rights https://www.yokogawa.com/about/sustainability/humanrights/</div></div> <div><div>■ Related to intellectual property rights</div><div><ul style="list-style-type: none">● Unable to use important technology● Compensation liability imposed</div></div> <div><div>■ Related to information security</div><div><ul style="list-style-type: none">● Compensation liability imposed● Decline in corporate value</div></div> |
| Risks relating to finance, others | |
| <div><div>■ Related to markets/competitive environment</div><div><ol style="list-style-type: none">① Cost competitiveness② Establishment of competitive advantages by use of digital technologies③ Transformation of business model to match market needs<ul style="list-style-type: none">● Loss of business opportunities④ Market environment changes through climate change initiatives<ul style="list-style-type: none">● Loss of business opportunities, decline in corporate value</div></div> <div><div>■ Related to strategic investment</div><div><ul style="list-style-type: none">● Assumed results not achieved due to unexpected environmental change● Assumed results not achieved due to failure in quick business start-up after investment</div></div> <div><div>■ Related to R&D</div><div><ul style="list-style-type: none">● Non-conformance with market needs and targets● Conform to requirements but no innovative technology created, Assumed results not achieved● Allow other companies to take a lead</div></div> <div><div>■ Related to product quality and supply</div><div><ul style="list-style-type: none">● Defects inherent in products or services● Loss arising from defect● Product supply delayed, halted</div></div> <div><div>■ Related to project management</div><div><ul style="list-style-type: none">● Unexpected cost arises● Compensation liability imposed due to delayed delivery, etc.</div></div> | <div><div>■ Related to foreign exchange/interest fluctuations, stock price swings</div><div><ul style="list-style-type: none">● Rapid/sharp foreign exchange swings● Changes in interest earnings, impact on asset value by interest swings● Stock price fluctuations</div></div> <div><div>■ Related to depreciation of owned assets</div><div><ul style="list-style-type: none">● Decline in asset value stemming from market price falls, profitability drops, etc.</div></div> |
| <div><div>* Risks exposed currently <COVID-19></div><div>The spread of COVID-19 has brought severe restrictions on economic activity and attendant decreases in energy and resource demand, along with falling prices. If this situation becomes protracted, customers will be much less willing to spend on capital expenditures and a decline of capital expenditure projects is expected, and as a result, price competition with our competitors is likely to further intensify. We will clearly prioritize what we should do in the strategy of the entire Group and promptly implement action plans.</div></div> | |

Initiatives to address risks

Risks relating to business deployment

- As for risks related to changes in the external environment, we are striving to prevent, avoid, and reduce their impact through collection of information within the Group, contracts with external parties, etc.
- Regarding risks related to market and competitive environments, we are working to strengthen cost competitiveness for products/services required by markets and satisfy cost reduction requests. We are also endeavoring to realize new value creation through digital transformation in a broad array of areas, mainly among business partners, not to speak of our own company, in order to secure competitive advantages. Moreover, we are pushing ahead with transformation of business models by, for example, seeking to establish a results-based business and a recurring business that emphasizes the offering of services. With regard to energy, initiatives to address environmental changes such as a shift in energy use from a long-term perspective are under discussion, and we are working to respond to such changes in the market environment.
- As for risks related to strategic investment, we are working to reform our businesses, mainly in existing operations, promote transformation to new businesses/business models, and make strategic growth investment in digital transformation (DX). Furthermore, we are striving to steadily implement processes covering from project discovery to investment, improve evaluation/verification accuracy, and swiftly launch businesses after investment.
- In regard to risks related to research and development, we are continuously driving forward with the development of new technologies, positioning basic research on measurement, control and information, and the development of advanced technologies and digital technologies as our topmost management priorities. We are strengthening initiatives to adapt to changes in international codes and standards, and for realization of a sustainable society as represented by the SDGs. Furthermore, we are continuing investment in R&D for product technologies and service innovation to maintain competitiveness while seeking to understand market trends of product and service areas having growth potential.
- Concerning risks related to product quality and supply, we are accumulating technology and know-how while keeping a strict quality management system in place. We are also endeavoring to achieve stable procurement by routinely collecting information on market trends of main electronic components, etc., as well as ensure thorough management of supplier information, including their quality and delivery time, in an effort to diversify our supply sources and avoid excessive concentration and dependence on particular suppliers.
- As to risks related to project management, we are striving to prevent the occurrence of unprofitable projects through such efforts as profit estimation in the process leading up to the receipt of orders, improvement in the accuracy of profitability management until delivery time, and thorough control on production and quality.

Risks relating to management in general

- As regards risks related to recruitment and training of human resources, we make it an established practice to globally employ those having solution-proposing capabilities, having the capabilities of project management and engineering, and having technology and knowledge regarding digital technology and new businesses, and to educate and train those employed.
- As for human rights-related risks, we have a policy in place for respecting human rights and have expressed our support for the U.N. Global Compact, among other measures. We have also set forth guidelines for human rights initiatives in supply chains, undertaking activities for respecting human rights in support of internationally required human rights.
- Concerning risks related to intellectual property rights, we exhaust efforts to protect such rights in the process of developing our products and services, and thoroughly practice rights management to prevent violation of other companies’ rights.
- With regard to information-security-related risks, we are trying to improve our information management system as well as providing education on the subject.

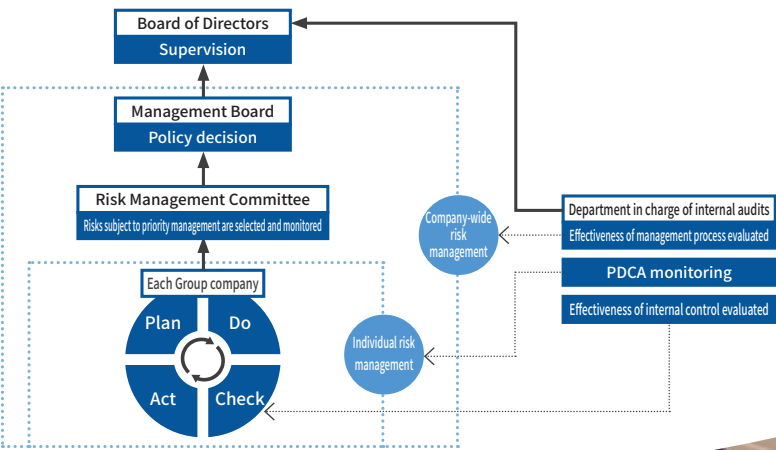
Risks related to finance, others

- In connection with risks involved in foreign exchange, interest rate, and stock price fluctuations, we take such measures as forex contracts to address foreign currency swings.

System to identify and manage risks

In order to realize effective risk management in the Group, we have established a Risk Management Committee chaired by the president and CEO, who is responsible for supervising all matters in relation to the risk management. The department in charge of internal audits evaluates the effectiveness of the Group’s risk management process and reports important findings to the Board of Directors and the audit & supervisory board members twice a year.

We define uncertainties that may affect the Group’s corporate value, including the external environment, strategies, product quality, the internal environment, safety/health, labor, crisis management, and corporate ethics, as risks and manage them. Each Group company singles out its risks, response measures, etc. every year while the Risk Management Committee selects risks subject to priority management, and regularly confirms progress in risk management activities. The risks are evaluated and updated once a year, and are reflected in the next selection of risks to be managed on a priority basis.



Outline of Strategy
by Business

Business Outline

Industrial
Automation and
Control Business

Yokogawa was the world's first company to develop a distributed process control system for the monitoring and control of various types of plant facilities, thereby contributing to the development of a wide range of industries including oil, gas, chemicals, power, iron and steel, pulp and paper, pharmaceuticals, and foods. To help its customers transform their businesses and keep pace with great advances in digital technology and an ever-changing business environment, Yokogawa is aiming to work with its customers as a trusted partner to continually create and add value to their businesses.

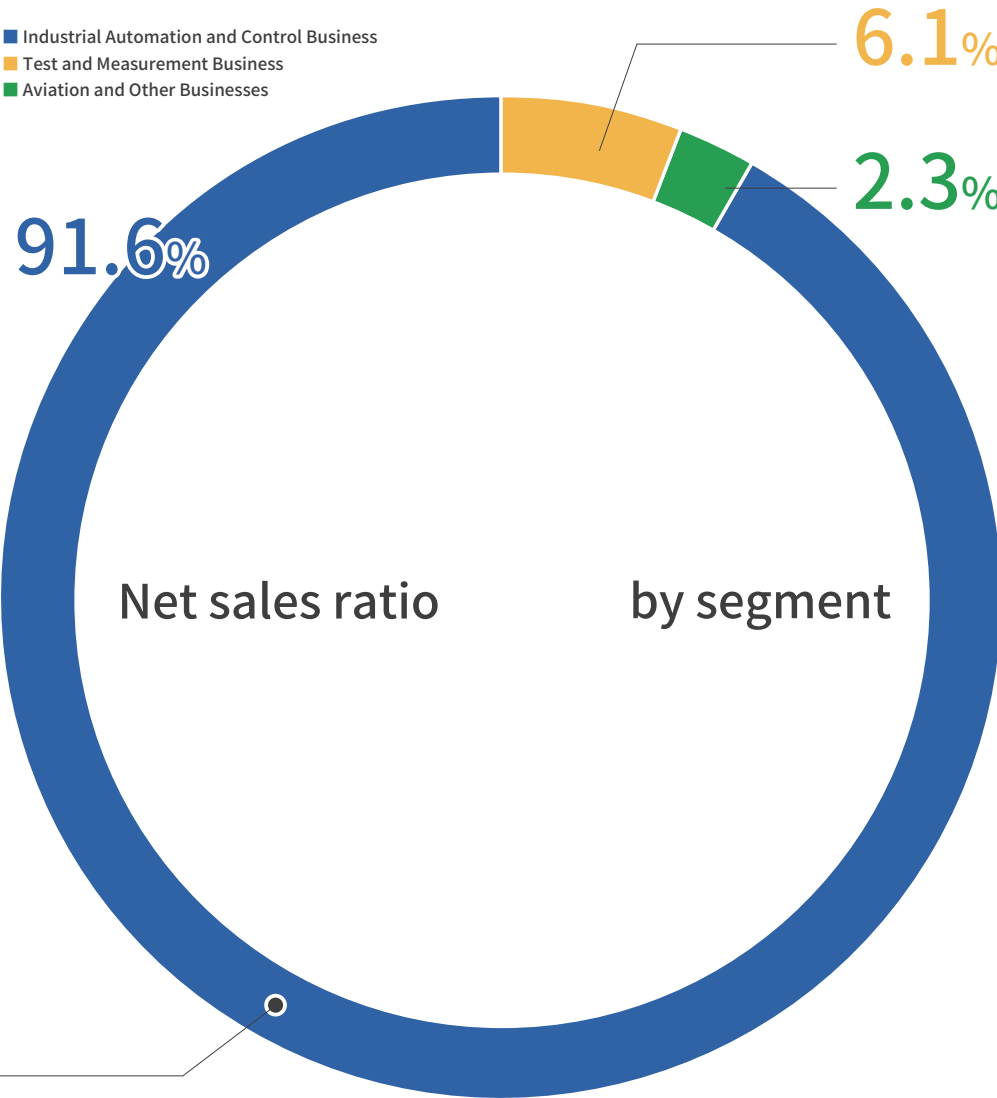
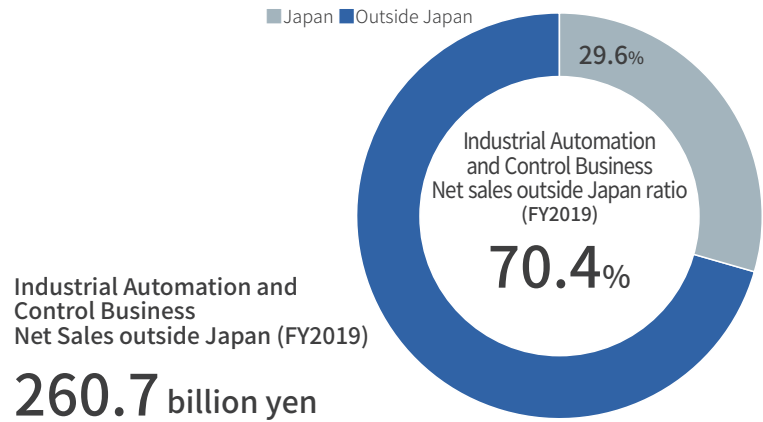
Based on the comprehensive OpreX* brand for our industrial automation and control business, Yokogawa provides management consulting on the optimization of supply chains and distribution of management resources, equipment and systems for safe and efficient operations, and ongoing operational, maintenance, and revamping support services. In so doing, Yokogawa delivers comprehensive solutions that help its customers optimize entire value chains and get the most out of their assets over the entire lifecycle of their plant facilities. And by taking advantage of our operational technologies (OT) for plant control, IT, and deep industry knowledge, Yokogawa is able to spot and visualize issues wherever they may lie hidden in its customers' business operations, and create new value through optimizations that will contribute to their long-term growth.



*OpreX is a comprehensive brand for Yokogawa's industrial automation and control business. Under this new brand may be found all the Yokogawa control products, services, and other solutions that customers are using to digitalize and transform their businesses and drive growth. Yokogawa will continue to contribute to the realization of industrial autonomy through the process of creating value.

See our OpreX website for details. <https://www.yokogawa.com/solutions/products-platforms/oprex/>

OpreX™



Test and
Measurement
Business

In the field of measuring instruments, Yokogawa's business since its earliest days as a company, the Company has made significant contributions to the industry by providing measuring instruments. Focusing on new markets such as electric vehicles, renewable energy, environmental measurement, next-generation communication networks, and plant maintenance that are playing instrumental roles in facilitating a low-carbon society, we provide a wide range of voltage, current, electric power, optical power, pressure, and other basic measuring instruments, as well as instruments used in the measurement of waveforms and optical communications.



Aviation and Other
Businesses

Yokogawa engages in the aircraft instrument business. Yokogawa's flat panel displays (multifunctional liquid displays) feature high visibility and superb environmental resistance, and are widely used in the cockpit of the latest Airbus airlines and other aircraft.



Life Innovation Business

The life innovation business is operated across the borders of the industrial automation and control business and test and measurement business. Beside the existing businesses of life sciences and production solutions being deployed in the pharmaceutical and food industries, the life innovation business is expanding its operations, originating from new technologies and products under development. It is seeking to realize productivity revolutions in the whole value chains of customers, ranging from basic research to logistics and services, thus supporting the safe and affluent lives of people.



| | Orders | | | |
|--|--------|--------|--------|-------------------|
| | FY2017 | FY2018 | FY2019 | FY2020 (forecast) |
| Industrial Automation and Control Business | 359.0 | 393.6 | 385.9 | 321.0 - 348.0 |
| Test and Measurement Business | 22.4 | 23.0 | 25.7 | 24.0 - 26.0 |
| Aviation and Other Businesses | 18.9 | 15.4 | 7.0 | 5.0 - 6.0 |

| Net sales | | | |
|-----------|--------|--------|-------------------|
| FY2017 | FY2018 | FY2019 | FY2020 (forecast) |
| 363.3 | 364.8 | 370.5 | 330.0 - 357.0 |
| 22.3 | 22.9 | 24.8 | 24.0 - 26.0 |
| 21.0 | 16.0 | 9.1 | 6.0 - 7.0 |

| Operating income (loss) | | | |
|-------------------------|-------------|-------------|-------------------|
| FY2017 | FY2018 | FY2019 | FY2020 (forecast) |
| 30.4 [8.4%] | 34.0 [9.3%] | 34.2 [9.2%] | 24.0 - 30.0 |
| 2.5 [11.4%] | 1.9 [8.5%] | 1.6 [6.4%] | 0.0 - 0.5 |
| (0.2) (-) | (1.3) (-) | (0.2) (-) | (1.0) - (0.5) |

As of August 12, 2020 (Billions of yen)

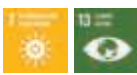
Industrial Automation and Control Business

Yokogawa aims to be a trusted partner that helps its customers respond to change and resolve pressing issues.

Our three sustainability goals and the Sustainable Development Goals (SDGs)


Net-zero Emissions

- Renewable energy
- Low-carbon energy




Well-being

- Improvement of safety
- Environmental maintenance solutions



Circular Economy

- Improvement of water quality
- Advanced solutions
- Productivity consulting to improve productivity
- Long-term stability in plant operations



etc.

See p. 64 for specific goals and reviews.

Long-term business framework

We are focused on and have developed mid- and long-term plans for the development of the **natural resources-, energy-, and materials-related industries, and industries that support people's health and the enrichment of lives.**

TF2020 mid-term business plan

Expansion of OPEX business

- Expand the OPEX business, which improves the profitability of existing facilities by resolving issues and providing operations and maintenance solutions.
- Establish and globally develop a solutions business.

Transformation of business model


- Transform our business model from the simple provision of products and services by also engaging in performance-based and other businesses that generate recurring revenue.

Enhance cost competitiveness

- Establish a mechanism for the continuous conduct of cost-reduction activities, and enhance cost competitiveness by utilizing digital technologies

Strengthening our business in target industries

- Continued focus on the chemical industry outside Japan
- Development of renewable energy markets



Digital transformation

- Establish an architecture that makes full use of digital technologies to improve productivity for both the company and its customers.

See p. 42 for specific goals and reviews.

Ushering in a New Era for Control Technology—Yokogawa's Industrial Autonomy



Plant assets and operations will have learning and adaptive capabilities that allow responses with minimal human interaction, empowering operators to perform higher-level optimization tasks.

Yokogawa believes that the transition from **industrial automation to industrial autonomy (IA2IA)** is already underway. However, this will not happen overnight. **A methodical approach must be taken, moving forward one step at a time.** An absolute essential in this is knowing how to achieve a digital transformation, without which no rapid progress can be made in changing business models and underlying processes.

With its OpreX products, services, and other solutions, and based on its experience and achievement, Yokogawa will **help its customers grow their business and speed up their digital transformation.**

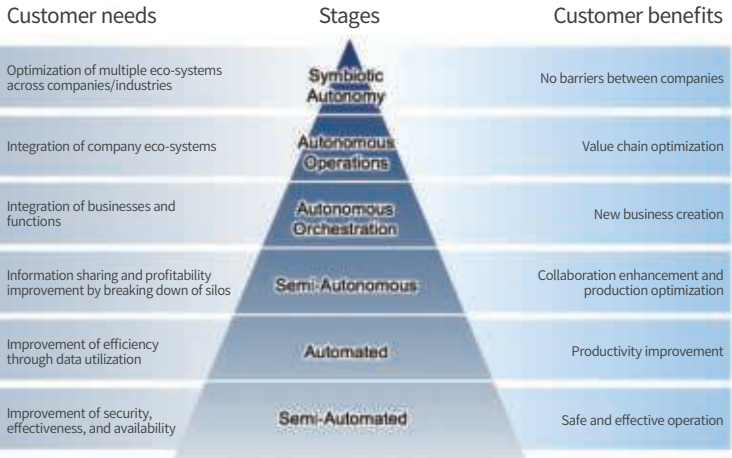
Ushering in a New Era for Control Technology—Yokogawa's Industrial Autonomy (continued)

Automation to autonomy—new technological innovation in industries

Yokogawa expects that **complex autonomous control without human intervention or pre-programming of machines** will be possible in the near future.

The transition from industrial automation to industrial autonomy is underway. A **Yokogawa survey of end users in the process industries** found that around one-third of respondents have plants and other facilities that are already at the mature automation stage. Quite a few responded that they have already reached the semi-autonomous level. In other words, they are already **at the upper level of the automated stage and are moving up to the semi-autonomous stage.**

Note that progress in this varies depending on the industry.



Toward a new relationship between humans and machines


Manufacturers' business processes have grown more complex and increasingly involve the participation of multiple companies. Under such circumstances, our customers **need to carry out reforms in such areas as human resources that will ensure facilities can be kept in optimal condition over their entire lifecycle.**

Manufacturers are making the move to the smart management of production facilities by utilizing IIoT, AI, big data, and other advanced technologies that **reduce risks and optimize operations.** This is **improving work efficiency and optimizing utilization.**


Furthermore, many companies are reviewing the roles that humans and machines play in manufacturing processes. **To minimize the risk of human error and reduce costs,** they are already relying on **unattended operations** with certain **manufacturing processes.** In addition, to speed up the implementation of business strategy, the use of **data-driven decision-making processes** and **digital technology-based information sharing and collaboration** is becoming more common.

Provision of value through digital transformation

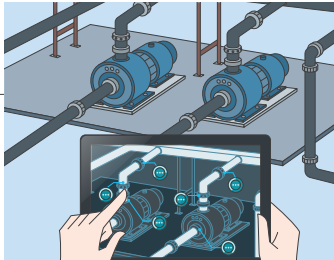
Yokogawa will help its customers realize a digital transformation (DX) that will radically change their business models and processes by making full use of digital technologies and data. Taking this DX approach, Yokogawa will work together with its customers to **analyze issues and present digital solutions** that will **help them become digital enterprises.** In this way, Yokogawa's vision for industries making the transition from industrial automation to industrial autonomy (IA2IA) will be realized.



Equipment inspection and repair in harsh environments become possible. Man-hour reduction with routine maintenance and inspection operations (Utilization of drones and robots)



Visualization from the plant floor to management All data, including a plant's uptime ratio, yield, risk, and deviation from management targets, are integrated and easily monitored.



For the virtualization of validation of scenarios to evaluate expected returns from changes such as the expansion of a production line, thereby helping to optimize equipment planning, design, operation, and maintenance. (Utilization of digital twins, virtual technology)

Collection of data from multiple sensors on production lines and the conduct of AI analysis to make estimates on equipment deterioration, issue warning messages, and identify causes.

AI forecasts demand based on market conditions, sales, meteorological data, etc. and enables dynamic adjustments to production schedules.

Toward the Realization of IA2IA: Messages from Our Leaders

Digital Enterprise Business Headquarters

The Digital Enterprise Business Headquarters provides to customer Yokogawa unique and comprehensive value creation consulting service and total solutions to help customer to cope with business uncertainties and operational challenges, improve their enterprise capital efficiency and profitability, achieve long term sustainable development goals. Our three core competences of 1) KBC / Yokogawa proven value creation consulting methodology, 2) KBC industrial domain knowledge / Yokogawa automation domain knowledge, 3) KBC advanced technologies / Yokogawa advanced technologies & solutions & products, and our Yokogawa unique hybrid digital transformation platform (Y-DXP), ensure us to create the best and sustainable value for customers via co-innovating, digital transformation, and journey to IA2IA. The Digital Enterprise Business Headquarters plays an important role to contribute to Yokogawa IA transformation from a product-out approach based on its products to a customer-oriented approach based on the provision of solutions that add customers' value.



Yu Dai

Director and Senior Vice President

IA Systems and Service Business Headquarters

Ensuring safety and sustainability in our customers' plant operations and doing so at a reasonable cost not only helps them keep growing their businesses, but also helps society by providing stable infrastructure. Cyber security risks and the tightening of regulations are making it ever more difficult to maintain and operate plants, but the IA Systems and Service Business Headquarters is committed to meeting these challenges. And while endeavoring to drive the transition from automation to autonomy, we will seek to present solutions to even more pressing issues that involve optimization of the overall ecosystem.

In fiscal year 2019, we received more orders as investment by the oil majors and oil and gas producing countries returned to normal levels. Despite the prolonged fierce price competition with new plant construction projects and the impact of COVID-19 in the fourth quarter, we managed through DX to improve profitability by remotely executing projects and remotely providing plant maintenance services.

In recent years, we have seen an increase in demand for virtual server integration, virtual redundancy, and other solutions that enhance flexibility and overall system availability. We will make use of such solutions and our expertise in project execution and lifecycle support to ensure the integrity, availability, and versatile handling of all kinds of plant data, and thereby help our customers achieve DX.



Shigeyoshi Uehara

Vice President

IA Products and Service Business Headquarters

Sales and production were sluggish in the last two months of fiscal year 2019 due to the impact of COVID-19. Meanwhile, even in this unfavorable environment, the sale of environmental analysis and other types of equipment remained strong, and there was a significant upswing in demand for equipment and services used in remote monitoring and control. As our customers' business environment continues to rapidly change, we expect to see further growth in demand for SDG-related solutions and technologies that automate the work performed by humans.

In fiscal year 2020, the final year of TF2020, we are focusing on the provision of solutions that will help society adapt to the "new normal" of the COVID-19 pandemic. Moreover, we will meet the growing demand for SDG-related solutions, focusing on products that help our customers solve environmental and safety issues.

We are also adding value and giving our customers tools for dealing with the COVID-19 pandemic by incorporating AI-linked functions in our remote monitoring and control equipment. For example, by installing an AI function on recorders that normally are used just to record collected data, we have made it possible to identify and indicate future trends. We will continue to leverage Yokogawa's unique technologies to realize digitalization solutions that will help to drive the transition from automation to autonomy.



Kenji Hasegawa

Vice President

* The Digital Enterprise Business Headquarters, IA Systems and Service Business Headquarters, IA Products and Service Business Headquarters, Marketing Headquarters, Global Sales and Industrial Marketing Headquarters, and Digital Strategy Headquarters are the six business units that make up Yokogawa's industrial automation and control business. Together, they are working to realize IA2IA.

Marketing Headquarters

"The transition from BC to AD to DE" — In a volatile, uncertain, complex, and ambiguous (VUCA) world, we are seeing a DX megatrend that marks a significant turning point and ushers in a new era that I call the digital era (DE). I consider this change as significant as the shift from BC to AD in the Gregorian calendar. The process automation industry is no exception with this shift toward DX, and this transition has been accelerated by the COVID-19 pandemic. While plant operations need to transform from automated operations to autonomous operations as soon as possible, we propose that this be done in phases. This is particularly important with existing plants, which must follow an appropriate roadmap and not rush to complete autonomy. What we propose as an ideal final state is "symbiotic autonomy." This refers to an ecosystem of autonomous operations that can be realized by society as a whole, in which different industries work together while sharing assets and even waste products. We aim to realize such an environmentally-friendly world that suits the new era.



Tsuyoshi Abe

Senior Vice President

Global Sales and Industrial Marketing Headquarters

As our business environment continues to rapidly change, we find it more important than ever for Yokogawa's industrial automation and control business to maintain close relationships with its customers. We have focused on simply selling products, but to further reinforce these relationships, we need to think about what is needed for our customers to achieve real growth in their businesses, and what Yokogawa needs to accomplish to make that possible. We will take a more customer-oriented approach and pursue value propositions that are unique to our industrial automation and control business.

Fiscal year 2020 is the final year of TF2020. Due to the decline in oil prices caused by COVID-19, customers are more committed to achieving the SDGs, and are eager to make a major transformation. We are currently working with the Marketing Headquarters to help customers implement proposals for autonomous ship operations and a chemical plant smart site concept, and towards these ends are bringing together technologies from Yokogawa's different business headquarters.

Taking advantage of Yokogawa's expertise and our collaboration with different business headquarters, we aim to provide optimal solutions from a customer-oriented perspective and broaden our horizons beyond our current business sectors, and thereby grow our business.



Koji Nakaoka

Vice President

Digital Strategy Headquarters

Under the TF2020 mid-term business plan, and in parallel with internal DX activities that intend to improve employee productivity, the Digital Strategy Headquarters is working in cooperation with the Digital Enterprise Business Headquarters to promote external DX activities that will use digital technologies to create added value for our customers.

In fiscal year 2019, we implemented key measures for global optimization, digitalization/servitization, security enhancement, and IT transformation. Global standardization has enabled us to reduce the number of IT systems and nearly complete the integration of our infrastructure environment. In-house digitization, which includes the shift to data-driven management, global RPA deployment, and digital factory/digital customer experience (CX), has helped us enhance security on an ongoing basis. In addition, we have set up an IT shared service for global optimization.

As the ultimate mission for its industrial automation and control business, Yokogawa aims to achieve the IA2IA transition. To this end, we will further enhance our internal and external DX activities, use them to improve the entire Group's productivity, and create more value for customers, and thereby contribute to Yokogawa's sustainable growth.



Yukihiko Funyu

Vice President

Co-creation of Value through Collaboration with KBC

Aiming to accelerate the expansion of the advanced solution business under the Transformation 2017 mid-term business plan, Yokogawa **acquired KBC Advanced Technologies in fiscal year 2016** and has operated KBC in an integrated manner with Industrial Evolution and Sotetica Visual Mesa.

Under the current Transformation 2020 mid-term business plan, we are starting to see **synergy effects of sharing the customer base, as well as products, services, and solutions** in Yokogawa-KBC joint business activities. One example is a record-large order for a DX integration project that we won together in the Middle East by **differentiating the solution with a KBC consulting service that also covers organization and education**.

Meanwhile, in fiscal year 2019, KBC's consulting business was slower than planned because of sluggish business conditions for oil refineries, a major portion of KBC's customer base, and due to changes in the business environment and market **after the acquisition, including a rapid decline in oil prices and the impact of COVID-19**. As a result, we recorded a **goodwill impairment charge** as an extraordinary loss.

Going forward, we will engage in the development of new solutions by combining the expertise, technologies, and human resources of Yokogawa and KBC, further expand the synergy effect of the integration, and **achieve the digital transformation** we are working on under Transformation 2020, thereby **growing a new problem-solving-style OPEX business**.



Business & domain knowledge



OT / IT solutions & services

Value-Based Approach to Customers

As the result of rapid change in the business environment and technological innovations, **the issues our customers face keep changing and are becoming more complicated**. It becomes increasingly difficult to identify and solve customers' issues with a conventional approach of simply responding to their requests and promoting our products in presentations to their engineers and other personnel.

Yokogawa and KBC are taking a value-based approach in their joint business activities, by first **listening directly to top management**, including CEOs and COOs, then conducting **interviews and workshops with directors, officers, and working with front-line personnel** to identify hidden issues and **propose and demonstrate solutions for improvement**.

Thanks to this value-based approach, an issue of shift work efficiency was identified for a **Taiwanese oil refinery and petrochemical company**. Through a performance assessment of their operations against KBC's best practice model, **we helped their plant achieve operational excellence** by implementing new shift work management and employee training programs.



Andy Howell

Chief Executive Officer, KBC



DX for Realization of IA2IA

Yokogawa's AI business—becoming a solution company

AI consultation using SizCa, an artificial intelligence (AI) solution developed by Yokogawa, has helped customers in various industries detect anomalies and predict potential failures in sensors, equipment, and plants, estimate potential causes of failures, and make quality assessments.

Approximately 50 projects have been delivered to date. We are also developing a cloud version of this solution to offer more efficient services.

As for **the automation and optimization of plant operations**, at the 2019 Innovative Industry Fair for E x E Solutions (IIFES), a major Japan exhibition of cutting edge technologies for automation and measurement, we exhibited a water level control solution for a three-level water tank that relies solely on Moonshot, an AI technology that was



AI edge controllers "eRT3"



Hiroaki Kanokogi

Information
Technology Center
IA Products and
Service Business
Headquarters

developed jointly with the Nara Institute of Science and Technology. This gave visitors an opportunity to learn how AI can be **put to effective use in plants**. Looking forward, we aim to use cloud computing to automate and optimize plant control, and also release products that are targeted at large markets such as semiconductor manufacturing, a field that requires precise and instantaneous control.

Collaboration with ExRobotics B.V.—accelerating the adoption of robotics for inspection of facilities in hazardous environments



In October 2019 ExRobotics B.V. and Yokogawa signed a **licensing agreement** that enables Yokogawa to **sell and deploy** ExRobotics' inspection robot hardware and software platforms **worldwide**.

ExRobotics aims to commercialize robotics

technology for use in the potentially explosive atmospheres found at oil and gas production and processing facilities, which are often in remote locations

with harsh environments. Even on normally unmanned facilities, a human presence is still needed for regular inspection work, so deploying robots can have a significant positive impact on **worker safety** by **minimizing worker field trips**, which in turn **reduces operating costs**.

Yokogawa will leverage its global customer base and sales and service network to introduce already developed ExR-1 robot and future ExRobotics products to **offshore and onshore oil and gas production facilities** where **inspections by humans should be minimized**, as well as **large refineries and chemical plants**.

Strategic alliance agreement with Saudi Basic Industries Corporation (SABIC), a giant in the global chemical industry — creating new value through co-innovation

In December 2019, Yokogawa entered into a **strategic alliance framework agreement to accelerate collaboration** with Saudi Basic Industries Corporation (SABIC*). The agreement includes selection of Yokogawa as a **preferred supplier of control systems**.

Under this alliance agreement, Yokogawa will promote **localization** in Saudi Arabia, and **our integrated control systems and safety instrumented systems will be preferentially selected** for plants operated by SABIC in the Middle East and Asia-Pacific regions. Additionally, Yokogawa will contribute to the improvement of productivity by collaborating with SABIC on **innovative digitalization technologies**, as well as **energy optimization programs**.

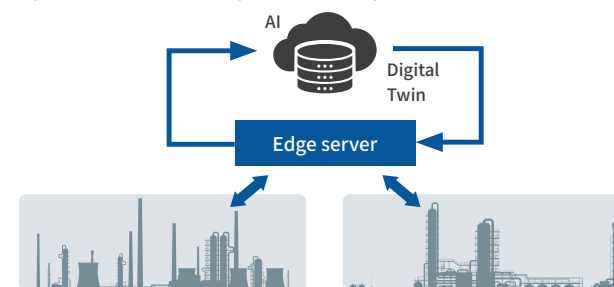
* SABIC is ranked among the world's largest petrochemical manufacturers, based in Riyadh, the capital city of the Kingdom of Saudi Arabia. The company manufactures chemicals, primary products, products such as high-performance plastics, fertilizers and metals at plants around the world.

Edge server—achievement of integrated plant operations and contributing to overall optimization by customers

In recent years, plants have become more sophisticated and complex due to the need to make operations more flexible and profitable, and the need to meet safety, stability, and other basic requirements. For these, purposes optimizing individual equipment within a plant is not enough; smooth and efficient integrated monitoring of operations and overall optimization between plants are needed.

Edge servers convert data obtained from various equipment and devices spread over wide areas in plants into information that is meaningful and usable. In addition, by utilizing advanced information technologies such as cloud computing and digital twins, customers can improve

efficiency and productivity through the overall optimization of their production operations.



Test and Measurement Business

While aiming to expand the scope of our business and widen its geographic coverage, we are exploring ways to integrate measurement and control that will contribute to Yokogawa's sustainable development.

Aviation and Other Businesses

We will meet our customers' high expectations by capitalizing on our proprietary advanced technologies to develop and supply next-generation products that are robust and energy-efficient. In this way, we will strengthen our business and restore profitability to a sound level that enhances our corporate value.

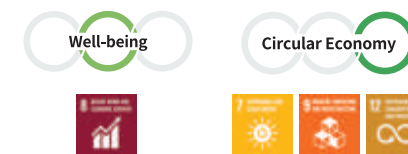


Masaharu Yamazaki

Senior Vice President
Head of Aerospace Products Business Headquarters
President, Yokogawa Test & Measurement Corporation

Test and Measurement Business

Our three sustainability goals and the Sustainable Development Goals (SDGs)



Long-term business framework

We are focused on and have developed mid- and long-term plans for the development of the **natural resources-, energy-, and materials-related industries and industries that support people's health and the enrichment of lives.**

TF2020 mid-term business plan



Earn healthy profits by concentrating on competitive products
Enter new growth markets

In fiscal year 2019, we expanded our coverage of the India and Southeast Asia markets. In India, which has been making active contributions toward the achievement of the SDGs, we have installed many optical time domain reflectometers (OTDR) for optical fiber testing and built calibration facilities that will help to give Internet access to 600 million people in rural villages. As for expanding our business scope, we have added value through the development of technology solutions such as a software tool that supports the assessment of entire systems by relating different kinds of measurement data in chronological order.

In fiscal year 2020, despite the impact of COVID-19, we will focus on a customer-oriented comprehensive solutions approach that enables our customers to swiftly enter emerging markets such as 5G and electric vehicles (EV). For such needs, we will employ digital marketing techniques to accelerate the development of software and other new products.

Examples of Yokogawa "mother tool" measuring instruments – a core business that dates back to the Company's earliest days:



*1 Desk-top type
*2 Based on an FY2019 Yokogawa market survey,
*3 Degree of accuracy

Aviation and Other Businesses

Our three sustainability goals and the Sustainable Development Goals (SDGs)



Long-term business framework

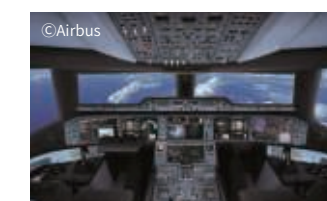
We are focused on and have developed mid- and long-term plans for the development of the **natural resources-, energy-, and materials-related industries and industries that support people's health and the enrichment of lives.**

TF2020 mid-term business plan



Leverage proprietary technologies and our customer base to improve profitability

In fiscal year 2019, the commercial aviation business remained strong, but a slow-down that is largely due to the impact of COVID-19 has occurred in fiscal year 2020. As the aviation industry is expected to expand in the medium- to long-term, we will capitalize on our proprietary advanced technologies to develop and expand the sale of next-generation products that meet exacting customer needs. Further, in our infrastructure business for the aviation industry, which requires product

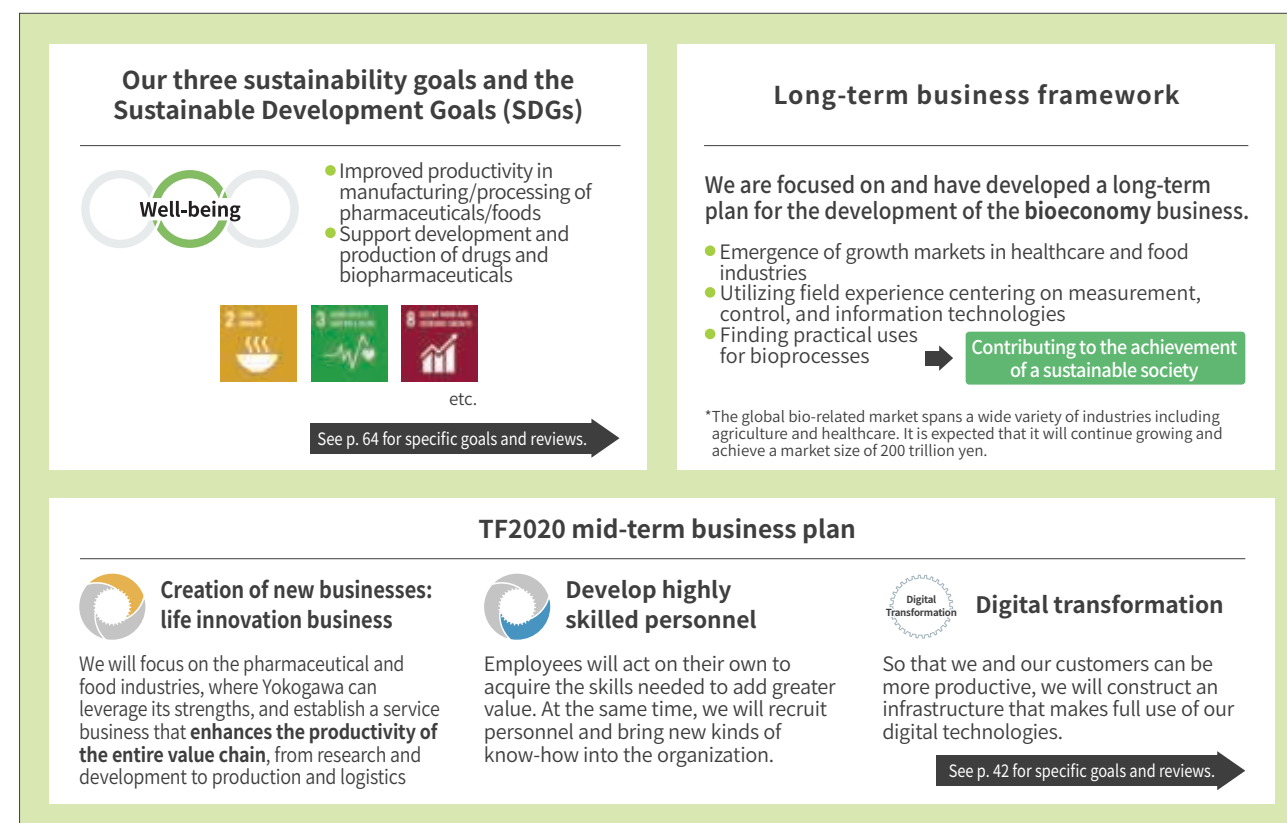


maintenance for long periods of time, we will continue to supply energy-efficient and robust products. And to enhance our corporate value, we will strengthen this business and restore its profitability to a sound level.

Life Innovation Business

Focus on Well-being

With the broad aim of ensuring the well-being that is one of Yokogawa's three sustainability goals, and in accordance with its TF2020 mid-term business plan, Yokogawa launched its life innovation business in fiscal year 2018. The life innovation business cooperates with the industrial automation and control and test and measurement businesses.



With the aim of **contributing to well-being and quality of life for all**, the Life Innovation Business Headquarters is working on the sustainability goals of improving productivity in the manufacturing of pharmaceuticals/foods and supporting the development of drugs and biopharmaceuticals.

As for **our efforts to improve productivity in the manufacturing of pharmaceuticals/foods**, sales had increased 1.4 times by 2018, and 1.6 times by 2019, as compared to 2017. As for **supporting the development of drugs and biopharmaceuticals**, sales had increased 1.7 times by 2018, and 2 times by 2019, also compared to 2017. Targeting the biological research market, Yokogawa released the SU10 Single Cellome Unit in March 2020, and later this year is targeting the release of a bioreactor (lab-reactor) system that will be targeted at biopharmaceutical production.

Aiming to clearly define its future business development plans, vision, and scope, the Life Innovation Business Headquarters has formulated a vision for its business that states: *We will lead the world advancing "Bio Industrial Autonomy", and contribute to the evolution of the society full of smiles.* This vision defines pharmaceuticals, foods, and bio-related products as our business areas. We will further grow our business in these areas by leveraging our strengths and core technologies to measure, visualize, and connect.

For more, see the information on the sustainability meeting.

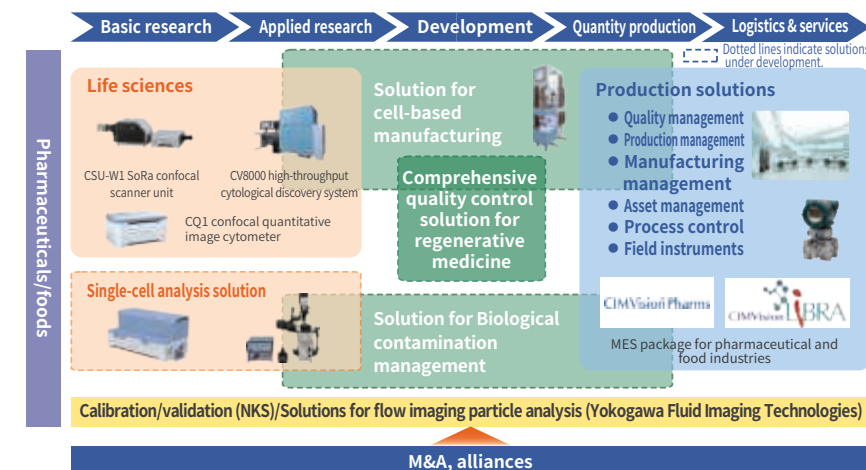
https://www.yokogawa.com/about/ir/reports/sustainability_meeting/



Hiroshi Nakao

Vice President
Head of Life Innovation Business Headquarters

Expand Business Scope Focusing on Pharmaceuticals and Foods



The life innovation business will expand its business based on new technologies and products, such as **solutions for single-cell analysis and cell-based manufacturing**, in addition to its existing portfolio of life sciences and production solutions for the pharmaceutical and food industries. For its customers, it seeks to **radically improve productivity across the entire value chain**, from basic research to logistics and services, thus supporting safety and well-being for all.

Solution for single-cell analysis ▶ Expected orders in target market: Approx. 30 billion yen in 2020 (CAGR 11%)

- We see growing interest in single-cell research as a means to **identify the causes of cancer and understand other diseases, and create effective remedies and treatments**.
- Following the release of the SU10 Single Cellome Unit, we are also engaging in development of a device that uses **confocal scanner technology** to observe cells, obtain position information on targeted cells, and **accurately extract intracellular substances**.

Yokogawa solutions

| Confocal scanner technology | Image analysis technology | Advanced positioning technology |
|------------------------------------|---|--|
| Accurately captures 3D cell images | Analyzes captured images to identify targeted cells and obtain position information | Accurately controls the positioning of the tip of a nanopipette* and automatically extracts intracellular substances |

Development and release of the SU10 Single Cellome Unit for the biological research market—contributing to the creation of a smart cell industry

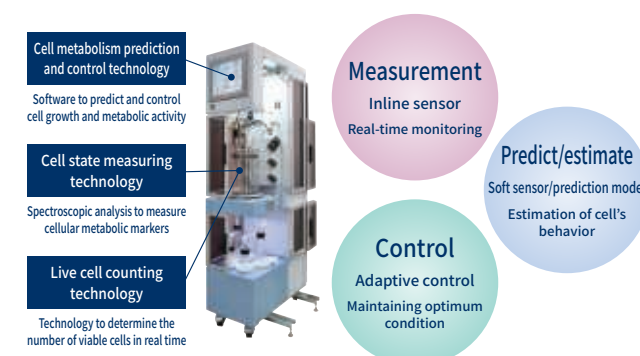
We developed the SU10, which uses a **nanopipette to directly inject foreign substances such as genes and drugs and extract intracellular substances at target locations in individual cells**, and first released it in Japan in March 2020.

- Use of a **minimally invasive nanopipette** in biological research that requires the direct injection of genes and drugs and the extraction of intracellular substances at targeted locations in individual cells
- An industry first**, this solution **automates a series of processes** such as the obtaining of position data and the injection and extraction of materials at targeted locations that until now had to be performed manually by skilled research personnel, thereby **contributing to operational efficiency**.

*A glass tube with a tip diameter from 1 nanometer (nm) to less than 1,000 nm that is used to inject and extract selected amounts of substances. This term may also refer to a pipette whose injection/extraction volume is nanosized (1 nm = one billionth of a meter).



Solution for cell-based manufacturing ▶ Expected orders in bioreactor (lab-reactor) target market: Approx. 20 billion yen in 2020 (CAGR 6%)



Contribution to production of biopharmaceuticals

- In recent years, interest has been growing in the use of the continuous culturing process in biopharmaceutical production.
- We are now developing laboratory-level reactors, and intend to develop advanced measuring and control units for production reactors, develop technologies that will increase production efficiency and ensure quality, and expand our business scope to include **continuous production**. In this way we are helping to improve productivity in the manufacturing of antibody drugs, for which there is a rising demand.

Entry into bioeconomy sector

- In various industries, expectations are rising for the **production of high value-added materials from living organisms (microorganisms and cells)**.
- We will enter this field and **contribute to its development**.

Initiatives for Achieving Sustainability Goals

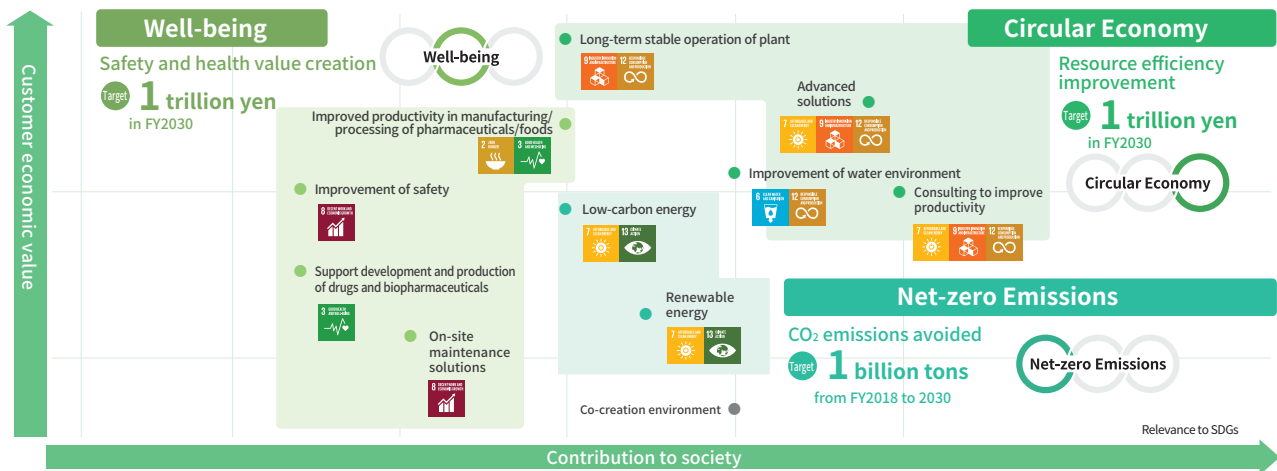
To accomplish its three sustainability goals and contribute to the accomplishment of the SDGs, Yokogawa has been working to achieve concrete medium-term sustainability targets in its three business focus areas.

Based on Yokogawa value creation themes that are aligned with the TF2020 mid-term business plan, we will achieve Group-wide targets by executing a Plan-Do-Check-Action (PDCA) cycle that uses key performance indicators (KPIs) such as number of projects and net sales.



United Nations Sustainable Development Goals (SDGs)
Universal goals for 2030

Business focus areas and value creation themes

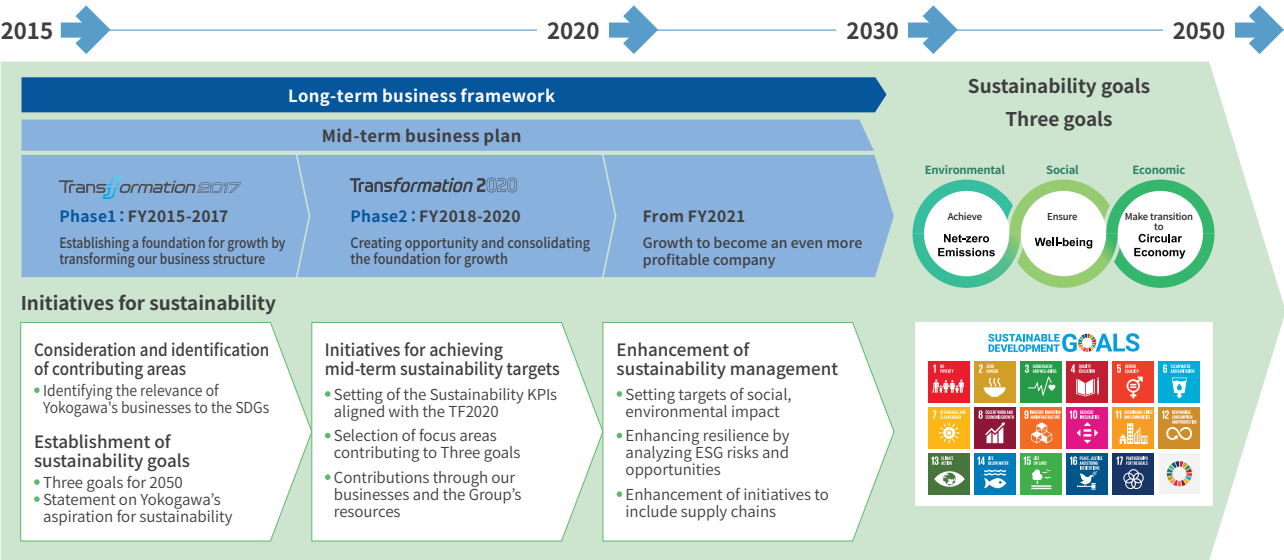


| Vision toward 2050 (Three goals) | | Stopping climate change | Quality life for all | | | | Circulation of resources and efficiency | | |
|--|--|--|---|--|--|--|---|---|--|
| <div>Environmental</div> <div>Social</div> <div>Economic</div> <div>Achieve Net-zero Emissions</div> <div>Ensure Well-being</div> <div>Make transition to Circular Economy</div> | | <div>Net-zero Emissions</div> | <div>Well-being</div> | | | | <div>Circular Economy</div> | | |
| <div>Mid-term targets for 2030</div> | | CO ₂ emissions avoided: 1 billion tons (Cumulative from FY2018 to 2030) | Safety and health value creation: 1 trillion yen (FY2030) | | | | Resource efficiency improvement: 1 trillion yen (FY2030) | | |
| <div>Business focus areas and overview of value creation stories</div> | | Renewable and low-carbon energy Offering of renewable energy and LNG solutions to reduce CO ₂ emissions | Life Innovation and Safety Support people's health and well-being through the provision of life-innovation solutions and the assurance of safe and comfortable workplaces | | | | Energy saving and resources Contribute to sustainability and economic growth through stable and efficient operation and resource regeneration | | |
| <div>Value creation themes</div> | | <div>Renewable energy</div> <div>Low-carbon energy</div> | <div>Improved productivity in manufacturing/processing of pharmaceuticals/foods</div> | <div>Support development of drugs and biopharmaceuticals</div> | <div>Improvement of safety</div> | <div>On-site maintenance solutions</div> | <div>Improvement of water environment</div> | <div>Advanced solutions</div> <div>Consulting to improve productivity</div> | <div>Long-term stable operation of plant</div> |
| <div>KPI</div> | | CO ₂ emissions avoided (cumulative from FY2018) | Customer productivity improvement (compared to FY2017) | Drug discovery systems provided (compared to FY2017) | Safety instrumented systems provided to date | On-site maintenance solutions provided to date | Water environment improvement solutions provided | Customer improvement effect (compared to FY2017) | Maintenance service sales (compared to FY2017) |
| <div>Targets for FY2020</div> | | 60 Mt-CO ₂ | Doubled | 20 times | 3,200 systems | 850 solutions | 190 solutions | Doubled | +30% |
| <div>FY2019 results</div> | | 85.13 Mt-CO ₂ | +60% | Doubled | 2,734 systems | 443 solutions | 223 solutions | +60% | +10% |

Roadmap for Achieving Sustainability Goals

In an effort to meet its three sustainability goals and achieve a sustainable society by 2050, Yokogawa has set medium-term sustainability targets that are aligned with the long-term business framework and the mid-term business plan.

In 2016, we identified areas where we can contribute to the SDGs, and in 2017 announced a statement on our aspirations for sustainability and our goals for achieving a low-carbon and recycling-based society. The TF2020 mid-term business plan, which commenced in 2018, identified sustainability focus areas to be achieved by 2030 and set ambitious targets. Based on this, we selected concrete value creation themes, set targets, and have been working to achieve them. We will also endeavor to take sustainability management to the next level by such means as setting targets for social and environmental impact.



Combating climate change



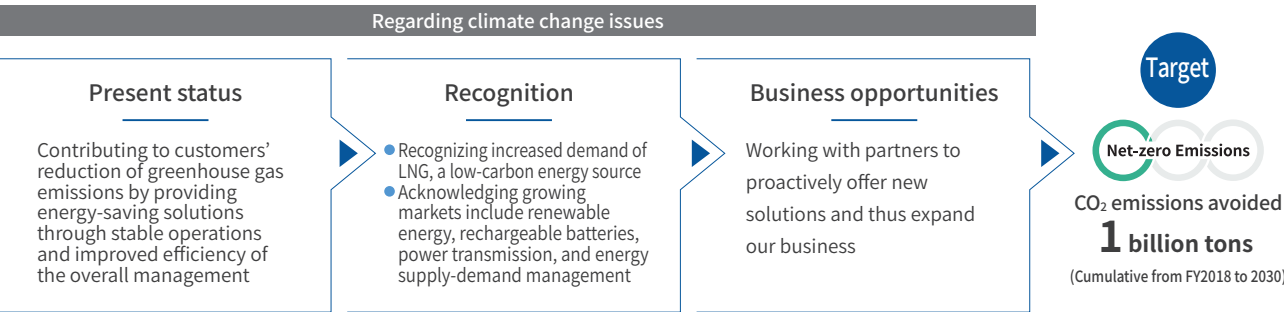
To demonstrate the Group's determination to confront climate issues and prepare itself for the future, Yokogawa expressed its support for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), which was established by the Financial Stability Board (FSB) to promote the disclosure of climate-related financial information. (February 2019)

In light of our support for the TCFD recommendations, we will analyze business risks arising from climate change, evaluate the associated financial impact, and disclose relevant information.

Our initiatives in recent years

- FY2018: Expressed support for the TCFD recommendations
- FY2019: Disclosed climate-related financial information in line with the TCFD recommendations and started to analyze medium- and long-term risks arising from climate change
- FY2020: Evaluate and disclose information on financial impact of climate change on medium- and long-term business plans

Recognition of the Company's current situation and identification of opportunities in responding to climate change issues



Yokogawa Innovation Fair 2019: Focus on SDGs

TOPICS

Every year we hold the Yokogawa Innovation Fair. Organized by the Marketing Headquarters for all Group employees, this event offers opportunities for information exchange and discussion on marketing and technology topics and seeks to spur innovation that will benefit both our customers and society. First held in 1972 to present research results, this event has become a Yokogawa tradition. In line with concrete initiatives to achieve our three sustainability goals and achieve a sustainable society, last year's event had the theme of "Co-creating for a sustainable society." Exhibitors and participants came from around the world to give lectures, take part in panel discussions, and make presentations, and the event drew around 1,800 visitors.

One session on the event program featured a discussion of the relevance between Yokogawa's business activities and the SDGs that was led by an instructor from SDGs Japan. Following a presentation that imparted basic knowledge, the attendees took part in an intense discussion on what kind of contributions they could make in their day-to-day work to tackle a variety of environmental and social issues. Individual break-out sessions were also held for each business headquarters and Group company at which the participants learned about and actively discussed actual examples of how their business units are using their own business activities to contribute toward the SDGs, Yokogawa's sustainability goals, and other future-oriented initiatives.



Panel discussion: "Corporate reform for a sustainable society"



Poster session

Expanded Disclosure of ESG Information and Improved External Evaluation

Colum

In line with the increase in environmental, social and governance (ESG) investing by the capital markets, Yokogawa has expanded its disclosure of non-financial data, including sustainability-related information. Yokogawa now provides more ESG-related information in this Yokogawa Report and in its Sustainability Report, and has revamped its IR website.

We believe such efforts have improved our recent standing in major ESG indices, and that the improvement of the content provided in this report has led to its designation for the third consecutive year as an **excellent integrated report by the domestic asset managers of the Government Pension Investment Fund (GPIF)**. We will keep working to improve our information disclosure.

Yokogawa's inclusion in major ESG indices

| | | Improved/expanded | | | Maintained/upgraded | | | |
|-----------|---------------------|-------------------|------|------|---------------------|------|------|------|
| | | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| MSCI | ESG Ratings | BBB→ | A | → A | AA → | AA → | AA → | AA |
| | ESG Leaders Indexes | — | — | — | — | — | — | — |
| DJSI | Asia Pacific | — | — | — | — | — | — | TBD |
| FTSE4Good | | — | — | — | — | — | — | — |

▲ Revamped IR website (June), enriched contents of the Sustainability Report (October)

▲ Revamped and renamed annual report to "the Yokogawa Report" in commemoration of the Company's 100th anniversary (September), enhanced non-financial content on IR website (December)

▲ Increased non-financial information in annual report (August), enhanced IR website (September)

▲ Yokogawa is now listed on all ESG designated by the GPIF.

Special
Feature:

Roles of Outside Directors and Outside Audit & Supervisory Board Members

Outside Directors

Enhance Yokogawa’s corporate value by enabling the Board of Director’s to work more effectively and improving the quality of its discussions



Noritaka Uji

Outside Director
Chairman of the Board
Outside Director, DAIICHI SANKYO COMPANY, LIMITED
Honorary Chairman, Japan Telework Association
Honorary Chairman, Japan Institute of Information Technology

It is crucial for the Company to respond swiftly and flexibly to changes in its business environment and for its Board of Directors to include people with an external perspective. With the Company’s aim in its corporate governance of separating the execution and supervision of its businesses, I was brought in as an outside director and appointed Chairman of the Board of Directors. I feel both honored and humbled to assume this important position and take on such a great responsibility.

The Board of Directors has been engaged in active discussions on a wide variety of subjects and its effectiveness in the execution of its duties has been evaluated and confirmed. We are currently in the midst of a review of our long-term business framework and are formulating our next mid-term business plan, as part of which we are discussing how to navigate Yokogawa’s transformation and looking ahead to what the post-COVID-19 world will look like.

At Nippon Telegraph and Telephone Corporation and NTT Data Corporation, I was responsible for implementing measures that would allow society and businesses to make better use of IT. In my opinion, digital technology has become more important than ever.

The COVID-19 pandemic has also illuminated the need for remote solutions that connect people. To meet such needs, Yokogawa must work together with its customers to innovate and achieve a digital transformation.

I believe Yokogawa is well positioned to take advantage of its competence in measurement, control, and information technologies, and thereby make a great contribution to society in such fields as environmentally friendly energy, medicine, and healthcare. I believe the potential of the Company is widely acknowledged by society and other companies.

I would like to make a meaningful contribution to Yokogawa’s further development by supervising its management and offering advice.

Thanks to the appropriateness of the Company’s decision-making system and functions, and its ongoing efforts to enhance the effectiveness of the Board of Directors, I am able to smoothly carry out the duties of an outside director and am highly motivated. Lately we have been working on issues pertaining to the mid- to long-term direction of the Company’s business that involve the enhancement of corporate value through reorganization, the improvement of operations, and transformation. I make it a point to carefully assess each issue and state my opinion from a supervisory perspective. Yokogawa is in the final year of its current mid-term business plan and is now developing its next mid-term plan. This comes at a time when COVID-19 is causing unprecedented difficulties and great changes are underway in society and the business environment.

During my career at a general engineering company, I was engaged in energy- and environment-related businesses and involved in the construction of plants for the food, pharmaceutical, automobile, and other industries, both at home and abroad. Lately, I have sensed that a rapid change is underway in what society values, and how such value is provided. Staying abreast of such trends and using the insight that I have cultivated over the course of my career, I will work hard to carry out the duties of this position.



Nobuo Seki

Outside Director
Outside Director, KAMEDA SEIKA CO., LTD.



Shiro Sugata

Outside Director
Special Corporate Advisor, USHIO INC.
Outside Director, JSR Corporation
Outside Director, YAMATO HOLDINGS CO., LTD.

Over the last decade or so, there have been a significant shift in the role of outside directors in Japanese companies. Due to increased pressure from U.S. and European shareholders, it has been held that outside directors should put shareholders’ interests above everyone else’s. It has also been said that the role of a company’s board of directors and its outside members is to oversee its managers and executives. However, these views are no longer current, and neither are they ideal. I believe that outside directors should act as a control element and as a catalyst for the management and executive teams, and not just play a supervisory role. They should take all stakeholders into account, focusing not just on shareholders, but also on customers, employees, and people in the local community.

As has always been the case, technology is advancing more rapidly than ever. In addition, a wide range of factors including environmental considerations now need to be taken into account when making management decisions. Only if the management and executive sides have a broad perspective, and only if bodies such as a company’s board of directors are made up of people with a diverse range of backgrounds and experience, will they be able to engage in an in-depth discussion of issues, exercise good judgement, and be effective. I believe this is why outside directors are very important and would personally like to contribute in such aspects as M&A deals and new business development.

The Company is now in the process of reviewing its long-term business framework and developing the next mid-term business plan. These are key plans that define the vision and future direction of Yokogawa, so we are engaged in in-depth discussions mainly at the Board of Directors level. At Toray Industries, I was engaged in the planning and management of new businesses mainly in the financial and accounting areas, and was also involved in CSR, IR, and so on. I was also deeply involved in the development of business strategy and management plans. Based on such experience, one of my important roles at the Company is to offer advice and raise issues in discussions on both financial and non-financial topics.

In this fiscal year, the COVID-19 pandemic is expected to have a significant impact on the Company’s performance. In times of emergency like this, it is necessary in the short term to reduce costs as much as possible and promptly build a profit structure that is commensurate with demand. Meanwhile, a mid- to long-term strategy that sows and cultivates seeds for future businesses is also necessary to sustain growth. While taking short-term measures, the Company also needs to prioritize and invest in R&D and new businesses. In addition, it is important to allocate management resources to focus areas by restructuring underperforming businesses, even if it results in one-off losses. What is needed now is well-balanced management with both short-term and mid- to long-term perspectives. I believe it is my essential responsibility to provide supervision and advice to the management in making such critical decisions.



Akira Uchida

Outside Director
Outside Director, J. FRONT RETAILING Co., Ltd.
Auditor, Suga Weathering Technology Foundation

Special
Feature:

Roles of Outside Directors and Outside Audit & Supervisory Board Members

■ Outside Audit & Supervisory Board Members

Building trust and enhancing our corporate value by independently and objectively auditing directors’ performance of their duties



Yasuko Takayama

Outside Audit & Supervisory Board Member
Outside Director, The Chiba Bank, Ltd.
Outside Audit & Supervisory Board Member, Mitsubishi Corporation
Outside Director, Cosmo Energy Holdings Co., Ltd.

As mandated by shareholders and investors, an audit & supervisory board member is responsible for carrying out fair and independent audits of the directors’ execution of their duties that will meet the expectations of stakeholders and society and thus help establish and maintain a good corporate governance system within the company.

In my career, I long held responsibility for functions such as corporate communications, public relations, corporate branding strategy, risk management, compliance, and sustainability. I have subsequently been appointed to fulltime audit & supervisory board positions and have also served as an outside director at multiple listed companies. Based on such experience, I strongly feel that a company is part of and is nourished by society, so a relationship of trust with all stakeholders is extremely important.

To ensure that Yokogawa continues to be trusted by society and meets all expectations, I, as an audit & supervisory board member, will endeavor to fulfill my responsibilities by being accurate in my collection and comprehension of information. While being sensitive to risks, I will seek to carry out all the duties of the outside director role. Through such activities, I will prevent corporate value from being undermined and help the Group to grow sustainably.

I think the role of an outside director is to co-create a foundation that will ensure that an organization continues to be an “excellent company.” What is an excellent company? It is a company that not only has a high price to earnings ratio, but also a foundation that is conducive to sustainability. People in such a company will always ask themselves whether they are making the right decisions and will continually challenge themselves to solve various mid- and long-term societal issues, and thereby win the trust of stakeholders.

It is extremely important to perform strict audits from a neutral standpoint that will identify whether a company is meeting its external commitments through the implementation of its management policies. Fully functional internal control is a prerequisite for the proper disclosure of corporate information. When exploring a new business necessary to prevail in a drastically changing environment, a proper and professional process should be followed. Initiatives that seek to address the social issues in the SDGs will end up just being pie in the sky unless they are consistent with a company’s corporate vision, business strategy, and day-to-day operations.

Sticking to my commitment to creating an excellent company, I will dare to voice my frank views and prompt the Company to carry out the daily corporate activities that will lead toward that goal. In this way, I will continue to live up to the mandate given to me.



Makoto Ohsawa

Outside Audit & Supervisory Board Member
Chief Executive Officer, Femo Co., Ltd.
Outside Director, ZENHOREN CO., LTD.
Outside Director, Bank of Toyama, Ltd.
Outside Audit & Supervisory Board Member, Agri Solar Co., Ltd.
Director, Mega Solar Association



Masaru Ono

Outside Audit & Supervisory Board Member
Partner, Nishimura & Asahi
Outside Audit & Supervisory Board Member, Higashi-Nippon Bank, Ltd.
Outside Director, Daido Life Insurance Company
Managing Director, Securitization Forum of Japan
Visiting Professor, University of Tokyo

Through the advancement of corporate governance, outside audit & supervisory board members are expected to contribute in improving Yokogawa’s corporate value. To this end, I find it important not only to monitor the Board of Directors and its meetings, but also to actively participate in discussions at this forum so that management resources can be properly allocated and risks can be identified and assessed. Moreover, outside audit & supervisory board members are in a position where they have access to material information through exchanges with the accounting auditor and the standing audit & supervisory board members. It is also the members’ important role to cooperate and share this information with outside directors, when necessary.

I have served as an outside officer for a variety of financial institutions. Financial institutions are required by regulatory authorities to build extensive compliance systems that cover not only laws and regulations but also “soft” laws, principles, and cultural practices, and to enhance the auditing of their own operations. Needless to say, this is different from the Company’s business. However, I think that it would be good for the Company to incorporate certain ideas and approaches for the enhancement of corporate governance that are discussed at financial institutions.

Existing rules and governance systems can be changed. As society changes and Yokogawa’s business develops, it is necessary to adopt a flexible way of thinking and constantly review and modify these things.

Introducing a New Audit & Supervisory Board Member

Given the rapid changes in the business environment and in corporate governance due to the COVID-19 crisis, I feel that outside audit & supervisory board members should play a more proactive role.

I have worked as a lawyer mainly in the financial field for more than 40 years, and have been involved in running a large law firm. I have also been active in research and education activities at a university. I have served as an outside director, audit & supervisory committee member, and outside audit & supervisory board member for financial institutions in various industries, and have given advice based on my experience. In this, I have tried when necessary not to stick to a lawyer-type way of thinking in my approach to issues. I would like to enhance Yokogawa’s corporate governance by fully utilizing this experience.

Soon after I assumed this position and started to grasp the business scope of Yokogawa, I came to realize that the Company far exceeded my expectations and was a mine of excellent technologies and human resources with the potential to provide much-needed solutions to a variety of issues that society and companies are currently facing; these include SDGs-related societal challenges and energy issues, corporate DX, and remote operations and engineering. Yokogawa should develop and evolve its corporate governance to suit this great potential. In itself, I believe this will contribute to the sustainable enhancement of Yokogawa’s corporate value.

Corporate Governance

Basic view on corporate governance—governance that supports transformation

The Group has established a corporate philosophy, the Yokogawa Philosophy, and Standards of Business Conduct for the Yokogawa Group that apply to the entire Group, and strives to have appropriate relationships with all stakeholders as well as aims for sustainable corporate growth and increased corporate value over the medium to long term. In addition, based on the philosophy that “a company is a public entity of society,” the Group positions answering the trust of all stakeholders, including shareholders, customers, business partners, society, and employees, via sound and sustainable growth, as the basic mission of its corporate management. In order to maximize its corporate value, the Group believes that efforts such as thorough compliance, appropriate risk management, and information disclosure in order to ensure constructive dialogue with shareholders and other stakeholders are important. The Group formulates these Yokogawa Corporate Governance Guidelines which serve as the basic policy for

continually working on corporate governance in line with the above views.

At the Board of Directors, transparency and the speed of decision-making are improved through deliberations between directors who are well versed in the Company’s business and outside directors who maintain a high degree of independence. In addition, audit & supervisory board members, including outside audit & supervisory board members, shall work to enhance the management audit function by strictly auditing the legality and rationality of the work carried out by directors and the validity of their decision making processes.

Evaluation of the Board of Directors is performed every year in order to further enhance appropriateness of the execution of duties by directors and to improve efficiency through objective analysis and evaluation regarding the effectiveness of the Board of Directors.

https://cdn-nc.yokogawa.com/1/20520/tabs/ir_cg_guidelines-en.pdf

Enhancing Corporate Governance

| | 2000 | 2005 | 2010 | 2015 | 2020 |
|-------------------------|-------------------|--|--|---|--|
| President | 1999- Isao Uchida | 2007- Shuzo Kaihori | 2013- Takashi Nishijima | 2019- Hitoshi Nara | |
| Outside directors | | 2003- 1 director 2007- 2 directors 2009- 3 directors | | 2016- 4 directors | |
| Voluntary advisory body | | 2014 Established Nomination and Compensation Committee | | 2015 Established Nomination Advisory Committee and Compensation Advisory Committee | |
| Compensation system | | 2004 Abolished retirement bonuses for directors | | 2016 Introduced a restricted stock compensation plan (RS) | 2018 Introduced a performance-linked stock compensation plan (performance share unit plan: PSU) |
| Systems and policies | | 2006 Revised articles of incorporation to reduce number of directors (25→15) Introduced one year tenure system for directors 2007 Introduced takeover defense measures | 2009 Renewed takeover defense measures | 2014 Discontinued (abolished) takeover defense measures 2014 Established the Company's Independence Standards 2015 Established the Yokogawa Corporate Governance Guidelines | 2011 Renewed takeover defense measures 2018 Abolished the Senior Advisor, Advisor, and Honorary Corporate Associate positions |
| Other | | | | 2015 Conducted outside evaluation of the Board of Directors* | 2017 Appointed a woman as an outside audit & supervisory board member Appointed foreign nationals as officers 2018 Appointed an outside director as the chairman of the Board 2019 Appointed a foreign national as a director |

*Once every three years. Self-evaluation in other years

Key Points in Corporate Governance

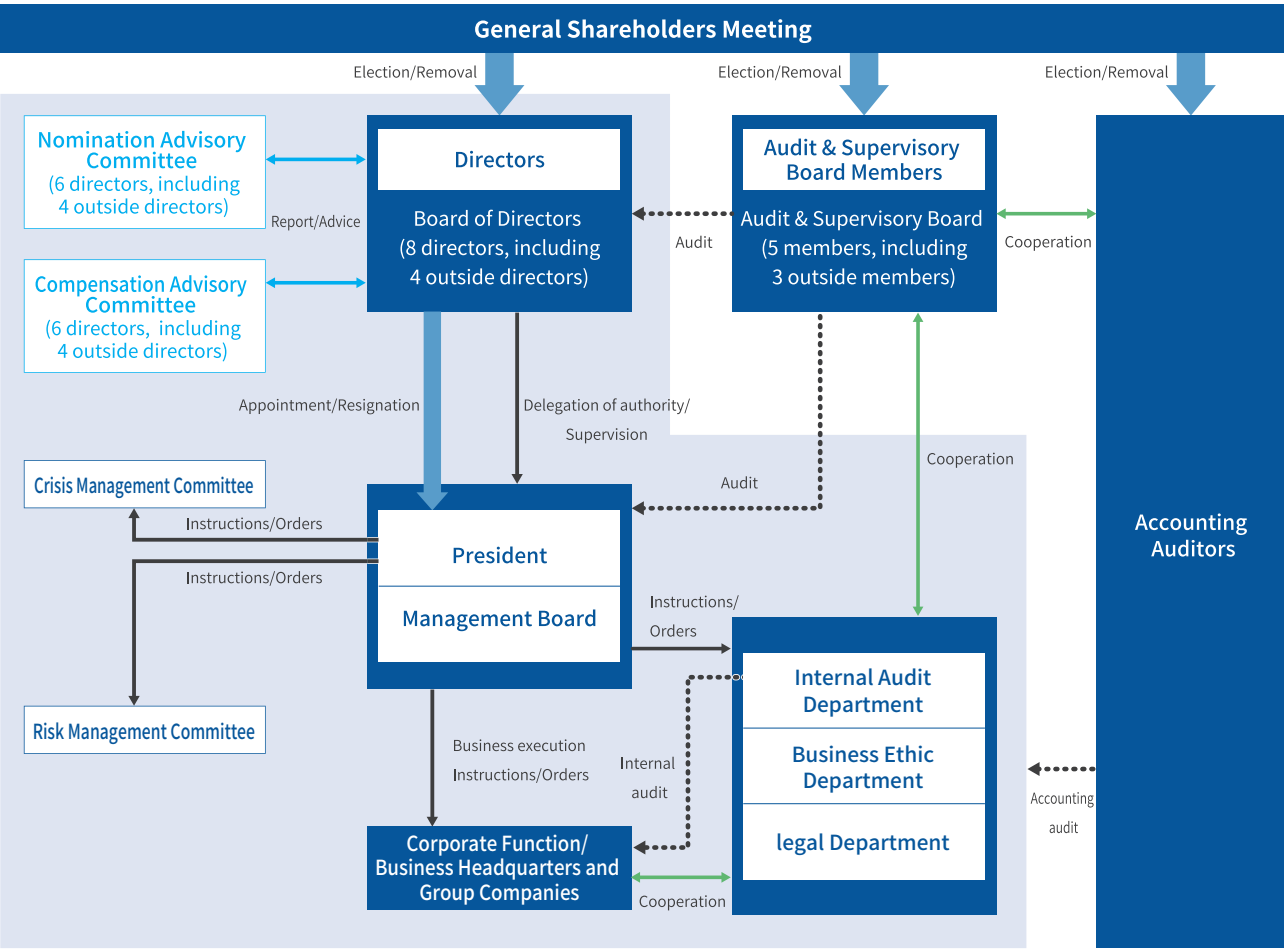
- 1 The Board of Directors has included multiple outside directors since 2007. At present, four outside directors are serving, thus ensuring management objectivity and transparency.
- 2 Outside directors are the majority of the members of the Nomination Advisory Committee and the Compensation Advisory Committee.
- 3 To separate the execution and supervision of business, an outside director who is a non-executive director was appointed as the chairman of the Board of Directors.

Corporate Governance System

Under the company structure as a company with Audit & Supervisory Board, the Company shall invite independent outside directors and independent outside audit & supervisory board members who are independent of the current management to enhance the function of the Board of Directors, which supervises the execution of duties by directors, and the Audit & Supervisory Board, which supervises the Board of Directors. In addition, the Company shall establish both the Nomination Advisory Committee and the Compensation Advisory Committee as voluntary advisory bodies to give opinions in response to

consultations from the Board of Directors regarding nominating directors and determining compensation thereof, thereby supporting the function of the Board of Directors and the Audit & Supervisory Board and thus further strengthening corporate governance. In addition, audit & supervisory board members, including independent outside audit & supervisory board members, shall work to enhance the management audit function by strictly auditing the legality and rationality of the work carried out by directors and the validity of their decision making processes.

Summary of Corporate Governance Structure



Board of Directors (Meetings in 2019: 14 times)

In line with the provisions of the Articles of Incorporation, the number of directors shall be no more than 15, and at least one-third of the directors shall be independent outside directors. In order to practice management backed by the trust of shareholders, the term of office for the directors of the Company is set as one(1) year.

The Board of Directors shall be composed so as to be well balanced in knowledge, experience, and capabilities to effectively fulfill its roles and responsibilities, and it shall be constituted in such a manner as to achieve both diversity and appropriate size.

The Board of Directors, of which a meeting is held once a month in principle, is comprised of eight directors including four independent outside directors, aiming to achieve sustainable growth and an increase in corporate value of the Group over the medium to long term as a decision-making body. To achieve these goals, the Board of Directors improves profit-earning capability and capital efficiency, and determines the general direction of the Group, including corporate strategies. Also, in addition to monitoring and supervising the execution of business by management, including directors and officers, the Board of Directors develops provisions related to the execution of duties by directors, and establishes a framework to take supervision responsibility related to the execution of business.

A non-executive director shall, in principle, act as the chairman of the Board of Directors in order to separate the execution and supervision of business, and the chairman of

the Board of Directors shall strive to conduct the meeting of the Board of Directors in a way which creates a place for holding free and open discussions and constructive debates based on expertise and experience of each member. In addition, the chairman of the Board of Directors plays the leading role in developing the environment to improve the quality of discussions through various measures, such as selecting agenda items and organizing the contents thereof, and striving to improve materials and explanations that form the basis for discussions. Currently, Noritaka Uji, Outside Director, chairs the Board of Directors.

A Board of Directors evaluation is performed each year. Based on the evaluations of each director and audit & supervisory board member, each year the Board of Directors shall identify issues for further boosting the strengths and effectiveness of the Board of Directors. In addition to analysis and evaluations in order to clarify the points that should be emphasized when working on each issue and striving to enhance corporate governance, the overview of the outcomes shall be disclosed in a timely and proper manner. The Board of Directors shall use third-party evaluation organizations as appropriate in order to receive support with analysis and evaluation thereof, as well as resolving issues from these analyses and evaluations.

In the fiscal year under review, the meeting of the Board of Directors was held 14 times, and the attendance rate of outside directors was 100% and that of outside audit & supervisory board was 100%.

Audit & Supervisory Board (Meetings in FY2019: 17 times)

In line with the provisions in the Articles of Incorporation, the number of audit & supervisory board members shall be no more than five, and at least one-half of the audit & supervisory board members shall be independent outside audit & supervisory board members. The Audit & Supervisory Board shall be comprised entirely of all the audit & supervisory board members. Based on its resolution, the Audit & Supervisory Board shall appoint at least one standing member of the Audit & Supervisory Board.

The Audit & Supervisory Board shall be composed so as to be well balanced in knowledge, experience, and capabilities to effectively fulfill its roles and responsibilities, and it shall be constituted in such a manner as to achieve both diversity and appropriate size. It is particularly prescribed that the Audit & Supervisory Board shall appoint at least one audit & supervisory board member with considerable knowledge of finance and accounting.

The Audit & Supervisory Board is comprised of five members in total, which consist of two standing members and three independent outside members, and its meeting is held once a month in principle. In order to ensure the Group's sustainable growth and corporate soundness, the Audit & Supervisory Board shall make appropriate decisions and express its opinions from an independent

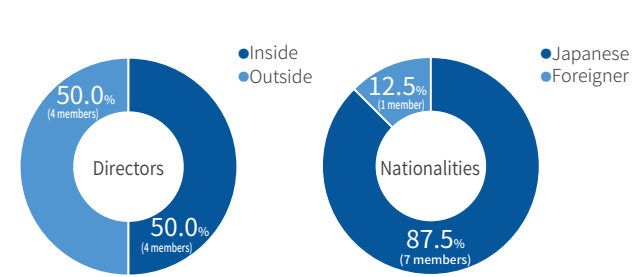
and objective standpoint. Also, based on laws and regulations as well as the Auditing Standards for Audit & Supervisory Board Members and the Rules Governing the Audit & Supervisory Board, the Audit & Supervisory Board shall receive reports from each audit & supervisory board member on important matters related to audits, deliberate, and pass resolutions as necessary.

Audit & supervisory board members perform audit & supervisory board member audits in accordance with the annual audit plan that specifies priority audit items. Audit & supervisory board members attend meetings of the Board of Directors and the Management Board and other important meetings, and hold regular meetings with departments that are in charge of internal audits, legal affairs and business ethics which promotes the compliance framework, and exchange and share information about the activities of each, as well as proactively offer opinions.

In addition, the Audit & Supervisory Board members deepen mutual cooperation with the accounting auditor and exchange information with the accounting auditor regularly and as needed to improve the quality of audits by both sides and make the audits more efficient.

In the fiscal year under review, the meeting of the Audit & Supervisory Board was held 17 times, the attendance rate of outside audit & supervisory board members was 100%.

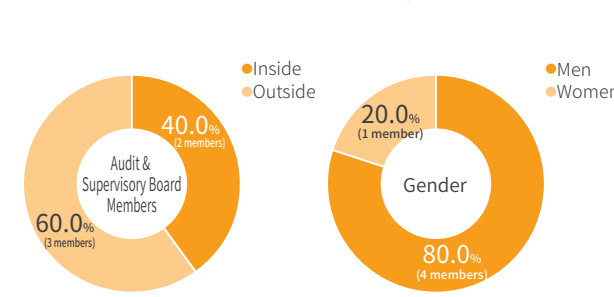
Composition of the Board of Directors (as of July 1, 2020)



Examples of Agenda Items Discussed at the Board of Directors in FY2019

- Progress of measures for transformation under the TF2020 mid-term business plan
- Status of initiatives for sustainability and SDGs
- Review of responses to the Corporate Governance Code in FY2019
- The composition and functioning of the Board of Directors
- Activities of the Nomination Advisory Committee and the Compensation Advisory Committee

Composition of the Audit & Supervisory Board (as of July 1, 2020)



Major Activities and Matters Examined at Audit & Supervisory Board

- Approval of audit & supervisory boards' annual audit policy, audit plan, and roles and responsibilities
- Report on review of annual audit activities
- Evaluation, and reappointment or dismissal, and consent on compensations of accounting auditor
- Receipt of explanation on annual audit plan, report on quarterly review, and audit results from accounting auditor
- Report on activities of Business Ethic Department (quarterly)
- Report on activities of standing members of Audit & Supervisory Board (monthly)
- Report from important employees on progress of annual plan and business execution regarding issues, problems and other matters

Activities of Outside Directors

| Name | Remarks in the Board of Directors | Attendance at Board of Directors Meetings |
|--------------|--|---|
| Noritaka Uji | Provided advice with high insight based on his wide knowledge as a corporate manager and thorough abundant experience and extensive expertise in technology development and IT/ICT fields. | 100 % (14/14 times) |
| Nobuo Seki | Provided advice primarily based on his wide knowledge as a corporate manager, his abundant experience in the engineering business centered on the energy industry, and his extensive expertise in global business. | 100 % (14/14 times) |
| Shiro Sugata | Provided advice primarily based on his wide knowledge as a corporate manager, his abundant experience in the development and marketing of industrial instruments, and his extensive expertise in global business. | 100 % (14/14 times) |
| Akira Uchida | Provided advice primarily based on his wide knowledge as a corporate manager and his broad experience in the corporate administration field centered on the Finance and Controller's Division. | 100 % (10/10 times) |

* For Outside Director Akira Uchida, we have described his attendance of the Board of Directors meetings convened since he assumed the position on June 25, 2019.

Activities of Audit & Supervisory Board Members

Priority Audit Items in FY2019

- Progress of TF2020 mid-term business plan
- Status of establishment and operation of Yokogawa Group Internal Control System
- Management of subsidiaries under the regional representative system

Audit Activities Conducted in FY2019

- Audit in line with annual plan
- View exchange and closer cooperation with the president, chairman, chairman of the Board, outside directors, Legal Department, Business Ethics Department, and Internal Audit Department
- Conduction of a three-way audit meeting with the accounting auditor and Internal Audit Department
- Evaluation of accounting auditor
- On-site audit of Group companies (4 in Japan, 14 outside Japan)
- Conduction of 11 meetings with standing members of Audit & Supervisory Board of major subsidiaries in Japan
- Confirmation of risk management against COVID-19

Activities of Outside Audit & Supervisory Board Members

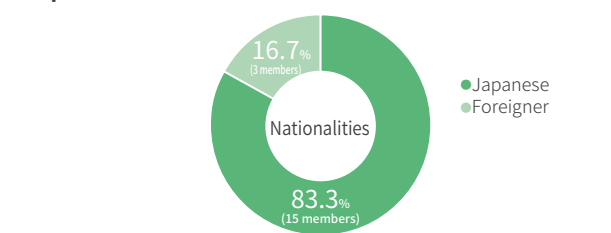
| Name | Remarks in the Board of Directors and the Audit & Supervisory Board | Attendance | |
|------------------|--|------------------------|---------------------------|
| | | Board of Directors | Audit & Supervisory Board |
| Zenichi Shishido | Provided advice based on experience in a wide range of research activities as an expert in business law and corporate governance. | 100 % (14/14 times) | 100 % (17/17 times) |
| Yasuko Takayama | Provided advice primarily based on her extensive practical experience, including corporate social responsibility, gained when working for a major company in the consumer market, as well as a wealth of experience as a fulltime Audit & Supervisory Board Member and as an outside executive at various companies. | 100 % (14/14 times) | 100 % (17/17 times) |
| Makoto Ohsawa | Provided advice with high insight based on abundant managerial experience in a wide range of business activities. | 100 % (14/14 times) | 100 % (17/17 times) |

* Audit & Supervisory Board Member, Zenichi Shishido retired on June 24, 2020. Also, Masaru Ono was appointed as an Audit & Supervisory Board Member on June 24, 2020.

Management Board (Meetings in 2019: 12 times)

The Board of Directors delegates decision-making related to the execution of business to the Management Board to promote swift decision-making. The Management Board, of which a meeting is held once a month in principle, is comprised of the president and CEO, officers, and standing members of the Audit & Supervisory Board. In addition, matters for resolution to be made by the Management Board and other matters shall be reported to the Board of Directors.

Composition of Officers (as of July 1, 2020)



* The Company has introduced an executive officer system. There are currently 18 officers (including two officers who concurrently serve as director).

Nomination Advisory Committee (Meetings in FY2019: 8 times)

With respect to subjects such as nomination of director candidates and audit & supervisory board member candidates, evaluation, appointment and dismissal of representative director and president, appointment and dismissal of officers, proposals for dismissal of directors and audit & supervisory board members, the Nomination Advisory Committee shall provide recommendation to the Board of Directors following deliberations made in accordance with the standard and procedure prescribed to ensure optimal placement for the Group's sustainable growth and corporate governance from the perspective of all stakeholders.

The Nomination Advisory Committee shall be comprised of three or more directors and a majority of members shall be independent outside directors. Currently, there are six members, comprising the chairman, president and CEO, and four independent outside directors, and the role of chairperson is performed by the Chairman, Takashi Nishijima.

The Nomination Advisory Committee makes decisions on items set forth below.

- (1) Details of the agenda item to be discussed at a meeting of the Board of Directors concerning the appointment of officers or dismissal of officers or the representative director
- (2) Establishment, amendment or abolition of necessary basic policies, regulations, procedures, etc.to enable a decision by the committee regarding a matter stated in item (1).
- (3) Other matters that the committee recognizes as important in relation to the appointment of candidates, dismissal of officers or removal of the representative director stated in item (1).

Compensation Advisory Committee (Meetings in FY2019: 4 times)

The Compensation Advisory Committee makes decisions on the items set forth below in order to ensure that the compensation system and compensation for directors and officers promotes the appropriate challenging attitude toward the Group's growth, enables hiring and retention of excellent human talent, and fosters a perspective that is held in common with all stakeholders.

- (1) Policy in relation to decisions concerning the details of compensation, etc. for directors and officers
- (2) Details of compensation, etc. for each director and officer, individually
- (3) Establishment, amendment or abolition of necessary basic policies, regulations, procedures, etc.to enable a decision by the committee regarding a matter stated in item (2).
- (4) Other matters that the committee recognizes as important in relation to compensation, etc. pertaining to item (1) or item (2).

The Compensation Advisory Committee shall be comprised of three or more directors and a majority of members shall be independent outside directors. Currently, there are six members, comprising the chairman, president and CEO, and four independent outside directors, and the role of chairperson is performed by Outside Director and chairman of the Board of Directors, Noritaka Uji. An independent outside director serves as the chairperson of the Compensation Advisory Committee, further ensuring the objectivity and transparency.

Policy and procedures for the appointment of director candidates, audit & supervisory board member candidates, and officers

Policy for nomination of director and audit & supervisory board member candidates, and appointment of officers

The Board of Directors shall be composed so as to be well balanced in knowledge, experience, and capabilities to effectively fulfill its roles and responsibilities, and it shall be constituted in such a manner as to achieve both diversity and appropriate size. Under this premise, human resources that contribute to improvement of corporate governance are nominated as director and audit & supervisory board member candidates. Furthermore, human resources that are familiar with the Group's business and contribute to the appropriate execution of business and supervision of highly effective management and that have experience and knowledge required for formulation of management strategies aiming at an increase in the Company's corporate value over the medium to long term and contribute to right management decisions and supervision of highly effective management are nominated as director candidates, while human resources that are familiar with the Group's business and contribute to appropriate auditing of management of the Company and Group companies and that have knowledge on accounting, finance, legal affairs and corporate management and contribute to appropriate auditing of management are nominated as audit & supervisory board member candidates. Officers are appointed after confirmations of whether the candidate has sufficient experience, knowledge, etc. and whether he or she has an intention and attitude suitable for the management are made.

Procedure for nomination of director and audit & supervisory board member candidates, and appointment of officers

With respect to nomination of director candidates and audit & supervisory board member candidates as well as appointment of officers, the Company has established the Nomination Advisory Committee, which is a voluntary advisory body comprised of at least three directors, of whom a majority are independent outside directors based on the resolution of the Board of Directors, in order to enhance the objectivity and transparency of the nomination and appointment.

Matters with respect to nomination of director candidates and appointment of officers are resolved by the Board of Directors on the basis of recommendation from the Nomination Advisory Committee prepared through deliberations made in accordance with the prescribed standard and procedure for new appointment or reappointment. Matters with respect to nomination of audit & supervisory board member candidates are resolved by the Board of Directors on the basis of recommendation from the Nomination Advisory Committee prepared through deliberations made in accordance with the prescribed standard and procedure for new appointment and reappointment, upon having gained consent of the Audit & Supervisory Board.

Policy and procedure for dismissal of directors and audit & supervisory board members

The Nomination Advisory Committee has prescribed the standard and procedure for dismissal of directors and audit & supervisory board members. In reference to the deliberation and recommendation from the Nomination Advisory Committee based on the dismissal standard and procedure, the Board of Directors deliberates proposals of dismissal of the directors and audit & supervisory board members.







Policies and procedures for evaluation, new appointment, reappointment, and dismissal of president and CEO

The Nomination Advisory Committee has also prescribed the standard and procedure for new appointment, reappointment, and dismissal of president and CEO. The evaluation of president and CEO is conducted every year and takes into account basic evaluation criteria that have a quantitative aspect including business performance. The Nomination Advisory Committee ensures objectivity, timeliness, and transparency of processes by recommendations on new appointment, reappointment and dismissal presented to the Board of Directors following deliberation based on the prescribed standard and procedure for new appointment, reappointment, and dismissal in reference to evaluation results and succession plan.

Policy and procedure for dismissal of officers

Dismissal of officers is also resolved by the Board of Directors based on the Nomination Advisory Committee's recommendation and in reference to the prescribed standard and procedure.

Advisory Committee Members (As of July 1, 2020)

| | | Nomination Advisory Committee | | Compensation Advisory Committee | |
|---|-------------------|-------------------------------|----|---------------------------------|--|
|  | Chairman | Takashi Nishijima | ◎* | ○ | |
|  | President and CEO | Hitoshi Nara | ○ | ○ | |
|  | Outside Director | Noritaka Uji | ○ | ◎ | |
|  | Outside Director | Nobuo Seki | ○ | ○ | |
|  | Outside Director | Shiro Sugata | ○ | ○ | |
|  | Outside Director | Akira Uchida | ○ | ○ | |

* The company's Nomination Advisory Committee mainly discusses the nomination of director and audit & supervisory board member candidates and appointment of officers. An inside director chairs the Nomination Advisory Committee as the Committee examines not only recruitment from outside the Company but also promotion/appointment within the Company. Moreover, outside directors comprise a majority of the Nomination Advisory Committee members, ensuring highly objective and transparent discussions.

◎Chairperson ○Committee member

Evaluation of the Board of Directors

Summary of the fiscal year 2019 Board of Directors evaluation results

The summary of the evaluation results is as follows:

- Composition of the Board of Directors
 - The size (number of members) is appropriate.
 - The overall balance is well in terms of experience, skills, diversity, and the proportion of external and internal members.
 - Operation of the Board of Directors
 - Covers not only statutory matters, but also most of the agenda to be discussed by the Board of Directors, including the progress of the mid-term business plan and an agenda on sustainability.
 - Each member of the Board of Directors prepares himself/herself well before attending every board meeting. During discussions, constructive opinions are actively exchanged based on the knowledge and experience of each member under the leadership of the chairman of the Board of Directors, who is assumed by an independent outside director.
 - Contribution of the Board of Directors to TF2020, the current mid-term business plan
 - The Board of Directors receives overall reports from quantitative and qualitative aspects and the progress reports on each initiative, discusses the reports, and then makes proposals to ensure that management will be aware of the issues. In addition, decisions are made after adequate discussion with management on important matters proposed by management that requires a resolution of the Board of Directors. Based on the fact, we confirm that the Board of Directors makes a great contribution looking forward to achieving TF2020.
- Based on the above, we confirmed that the effectiveness of the Board of Directors had been ensured.

Future efforts for improvement

- Further strengthening of discussions on the Company's general direction and mid- to long-term management strategy
 - While being aware that the Board of Directors is expected to promote the Company's sustainable growth and increase corporate value over the medium to long term, we find it necessary as our challenge to further strengthen discussions on the Company's general directions and mid- to long-term management strategy.
 - Fiscal year 2020 is the final year of the current TF2020 mid-term business plan and also the year in which the next mid-term business plan is being formulated. We will provide more opportunities for management and board members to discuss the formulation of long-term management initiatives and the next mid-term plan, thereby strengthening discussions leading to initiatives and plans that contribute to sustainable growth and increase of corporate value over the medium to long term.
- Further improvement of the quality of discussion
 - An issue has been raised regarding the further improvement of the quality of proposal materials and explanations, which are important inputs in discussions, and clear indication of the points of discussion. Currently, the chairman of the Board of Directors observes meetings of the Management Board to verify the contents of the agendas with proposers in advance. This helps him/her fully understand the information regarding the matters to be submitted to the Board of Directors and make sufficient preparation to ensure the smooth operation of the Board of Directors meetings as he/she will be able to efficiently conduct the meetings and hold concrete debates at the Board of Directors meetings. In addition, the president and CEO and chairman strive to develop proposals in a way that the contents thereof will be appropriate for discussions at the Board of Directors meeting. Moreover, we ask officers or other relevant personnel to attend a meeting, depending on the agenda, to reinforce specialist's insight necessary for discussions as needed basis to maintain the quality of the discussion.

Executive compensation and others
< Method for determining executive compensation and others >
The Company positions its executive compensation plan as an important item in corporate governance, and to increase the objectivity and transparency of director compensation, has formed a Compensation Advisory Committee, which comprises three or more directors, based on the resolution of the Board of Directors, with the majority being outside directors. This committee deliberates the plans for director compensation, and reports the result to the Board of Directors as well as decides the amount of individual payments within the limit approved by the General Meeting of Shareholders*1. The Board of Directors also respects this report upon determining the plan. Audit & supervisory board member compensation is also determined through discussions among audit & supervisory board members within the limit approved by the General Meeting of Shareholders*2.

*1 The annual limit for director compensation was set at 1,600 million yen by resolution of the 2018 Annual General Meeting of Shareholders convened on June 26, 2018. This does not include employee salaries. The number of the Company's Directors is no more than 15 in accordance with the provision of the Articles of Incorporation.
*2 The annual compensation limit for audit & supervisory board member was set at 150 million yen by resolution of the 2004 Annual General Meeting of Shareholders convened on June 25, 2004. The number of the Company's audit & supervisory board members is no more than five in accordance with the provision of the Articles of Incorporation.

< Position, authority and activities of the Compensation Advisory Committee >
The Compensation Advisory Committee makes decisions on the items set forth below in order to ensure that the compensation system and compensation for directors and officers promotes the appropriate challenging attitude toward the Group's growth, enables hiring and retention of excellent human talent, and fosters a perspective that is held in common with all stakeholders.

- (1) Policy in relation to decisions concerning the details of compensation, etc. for directors and officers
 - (2) Details of compensation, etc. for each director and officer, individually
 - (3) Establishment, amendment or abolition of necessary basic policies, regulations, procedures, etc. to enable a decision by the committee regarding a matter stated in item (2).
 - (4) Other matters that the committee recognizes as important in relation to compensation, etc. pertaining to item (1) or item (2).
- The Compensation Advisory Committee is currently comprised of six members, which consist of the chairman, president and CEO, and four outside directors, and is chaired by Outside Director and Chairman of the Board of Directors, Noritaka Uji.

| Executive categories | (a) Basic compensation | (b) Performance-linked compensation | | Remarks |
|--|------------------------|-------------------------------------|-------------------------------------|--|
| | | (b)-1 Annual incentive | (b)-2 Medium-to long-term incentive | |
| Directors (excluding Outside Directors and Non-executive Directors) | ○ | ○ | ○ | Executive compensation and employee salaries |
| Outside Directors and Non-executive Directors | ○ | — | — | Executive compensation |
| Audit & Supervisory Board Members | ○ | — | — | Executive compensation |
| Outside Audit & Supervisory Board Members | ○ | — | — | Executive compensation |
| Non-Director officers | ○ | ○ | ○ | Employee salaries |

Note: The performance-linked compensation covers directors and non-director officers and excludes outside directors. This is because variable compensation such as performance-linked compensation is not appropriate for outside directors and audit & supervisory board members, who maintain a position independent from the performance of duties, and as such only base compensation is paid, identically for non-executive directors

In the fiscal year ended March 31, 2020, the committee conducted a total of four deliberations, examined appropriateness of performance indicators and formulas for the amounts of performance-linked compensation paid in July 2019 and July 2020 and of the total compensation amount in fiscal year 2020, confirmed the basic policy on executive compensation, and conducted other activities.

- < Approach to executive compensation >
(1) Basic policy of the Executive Compensation Plan
- (a) Plan that promotes sustainable, medium-to long-term improvement in corporate value
 - (b) Plan that reflects the medium-to long-term management strategy and strongly motivates the achievement of medium-to long-term management objectives
 - (c) Plan that prevents bias toward short-term thinking
 - (d) Plan and monetary amounts that secure and maintain excellent human resources
 - (e) Plan that includes transparency, fairness, and rationality for stakeholders, decided through an appropriate process to ensure these factors
- (2) Composition of executive compensation
Compensation for the Company's directors and officers is composed of (a) base compensation, which is fixed component, and (b) performance-linked component ((b)-1 annual incentive and (b)-2 medium-to long-term incentive), and levels of compensation are set through a comparison with companies from the same industry and of the same scale as well as in consideration of the Company's financial conditions.

- The specific composition of compensation for executives and officers shall be as follows in accordance with the executive categories.
- (a) Base compensation
With regard to basic compensation, the amount is determined in accordance with the role and position as directors and officers and paid.
 - (b) Performance-linked compensation
The Company's basic approach to the executive compensation plan is as follows.
 - 1. The ratio of performance-linked compensation in total compensation is higher.
 - 2. The ratio of performance-linked compensation in total compensation is higher the higher the seniority of the director, with the president and CEO's ratio of performance-based compensation exceeding 50 %.
 - 3. The ratio for the share compensation in total compensation is higher than the average level for companies from the same industry and of the same scale.

(b)-1 Annual incentive
Part of the performance-linked compensation, the annual incentive, is calculated and paid based on an evaluation of the entire company's results and the individual's results for the individual year. As 100% at the time of achievement of performance objectives, the amount paid is designed to vary in the range of 0% to 200%.

Based on the idea that performance objectives that lead to an evaluation of the entire company's results for the individual year in the annual incentive are significant indicators for the Group to measure sustained growth, the performance objectives have been set for "consolidated sales" and "consolidated return on sales (ROS)."

Performance objectives and results in the fiscal year ended March 31, 2019, one of determinant factors for performance-linked compensation, are as follows:

| Performance objectives set for the fiscal year ended Mach 31, 2019 | | Results in the fiscal year ended March 31, 2019 |
|--|----------------|---|
| Consolidated sales | ¥405.0 billion | ¥403.7 billion |
| Consolidated return on sales | 8.1% | 8.6% |

Note: At the time of achievement for the business performance targets, the ratio of the base compensation to the annual incentive is designed to be 1:0.5 on average if the performance objectives are achieved, though the ratio varies according to the position, as shown in Figure 1 (image) below. This ratio may vary in the range of 1:0 to 1:1, depending on the extent to which performance objectives are achieved.

Figure 1 (image)

| | |
|------------------------|----------------------------------|
| Base compensation 1 | Annual incentive 0.5 (0~1) |
|------------------------|----------------------------------|

(b)-2 Medium- to long-term incentive
With regard to medium-to long-term incentive, part of the performance-linked compensation, at the 142nd Annual General Meeting of Shareholders convened on June 26, 2018, the Company introduced the performance share unit plan (the "PSU Plan"), a performance-linked stock compensation plan, under which payment of the Company's shares and cash is made in accordance with the extent to which the Company's consolidated return on equity (consolidated ROE) target and other targets have been achieved in the final fiscal year of the period covered by the mid-term business plan. The current period covered by the PSU Plan is the period covered by TF2020, a three-year mid-term business plan for fiscal year 2018 through fiscal year 2020.

After the end of the period of TF2020, on the premise of performance objectives and other requirements established beforehand by the Company's Board of Directors in TF2020, the Company will decide on the amount of compensation based on the medium-to long-term incentive for each respective directors and officers who are eligible for the payment calculated by multiplying base amounts of stock compensation determined for each position of the eligible directors and officers by coefficients established beforehand by the Company's Board of Directors in accordance with the conditions for achievement of performance objectives (the "Payment Rate"), and deliver the Company shares equivalent to the value for the amount corresponding to 60% of the compensation amount and pay cash equivalent to the value for the amount corresponding to 40%. The Payment Rate is as follows and designed to vary in the range of 0% to 100% in accordance with the extent to which performance objectives are achieved.

In addition, the amount of medium-to long-term incentive paid is designed so that 0.5 medium-to long-term incentive is added to 1 base amount compensation in principle when the Payment Rate is 100 %.

| Actual ROE | Payment Rate |
|-----------------------------|--|
| Less than 8 % | 0% |
| From 8 % to less than 11 % | (Actual ROE × 100 — 8) / 3 × 25% |
| From 11 % to less than 14 % | (50 + (Actual ROE × 100 — 11) / 3 × 50)% |
| 14 % or higher | 100% |

The Company considers that performance objectives in medium-to long-term incentive are based on the linkage with the mid-term business plan. Among several business objectives set in TF2020, the Company has currently chosen "return on equity (ROE)," an indicator showing efficiency of management, for the performance objective based on the idea that it is a significant indicator in an increase in both corporate value and shareholder value.

As aforementioned, the PSU Plan are made generally upon conclusion of a target period, largely in accordance with the conditions for achievement of performance objectives. Accordingly, at this point in time, which is during the period of TF2020, the Company will not determine whether or not to deliver the Company's shares or make payment of cash, nor will the Company determine the number of the Company's shares to deliver or the amount of cash to pay in the event of any delivery or payment thereof.

Furthermore, under the PSU Plan, the Company has established clawback provisions enabling it to demand uncompensated refund of all or part of compensation paid as the compensation amount pertaining to the PSU Plan, if a situation arises involving substantial amounting improprieties or significant losses.

Note: In the fiscal year of payment of the medium-to long-term incentive, the ratio of the basic compensation to the annual incentive and the medium-to long-term incentive is designed to be 1:0.5:0.5 on average if the respective performance objectives for those incentives are achieved, though the ratio varies according to the position, as shown in Figure 2 (image) below. This ratio may vary in the range of 1:0:0 to 1:1:0.5, depending on the extent to which the respective performance objectives for the annual incentive and the medium-to long-term incentive are achieved.

Figure 2 (image)

| | | |
|------------------------|----------------------------------|--|
| Base compensation 1 | Annual incentive 0.5 (0~1) | Mid-to long-term incentive 0.5 (0~0.5) |
|------------------------|----------------------------------|--|

Internal Control Systems
The Group has established the Yokogawa Group Internal Control System mainly to ensure the reliability of its financial reporting and the validity of its decision-making process. As systems that ensure that the execution of the duties of a director complies with laws and regulations and the Articles of Incorporation of the Company, and other systems to ensure the properness of business activities in the Company and those in a business group comprised of the Company and its subsidiaries, the Group has the internal control system in place to ensure proper and efficient execution of the Group's operations. As part of the systems that ensure that audits by audit & supervisory board members are performed effectively, the Company ensures that audit & supervisory board members are given opportunities to exchange views regularly with top management, the head of the Company's administrative division and the accounting auditor, and that the Audit & Supervisory Board signs an advisory contract with a lawyer.

As part of the Yokogawa Internal Control System, a supply chain management system is in place for overall business processes that include its relationship with customers and suppliers. For the procurement processes in the supply chain, Yokogawa Group's "Group Procurement Process Management Code" has been defined based on its corporate philosophy and Standards of Business Conduct, to ensure fair and equitable transactions. Yokogawa observes the local

ordinances of the country and regions with whom we do business, began working on the issue of conflict minerals, and focuses on establishing a supply chain that considers environmental protection and human rights. In order to efficiently and effectively implement supply chain management of environmental and social issues, we are participating in committees of industry groups such as the Materials Committee of JEITA* and working with other companies.

*JEITA: Japan Electronics and Information Technology Industries Association

Compliance

Yokogawa places the utmost priority on compliance and conducts its business activities in compliance with relevant laws, regulations, and ordinances as well as all social norms while upholding the highest of ethical standards. Directors are taking the lead in adherence to and dissemination of business ethics.

The Yokogawa Group Code of Conduct sets out the Basic Policy and Standards of Conduct, which employees should

observe to realize Yokogawa's corporate philosophy, while the Yokogawa Group Compliance Guidelines prescribe the specific actions each and every employee should take. In 2019, Yokogawa conducted a complete review and revision of both the Yokogawa Group Code of Conduct and the Yokogawa Group Compliance Guidelines in response to the changing expectations and demands of the global community toward corporations. Moreover, Yokogawa have established a department in charge of business ethics that is charged with the identification and resolution of issues pertaining to the compliance system, and is strongly promoting compliance management.

It aims to be healthy and open, with both a culture that encourages and enforces proper ethical conduct and a system for preventing misconduct and scandals before they occur. In so doing, Yokogawa will meet the expectations of investors and other stakeholders.

See our website for more details.

| | |
|--------------------------------|---|
| Yokogawa Group Code of Conduct | https://www.yokogawa.com/about/company-overview/our-brand-and-identity/#Yokogawa-Group-Code-of-Conduct |
| Respect for human rights | https://www.yokogawa.com/about/sustainability/humanrights/ |

Examples of Compliance Promotion Initiatives

Awareness raising and training activities: 195 group training programs (Japan) and e-learning with approx. 8,600 employees participating (Japan)

In order to raise and inculcate awareness about compliance throughout the Group, the Company and Group companies in and outside Japan conducted compliance training again in fiscal year 2019. In addition, training corresponding to positions was conducted in Japan, taking opportunities such as promotion to managerial positions, appointment to positions outside Japan, and joining the Company.

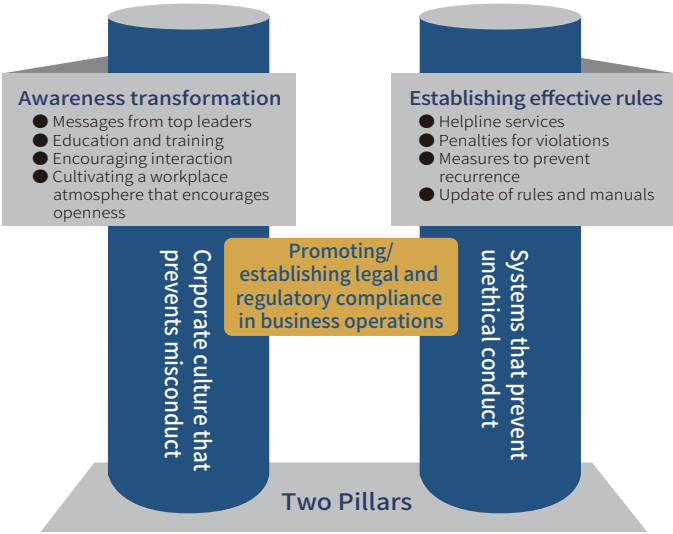
Moreover, we provided e-learning trainings mainly for Group companies outside Japan so that Group company employees can acquire knowledge necessary for them by learning essential compliance topics in a comprehensive manner.

Confirmation of employees' awareness of compliance

In fiscal year 2019, to raise employees' engagement, the Group conducted the engagement survey for all employees of Yokogawa Group to understand the actual state, and thereby confirmed the awareness of compliance among employees. In the compliance category, the Group scored above average of the global high-tech industry, which confirmed a high level of awareness of compliance within the Group.

Operation of compliance hotlines for reporting and consultation

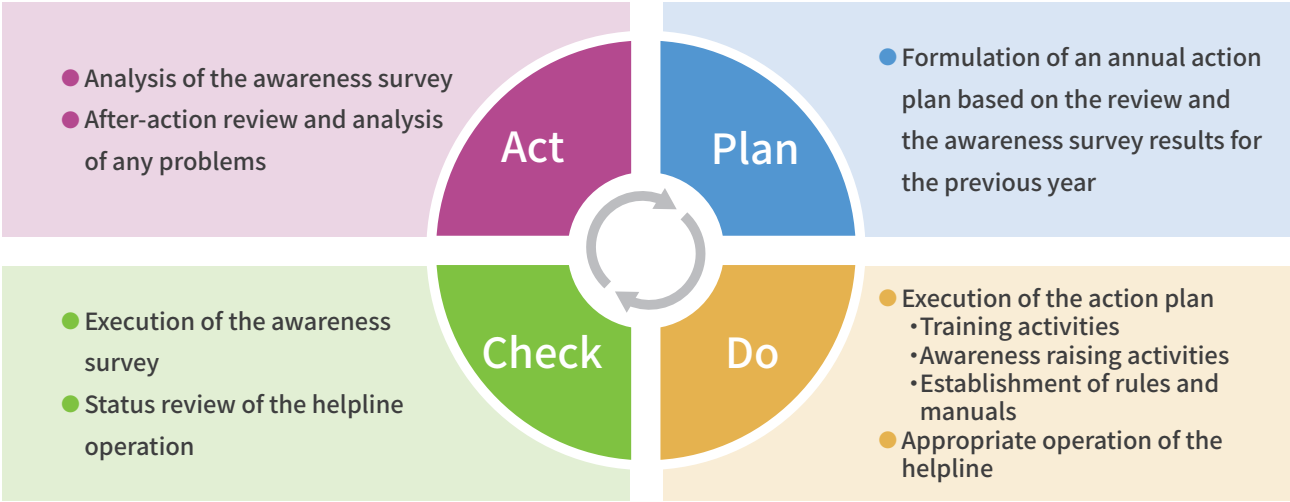
To rapidly identify and address compliance issues and prevent wrongdoings before they occur, we operate compliance hotlines. Specifically, in Japan we have established both an internal hotline and an external hotline that is operated by attorneys. These compliance hotlines maintain strict confidentiality in their operations and respond promptly to caller concerns. In addition, in fiscal year 2019, we put up posters about these hotlines to raise awareness and reliability of the system.



Comment of Hitoshi Nara, President and CEO

To pursue business growth while contributing to sustainable society, Yokogawa regards compliance as a matter of top priority. Not only by complying with laws and regulations but also by living up expectations of society, each and every one of us places utmost priority on compliance in our operation.

<PDCA cycle for improvement of compliance>



Management Team (As of July 1, 2020)

Directors



Chairman
Takashi Nishijima
Date of birth: Aug. 12, 1957
Number of years since appointment as a director: 9 years



President and Chief Executive Officer
Hitoshi Nara
Date of birth: Jan. 23, 1963
Number of years since appointment as a director: 9 years



Director, Executive Vice President
Head of Corporate Administration Headquarters
Junichi Anabuki
Date of birth: Mar. 18, 1963
Number of years since appointment as a director: 6 years



Director, Senior Vice President
Head of Digital Enterprise Business Headquarters
Yu Dai
Date of birth: Feb. 25, 1963
Number of years since appointment as a director: 1 year



Outside Director, Chairman of the Board
Noritaka Uji
Date of birth: Mar. 27, 1949
Number of years since appointment as an outside director: 6 years



Outside Director
Nobuo Seki
Date of birth: Sep. 21, 1944
Number of years since appointment as an outside director: 5 years



Outside Director
Shiro Sugata
Date of birth: Nov. 17, 1949
Number of years since appointment as an outside director: 4 years



Outside Director
Akira Uchida
Date of birth: Oct. 4, 1950
Number of years since appointment as an outside director: 1 year

Audit & Supervisory Board Members



Audit & Supervisory Board Member
Kouji Maemura
Date of birth: May 21, 1956
Number of years since appointment as a member of the Audit & Supervisory Board: 3 years



Audit & Supervisory Board Member
Hajime Watanabe
Date of birth: Aug. 17, 1962
Number of years since appointment as a member of the Audit & Supervisory Board: Newly elected



Outside Member, Audit & Supervisory Board
Yasuko Takayama
Date of birth: Mar. 8, 1958
Number of years since appointment as a member of the Audit & Supervisory Board: 3 years



Outside Member, Audit & Supervisory Board
Makoto Ohsawa
Date of birth: Feb. 20, 1959
Number of years since appointment as a member of the Audit & Supervisory Board: 2 years



Outside Member, Audit & Supervisory Board
Masaru Ono
Date of birth: Jun. 1, 1953
Number of years since appointment as a member of the Audit & Supervisory Board: Newly elected

Senior Vice President



Masaharu Yamazaki
Head of Aerospace Products Business Headquarters
President, Yokogawa Test & Measurement Corporation



Tsuyoshi Abe
Head of Marketing Headquarters



Shigeyoshi Uehara
Head of IA Systems and Service Business Headquarters



Mikio Matsui
Head of Human Resources and General Affairs Headquarters



Kunimasa Shigeno
Head of Global Business Service Headquarters



Pierre De Vuyst
Chief Executive for Middle East, Africa and India
President, Yokogawa Middle East & Africa B.S.C. (c)



Kenji Hasegawa
Head of IA Products and Service Business Headquarters



Hiroshi Tomatsu
President, Yokogawa Manufacturing Corporation

Vice President



Shuji Mori
Chief Executive for North and South Americas
President, Yokogawa Corporation of America



Koji Nakaoka
Head of Global Sales and Industrial Marketing Headquarters



Herman van den Berg
Chief Executive for Europe, Russia and CIS
President, Yokogawa Europe B.V.



Tetsuya Murai
Chief Executive for Japan and Korea
President, Yokogawa Solution Service Corporation



Yukihiro Funyu
Head of Digital Strategy Headquarters
Head of DX Platform Center



Kazuhiko Takeoka
Chief Executive for ASEAN and Pacific
President, Yokogawa China Co., Ltd.



Hiroshi Nakao
Head of Life Innovation Business Headquarters



Hikaru Kikkawa
Head of Audit, Compliance and Quality Assurance Headquarters

Gender diversity: Efforts to solicit candidates for female directors



We are conscious of the absence of women on the Board of Directors as one of challenging issues from the perspective of gender diversity. We are strengthening efforts to solicit candidates for female directors, including those from outside the Company.

Building environment for identifying potential director candidates

In April 2015 Yokogawa established a work section that is decided to the promotion of diversity. We conduct career development training for female employees as well as seminars to raise awareness among managers concerning the need to empower woman. Moreover, we are working proactively to establish an environment that encourages women to play active roles, including by formulating career development plans for each female leader candidate.

We select and nurture talented individuals as future candidates for director, and some women are currently included in this group. Candidates are selected by the Nomination Advisory Committee, which is under the direct control of the Board of Directors and in which outside directors constitute a majority, and as such, we strive to ensure transparency in the selection process.

In recruitment activities, our target rate for female employees is 30% or more, with the long-term aim of optimizing Yokogawa's workforce gender composition.

Through these initiatives, we are promoting gender diversity, thus working to build an environment that enables us to identify potential director candidates.

Ways of thinking toward soliciting female director candidates

We are striving to create opportunities for the success of women. On the other hand, we believe that it is impossible for any person to undertake company management in a manner meeting the confidence of shareholders unless he or she is a figure equipped with knowledge, experience, capability, etc. necessary to play roles and discharge responsibilities as a director.

In line with the policy and procedure for the appointment and dismissal of Directors, human resources that are familiar with the Group's business and contribute to the appropriate execution of business and supervision of highly effective management and that have experience and knowledge required for formulation of management strategies aim at an increase in the Company's corporate value over the medium to long term and contribute to right management decisions and supervision of highly effective management are nominated as Director candidates.

* Please refer to page 89 as for the ratio of women to the total number of managers and the proportion of women in total new graduate employees.

Fiscal Year 2019 in Review

* Headquartered in Musashino-shi, Tokyo

Management Topics

May 2019

- Held the financial results briefing for fiscal year 2019

June 2019

- Took a strategic stake in Finnish company Sensire Ltd. to Pursue Collaboration in the field of cold chain monitoring
- Held 2020 Annual General Meeting of Shareholders
- Continued to be selected as a constituent of major ESG indexes (MSCI in June, FTSE in July, DJSI in September)

September 2019

- Acquired UK-based RAP International Ltd. specializing in control of work for field service and plant maintenance
- Transferred all shares of Yokogawa Medical Solutions Corporation to Fujifilm Corporation
- Held briefings for individual investors

October 2019

- Collaborated with Netherlands-based ExRobotics B.V. to accelerate adoption of robotics for inspection of facilities in hazardous work environments



November 2019

- Acquired a nanopipette technology from a U.S. venture for use in life science applications
- Received IR Special Award for the first time from Japan Investor Relations Association
- Developed and released CENTUM VP R6.07

December 2019

- Signed a strategic alliance agreement with Saudi Basic Industries Corporation (SABIC), ranked among the world's largest petrochemical manufacturers
- Held sustainability briefing session for the first time



February 2020

- Listed for the first time on CDP Water Security A List and CDP Supplier Engagement Leader Board
- "Yokogawa Report 2019" was highly recognized by GPIF's asset managers entrusted with domestic equity investment

March 2020

- Acquired an equity stake in All Polymer Battery maker APB Corporation to expand its energy management system business
- Acquired a Danish business venture possessing leading-edge AI technology for image analytics

From April 2020

- Selected for the Japanese Ministry of Economy, Trade and Industry's list of "Top 100 Global Niche Companies 100"

Topics on Orders Received and Products

July 2019

- Selected by ExxonMobil as Open Process Automation (OPA) system integrator for establishing OPA Test Bed
- Developed and released CENTUM VP R6.07



August 2019

- Received a bulk order for pressure transmitters from Argentine national oil company

October 2019

- Awarded a plant simulation project from PUB, Singapore's National Water Agency for water treatment facility
- Released Dynamic Real Time Optimizer as solution to optimize plant operations
- Released CA500 and CA550 multifunction process calibrators



March 2020

- Received an order for control system and field instruments for gas-fired power plant in Turkmenistan
- Developed and released SU10 Single Cellome Unit for use in biological research



Utilizing patented technology of Yokogawa TechInvent AS FluidCom—Contributed to our customers' OPEX reduction, productivity improvement, and health, safety and environment (HSE) Yokogawa offers an advanced solution of fully automated chemical injection. This stable and accurate injection prevents scaling and corrosion in tubes at oil and natural gas mining sites and transportation pipelines.

IR and ESG Topics

- Included in major ESG indexes

Global

MEMBER OF
Dow Jones Sustainability Indices
In Collaboration with RobecoSAM

2020 MSCI ESG Leaders Indexes Constituent

MSCI
ESG RATINGS
AA

CDP
A LIST
2019
WATER

CDP
SUPPLIER ENGAGEMENT LEADER
2019



Japan

2020 CONSTITUENT MSCI JAPAN
ESG SELECT LEADERS INDEX

2020 CONSTITUENT MSCI JAPAN
EMPOWERING WOMEN INDEX (WIN)



- Nominated for Excellent Integrated Reports selected by GPIF (Government Pension Investment Fund) for the third consecutive year

- Received IR Special Award for the first time from Japan Investor Relations Association



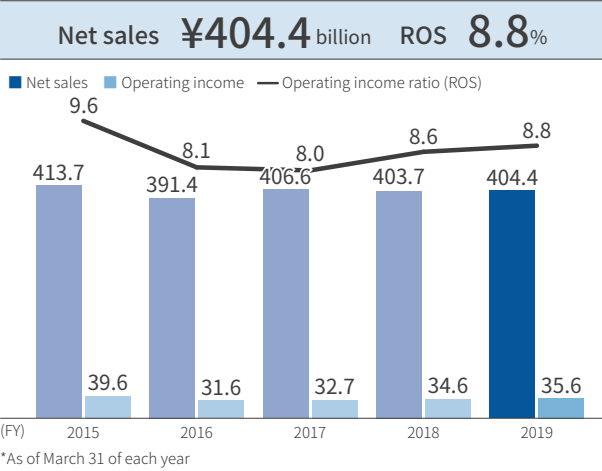
- Held sustainability briefing session for the first time



Financial Highlights

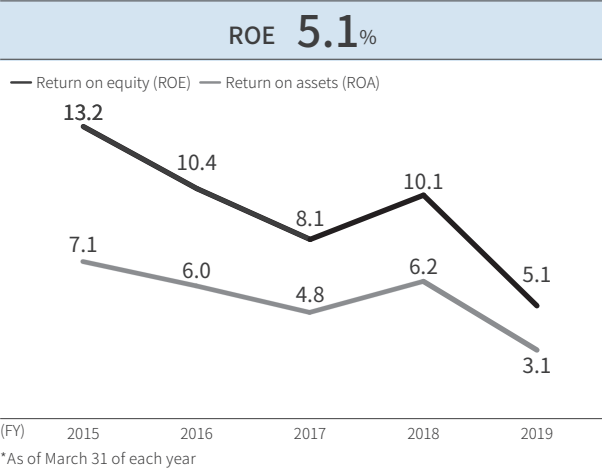
Earnings

Net sales (Billions of yen) / Operating income (Billions of yen) / Operating income ratio (ROS) (%)



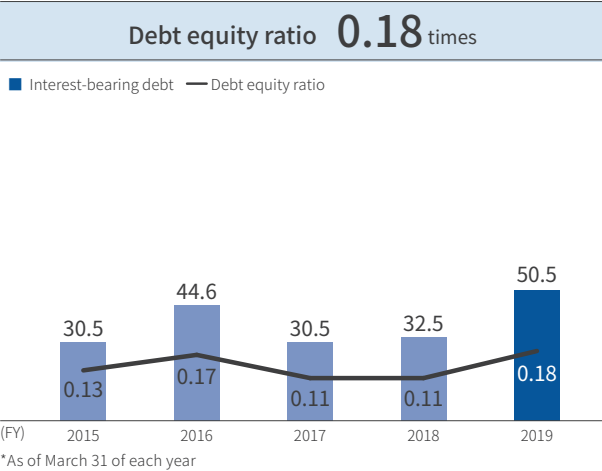
Efficiency

Return on equity (ROE) (%) / Return on assets (ROA) (%)

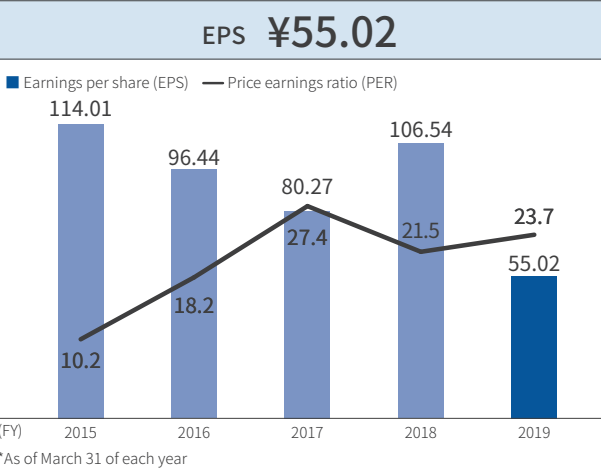


Soundness

Interest-bearing debt (Billions of yen) / Debt equity ratio (Times)

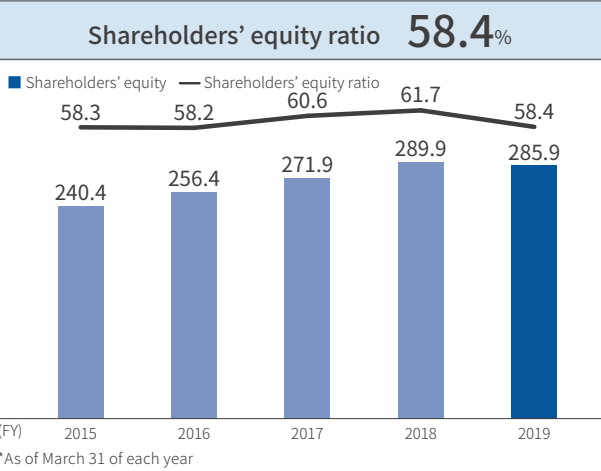


Earnings per share (EPS) (Yen) / Price earnings ratio (PER) (%)

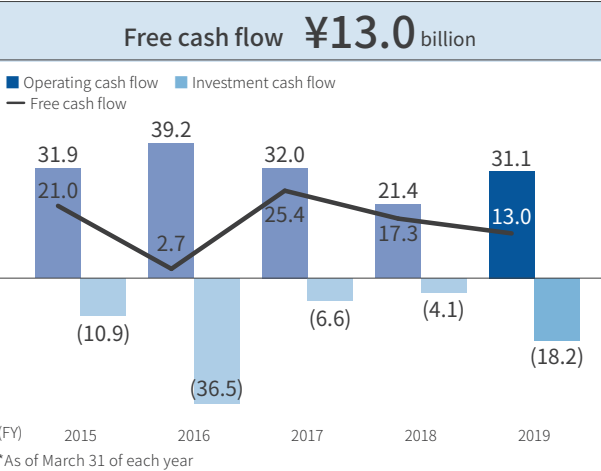


Soundness

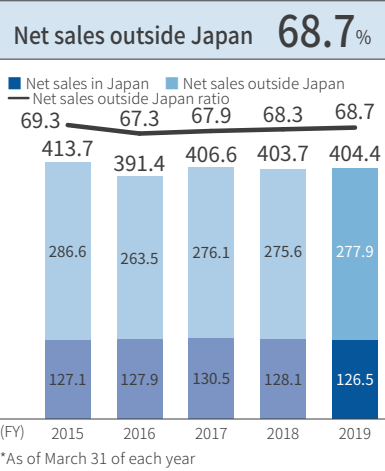
Shareholders' equity (Billions of yen) / Shareholders' equity ratio (%)



Cash flows (Billions of yen)

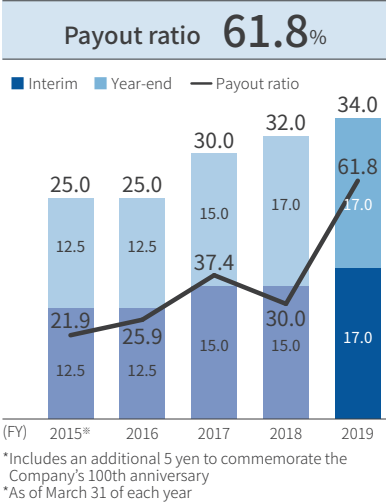


Net sales in Japan and outside Japan (Billions of yen) / Net sales outside Japan ratio (%)



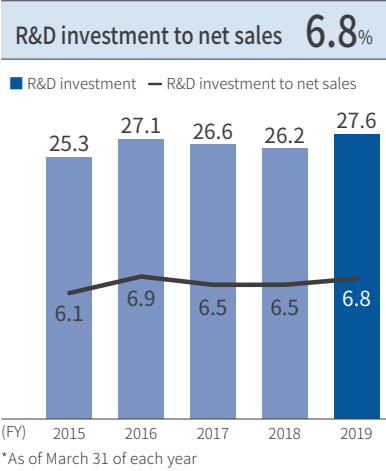
Distribution of Earnings

Dividend per share (Yen) / Payout ratio (%)

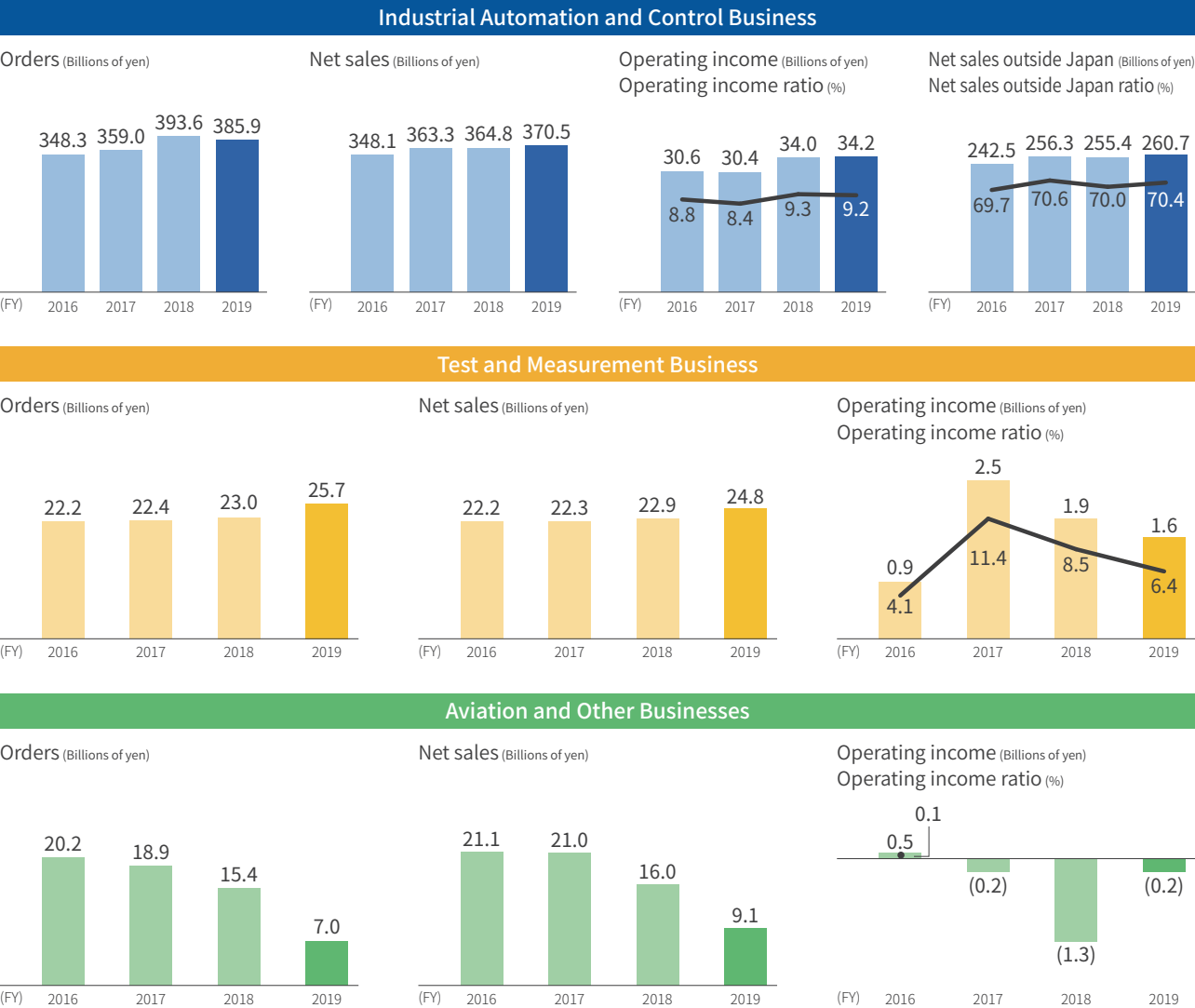


R&D

R&D investment (Billions of yen) / R&D investment to net sales (%)

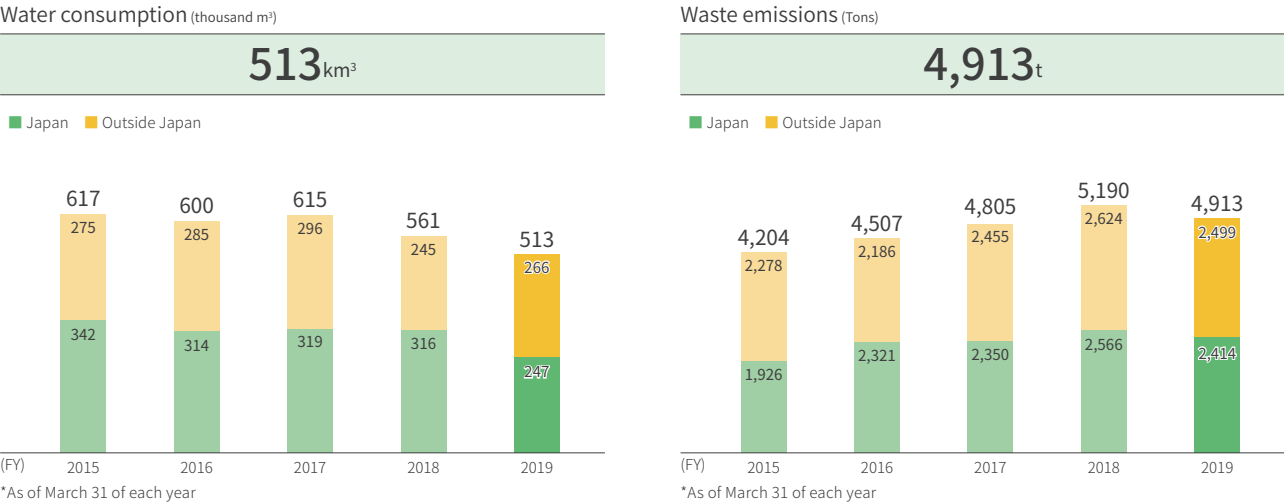
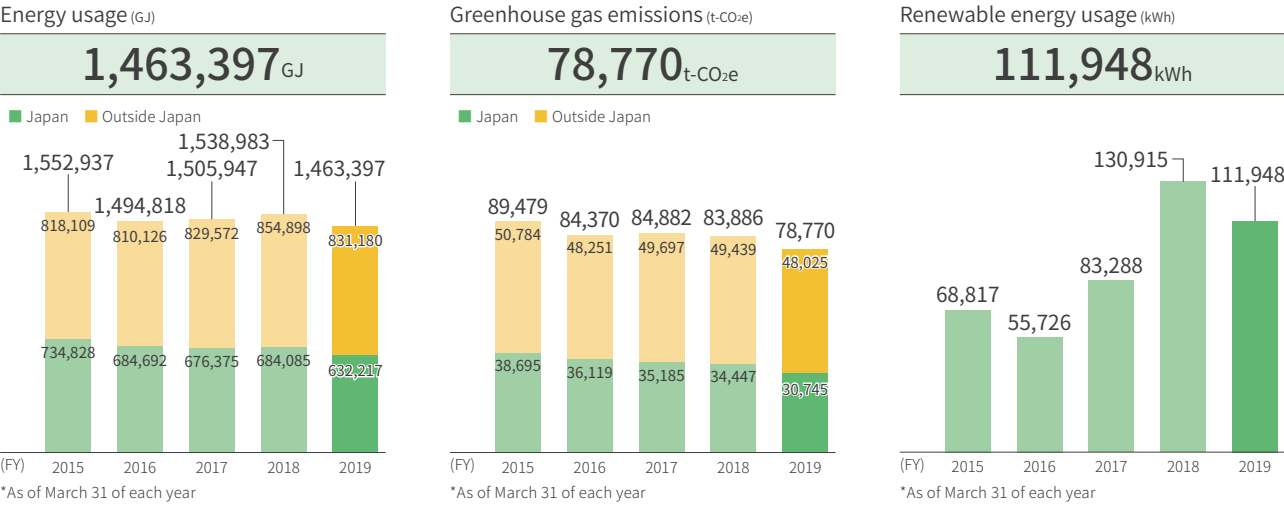


Highlights by Segment

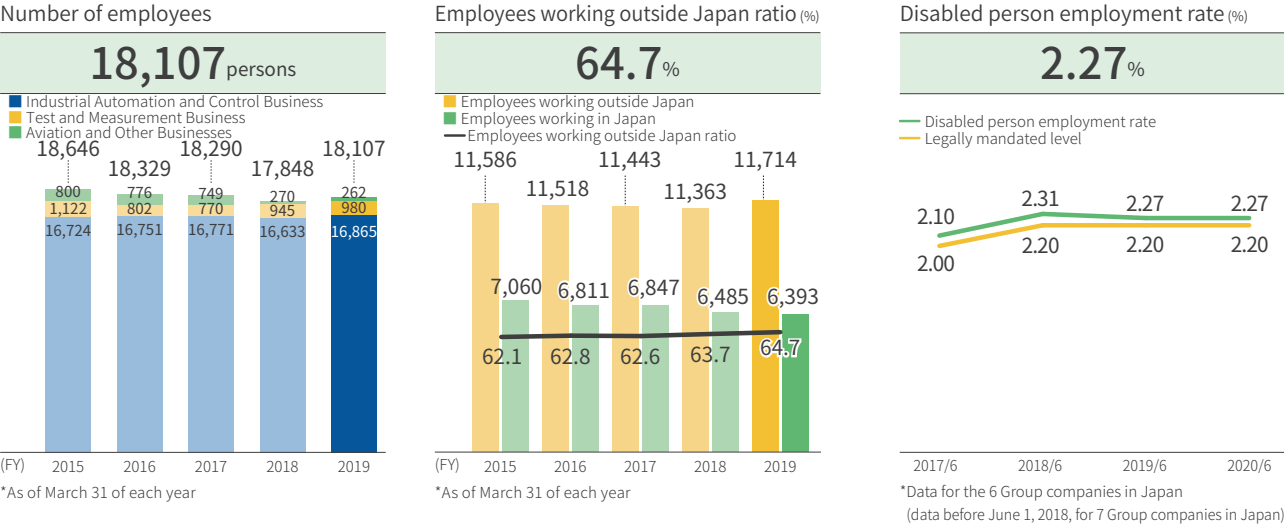


ESG Highlights

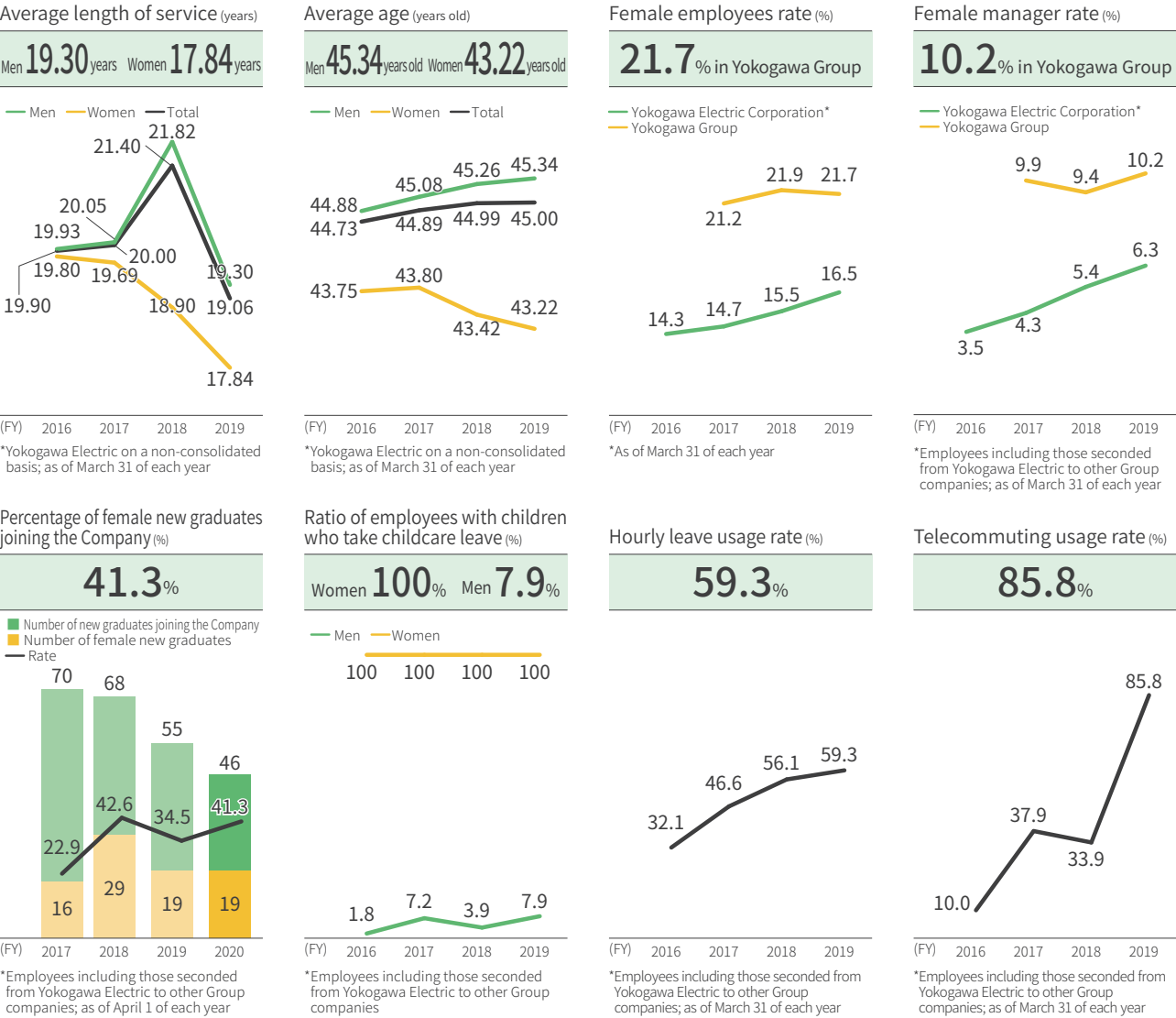
Environment



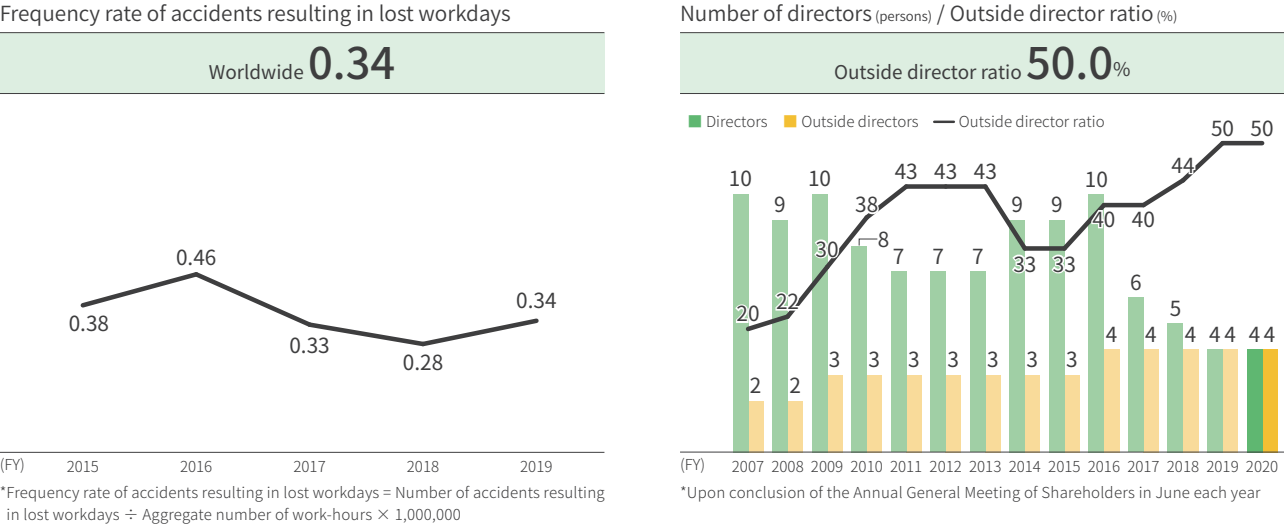
Employees



Employees



Occupational health & safety



Consolidated 11-Year Summary

| | (Billions of yen) | | | | | | | | | | (Millions of US dollars) | |
|--|-------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------------|-------|
| Fiscal year | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2019 |
| Financial data | | | | | | | | | | | | |
| Orders | 315.2 | 334.1 | 344.1 | 354.5 | 406.0 | 417.1 | 421.1 | 390.7 | 400.3 | 432.0 | 418.7 | 3,847 |
| Net sales | 316.6 | 325.6 | 334.7 | 347.9 | 388.5 | 405.8 | 413.7 | 391.4 | 406.6 | 403.7 | 404.4 | 3,716 |
| (Net sales outside Japan) | 177.3 | 184.7 | 198.9 | 213.9 | 259.4 | 281.1 | 286.6 | 263.5 | 276.1 | 275.6 | 277.9 | 2,554 |
| Cost of sales | 214.5 | 215.1 | 195.4 | 206.6 | 229.3 | 236.6 | 236.9 | 222.3 | 231.3 | 230.6 | 227.9 | 2,094 |
| Selling, general and administrative expenses | 99.5 | 99.4 | 122.6 | 122.8 | 133.3 | 139.4 | 137.1 | 137.5 | 142.6 | 138.5 | 140.9 | 1,295 |
| Operating income | 2.6 | 11.1 | 16.6 | 18.4 | 25.9 | 29.8 | 39.6 | 31.6 | 32.7 | 34.6 | 35.6 | 327 |
| Profit (loss) attributable to owners of parent | (14.8) | (6.7) | 6.0 | 14.7 | 12.3 | 17.2 | 30.2 | 25.8 | 21.4 | 28.4 | 14.7 | 135 |
| Capital expenditures | 11.1 | 11.3 | 11.1 | 13.5 | 14.0 | 14.1 | 15.4 | 14.2 | 13.2 | 15.0 | 19.6 | 180 |
| Depreciation and amortization | 16.0 | 13.8 | 12.8 | 13.5 | 13.6 | 14.5 | 15.1 | 18.0 | 18.3 | 17.7 | 18.8 | 173 |
| Research and development costs | 28.8 | 29.2 | 27.5 | 25.5 | 25.8 | 25.8 | 25.3 | 27.1 | 26.6 | 26.2 | 27.6 | 254 |
| Cash flow from operating activities | 21.4 | 16.2 | 12.9 | 17.4 | 30.1 | 38.3 | 31.9 | 39.2 | 32.0 | 21.4 | 31.1 | 286 |
| Cash flow from investing activities | (13.2) | (8.0) | (7.8) | (7.5) | (13.9) | (1.8) | (10.9) | (36.5) | (6.6) | (4.1) | (18.2) | (167) |
| Free cash flow | 8.2 | 8.2 | 5.1 | 9.9 | 16.2 | 36.5 | 21.0 | 2.7 | 25.4 | 17.3 | 13.0 | 119 |
| Cash flow from financing activities | 11.1 | (25.7) | (8.0) | (8.0) | (21.6) | (20.2) | (26.9) | 6.5 | (22.4) | (7.0) | 4.6 | 42 |
| At year-end | | | | | | | | | | | | |
| Total assets | 398.8 | 361.2 | 359.5 | 379.9 | 398.9 | 440.0 | 412.8 | 440.5 | 448.8 | 470.1 | 489.7 | 4,500 |
| Interest-bearing debt | 137.1 | 111.0 | 103.3 | 98.6 | 81.4 | 65.3 | 30.5 | 44.6 | 30.5 | 32.5 | 50.5 | 464 |
| Shareholders' equity | 153.4 | 141.7 | 145.7 | 168.4 | 187.3 | 215.5 | 240.4 | 256.4 | 271.9 | 289.9 | 285.9 | 2,627 |
| Financial indicators | | | | | | | | | | | | |
| Operating income ratio (ROS) | 0.8 | 3.4 | 5.0 | 5.3 | 6.7 | 7.3 | 9.6 | 8.1 | 8.0 | 8.6 | 8.8 | |
| Debt equity ratio (Times) | 0.89 | 0.78 | 0.71 | 0.59 | 0.44 | 0.30 | 0.13 | 0.17 | 0.11 | 0.11 | 0.18 | |
| Return on equity (ROE) | (9.2) | (4.5) | 4.1 | 9.4 | 6.9 | 8.6 | 13.2 | 10.4 | 8.1 | 10.1 | 5.1 | |
| Return on assets (ROA) | (3.7) | (1.8) | 1.7 | 4.0 | 3.1 | 4.1 | 7.1 | 6.0 | 4.8 | 6.2 | 3.1 | |
| Shareholders' equity ratio | 38.5 | 39.2 | 40.5 | 44.3 | 46.9 | 49.0 | 58.3 | 58.2 | 60.6 | 61.7 | 58.4 | |
| Per share data | | | | | | | | | | | | |
| Earnings per share (EPS) | (57.45) | (25.98) | 23.11 | 57.03 | 47.92 | 66.88 | 114.01 | 96.44 | 80.27 | 106.54 | 55.02 | 0.51 |
| Cash dividends | 2.00 | 0 | 5.00 | 10.00 | 12.00 | 12.00 | 25.00 | 25.00 | 30.00 | 32.00 | 34.00 | 0.31 |
| Shareholders' equity | 595.42 | 550.19 | 565.69 | 653.83 | 727.09 | 836.94 | 900.75 | 959.58 | 1,017.40 | 1,085.88 | 1,071.07 | 9.84 |
| Stock information | | | | | | | | | | | | |
| Stock price at the end of the term (Yen / US dollars) | 814 | 634 | 837 | 946 | 1,667 | 1,295 | 1,163 | 1,752 | 2,198 | 2,291 | 1,303 | 11.97 |
| Market capitalization (Billions of yen / Millions of US dollars) | 218.7 | 170.3 | 224.8 | 254.1 | 447.8 | 347.9 | 312.4 | 470.6 | 590.4 | 615.4 | 350.0 | 3,216 |
| Number of issued shares (shares) | 268,624,510 | 268,624,510 | 268,624,510 | 268,624,510 | 268,624,510 | 268,624,510 | 268,624,510 | 268,624,510 | 268,624,510 | 268,624,510 | 268,624,510 | — |
| Exchange rate information | | | | | | | | | | | | |
| Average yen / US dollar exchange rate during the year | 92.61 | 85.13 | 78.82 | 83.33 | 100.67 | 110.58 | 119.99 | 108.95 | 110.70 | 111.07 | 108.96 | |

Note: Figures are rounded down to the nearest 100 million yen.

| | | | | | | | | | | | | |
|---|--------|--------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--|
| Non-financial data*¹ | | | | | | | | | | | | |
| Number of employees (by segment) | 19,574 | 19,334 | 19,437 | 19,685 | 19,837 | 19,601 | 18,646 | 18,329 | 18,290 | 17,848 | 18,107 | |
| Industrial Automation and Control Business | 15,995 | 16,159 | 16,672 | 17,188 | 17,669 | 17,593 | 16,724 | 16,751 | 16,771 | 16,633 | 16,865 | |
| Test and Measurement Business | 2,469 | 2,288 | 1,968 | 1,667 | 1,328 | 1,171 | 1,122 | 802 | 770 | 945 | 980 | |
| Aviation and Other Businesses | 1,110 | 887 | 797 | 830 | 840 | 837 | 800 | 776 | 749 | 270 | 262 | |
| Environmental data | | | | | | | | | | | | |
| Energy usage (GJ) | | | 1,906,665 | 1,850,857 | 1,732,042 | 1,710,907 | 1,552,937 | 1,494,818 | 1,505,947 | 1,538,983 | 1,463,397 | |
| Greenhouse gas emissions (t-CO ₂ e) | | | 94,244 | 102,312 | 103,411 | 99,195 | 89,479 | 84,370 | 84,882 | 83,886 | 78,770 | |
| Renewable energy usage (kWh) | | | 89,066 | 96,856 | 86,442 | 85,480 | 68,817 | 55,726 | 83,288 | 130,915 | 111,948 | |
| Water consumption (thousand m ³) | | | 813 | 846 | 737 | 723 | 617 | 600 | 615 | 561 | 513 | |
| Waste emissions (Tons) | | | 6,706 | 6,343 | 5,143 | 6,023 | 4,204 | 4,507 | 4,805 | 5,190 | 4,913 | |
| Occupational health & safety | | | | | | | | | | | | |
| Frequency rate of accidents resulting in lost workdays * ² | | | 0.29 | 0.32 | 0.39 | 0.53 | 0.38 | 0.46 | 0.33 | 0.28 | 0.34 | |

*1 For environmental data for fiscal year 2019, certification by Lloyd's Register Quality Assurance Limited has been obtained based on third-party assessment.

*2 Frequency rate of accidents resulting in lost workdays = Number of accidents resulting in lost workdays ÷ Aggregate number of work-hours × 1,000,000. Calculated on a calendar basis, including dispatched and contract workers, until 2014, and on the newly defined basis from 2015 onwards

Risks Relating to the Group’s Business

Described below are matters related to the Group’s business that are considered to be main sources of risk or that could have a significant effect on investor decision-making. Recognizing the possibility that such risks may materialize, the Group will work to avoid these risks and take appropriate measures should they occur. However, investment decisions regarding Yokogawa’s securities should be made carefully by evaluating the matters stipulated below along with matters mentioned in other sections of this document. The risks described below include forward-looking statements that are based on judgments made by the Group at the end of fiscal year 2019 and are subject to uncertainties. Actual results may therefore vary from the statements.

(1) Risk Relating to the business Deployment (Changes in the external business environment)
The scope of the Group’s activities extends not only within Japan but also to various parts of the world. Other external conditions in each region could adversely affect the group’s business results and financial condition. Specifically, the following risks are involved.

- Political or economic factors in each country
- Impact of taxation and trade restrictions
- Differences in commercial practices outside Japan
- Natural disasters (earthquakes, fires, floods/tsunami, etc.)
- Social turmoil stemming from wars, riots, terrorism, infectious diseases, strikes, and other factors
- Cyberattacks against Company products, services and internal infrastructure
- Incomplete understanding of regulations, sanctions, patents, etc., in each counties where we operate, including for environmental protection

The Company strive to prevent, avoid, and reduce the impact of these risks by collecting information within the Group and contracting with external organizations. COVID -19 is expanding globally, and the outlook for the global economy is becoming increasingly uncertain. Crude oil prices are expected to remain low for a certain period of time due to a significant decrease in fuel demand caused by economic stagnation. As a result, the Company has made major revisions to its capital investment plans for fiscal 2020, particularly in energy-related industries such as oil and gas. In non-energy-related industries as well, the decline in demand due to the economic downturn is expected to lead to a significant decline in customers' desire to make capital investments, and the decline in capital investment projects is expected to further intensify price competition with competitors.

In the Industrial Automation and Control Business , the company’s flagship business, the OPEX (Operating Expenditure) business is expanding to ensure the safe and stable operation of customers' existing facilities as well as to improve productivity. However, economic activities have been severely limited by the spread of COVID -19 infection, which has led to a decrease in energy resource demand and price declines, and in the event that such a situation persists, the Group is expected to be significantly affected. As a result, risks to the Group’s orders and sales in fiscal 2020 are becoming apparent. Amid the ever-changing business environment, taking into account trends in customers and society, and anticipating society after COVID -19 has been brought under control, in fiscal 2020 the Company will clarify its priorities for the strategies of the entire Group, including Transformation 2020 the med-term business plan for the final fiscal year, and promptly implement the action plan.

(Related to markets/competitive environment)
① cost competitiveness
As the Company aggressively develop its businesses, competition in new construction and modernization projects is intensifying, and demands for cost reductions are intensifying. At the same time, resource-rich and emerging countries are increasingly placing priority on their own countries, and demands for localization of procurement, including product production, employment and services, are increasing. Although the Company is working to strengthen its cost competitiveness, there is a risk

that the Company will lose business opportunities if it cannot effectively respond to the demands of these markets for cost reductions, including product and service costs and selling, general and administrative expenses. This could affect our group's business results and financial condition.

② Establishment of competitive advantages by use of digital technologies
There is a growing demand to dramatically increase productivity in business processes throughout the value chain and life cycle by utilizing digital technologies. The Company must respond to this demand as a business and establish a competitive advantage. Recognizing this as an opportunity for business growth, the group is working to create new value through digital transformation in a wide range of fields, not only for itself but also for its customers. If the Company can’t keep up with new technology or meet the demands of these markets, there appears risk losing business opportunities. This could affect the group's business results and financial condition.

③ Transformation of business model to match market needs
While changes in society and technological innovations are creating many new business models, the group’s customers are also increasingly demanding subscription businesses and other businesses that reduce initial deployment costs and provide flexibility in operation and maintenance after deployment. The group is also transforming its business model by working to realize performance-based compensation businesses and service-providing businesses. There is a risk that business opportunities will be lost if the group is unable to adequately respond to new market needs that are undergoing various changes in the future, or if it delays its efforts.
This could affect the group's business results and financial condition.

④ Market environment changes through climate change initiatives
The increasing demands of society on climate change initiatives may affect the strategies of the group’s customers. In the energy-related field, which is one of the group’s major customers, it recognize that they are studying measures to cope with environmental changes such as energy shifts from a long-term perspective. The group views these changes as business opportunities and is working to respond to changes in the market environment. However, if the group is unable to respond to such changes in the customer’s environment or if its efforts are delayed, there is a risk that business opportunities may be lost or corporate value may decline. This could affect the group’s business results and financial condition.

(Related to strategic investment)
The group is investing mainly to acquire technologies, sales channels, products and services, customers, human resources, and know-how, while strengthening strategic growth investments in existing businesses, challenges to new businesses and business models, and digital transformation, and examining M&As and alliances as necessary. The Company is fully prepared to carry out the entire process from project discovery to investment, to improve the accuracy of evaluation and verification, and to swiftly launch our business after investment. The Company is also working to develop and utilize the human resources that support it. However, there is a risk that the expected results will not be achieved due to unexpected changes in the environment. In addition, there is a risk that the business may not be able to start up quickly after investment, if the acquired assets and opportunities are not fully utilized, and that the expected results may not be achieved. This could affect the group’s business results and financial condition.

(Related to R&D)
The group regards basic research on measurement, control and

information, and the development of advanced technologies and digital technologies such as IIoT and AI as its most important management issues, and is continuously promoting the development of new technologies with a view to the future. In addition, in response to changes in international standards and standards, efforts to realize a sustainable society such as SDGs are being strengthened. However, there is a risk that development investments will not meet future market demands and targets as planned. In such cases, business opportunity losses may affect the group's business results and financial condition. The Company also continue to invest in R&D for product technology and service innovation to maintain our competitiveness. However, there is a risk that the Company’s R&D investment will not succeed if it fail to grasp market trends in products and services with growth potential. In addition, R&D investments do not produce innovative technologies or produce expected results, even if they fit the market.

There is a risk that the technology development may be preceded by competitors. In such cases, business opportunity losses may affect the group's business results and financial condition.

(Related to product quality and supply)
The group provides highly reliable products and services to customers through the accumulation of technology and know-how over many years and the development of a strict quality control system. However, there is a risk that defects in the group products and services may exist, and that damage may result from such defects. In such a case, the group's business results and financial condition may be affected and the group's overall business activities may be affected.

In addition, the Company is striving to reduce risks by constantly collecting information on market trends in major electronic parts and other products and striving to ensure stable procurement. In addition, the Company is thoroughly managing the quality and delivery dates of our suppliers and diversifying our suppliers to avoid excessive concentration and dependence on specific suppliers. However, there is a risk of delays or suspension of product supply in the event that procurement of electronic parts and manufacturing of important products become difficult due to supply chain disruptions caused by changes in the external environment. In such a case, the Group's overall business activities, including the group's production activities, could be affected, as well as the group's business results and financial condition.

(Related to project management)
In the group's business, particularly in project-type businesses that provide customers with products, engineering solution services, and products of other companies in bulk, the execution of project management is required reliably. We are striving to prevent the occurrence of unprofitable projects through such efforts as profit estimation in the process leading up to the receipt of orders, improvement in the accuracy of profitability management until delivery time, and thorough control on production and quality. However, there is a risk that we may incur unexpected costs or may be imposed with compensation liability due to delayed delivery if there are deviations from the assumed estimates, or problems in the management of profit, production, quality, etc. This could affect the group's business results and financial condision.

(2) Risks relating to management in general (Related to recruitment and training of human resources)
The Group’s growth is supported by its capable personnel such as human resources who support its leading-edge technologies and engineers who assure high levels of product quality. In particular, the importance of human resources with the ability to propose solutions, human resources with the ability to manage projects and engineering, and human resources with the skills and knowledge related to AI, digital technology, and the company’s new businesses is increasing. The Group continues to globally

recruit and train human resources through education and training. However, there is a risk that we may not be able to secure and train the required human resources as planned in the future. In such a case, the Group's business results and financial condition may be affected as well as its effective business operations.

(Related to human rights)
The Group has established a policy on respect for human rights and expressed its support for the U.N. Global Compact, and is promoting its efforts while respecting the human rights policy and international human rights standards set forth in the U.N. Global Compact. Regarding human rights initiatives in the supply chain, the Group has provided guidelines on the prohibition of forced labor, inhumane treatment, child labor and discrimination, appropriate wages, legal compliance with working hours, and the right to organize. The Group supports internationally demanded human rights and strives to respect human rights. However, if a human rights problem occurs in the Group due to an unexpected situation, there is a risk that it may be imposed liability for compensation, and there is a risk that the Group's corporate value may decline, which could adversely affect the Group’s overall business activities and financial condition.

(Related to intellectual property rights)
The Group has built a complete management system for protecting its intellectual property rights and preventing infringement of the rights of other companies in the course of developing proprietary products and services. However, if such intellectual property rights are infringed upon by a third party and the Group is therefore unable to make an expected profit, or if the Group is deemed to have infringed upon the intellectual property rights of another company due to a difference in viewpoint or some other reason, there is a risk that it will be subsequently disadvantaged by its inability to use important technology and/or may be held liable for compensation, which could adversely affect the Group's business results and financial condition.

(Related to information security)
Through its business activities, the Group acquires personal or otherwise confidential information on its customers and trading partners. It therefore establishes systems to manage this information and provides employees training on information security. However, in the event that information is leaked or abused due to some unforeseen circumstance, there is a risk the Group will be held liable for compensation or the corporate value declined, which could adversely affect the Group’s business results and financial condition.

(3) Risks related to financial, others (Related to foreign exchange/interest fluctuations, stock price swings)
The group operates globally and uses many currencies for its business transactions and activities. The group enters into forward exchange contracts in order to respond to fluctuations in foreign exchange rates. However, there is a risk that foreign exchange may swing rapidly and sharply, which may affect the Group’s business results and financial condition.

There is a risk that changes of interest rates to the group's assets and liabilities may impact on interest earnings and asset value, which may affect on the Group's business results and financial condition.

There is a risk that the prices of stocks and other securities held by the group may fluctuate, which may affect the Group's business results and financial condition.

(Related to depreciation of owned assets)
There is a risk that the value of the group's business assets may decline due to market price falls and profitability drops. In such a case, the Group's business results and financial condition could be affected, including the occurrence of impairment losses.

See p. 53 for system to identify and manage risks

Financial Section

Consolidated Balance Sheet

Yokogawa Electric Corporation and its Consolidated Subsidiaries
March 31, 2020

| | Millions of yen | | Thousands of US dollars (Note 1) |
|---|-----------------|----------|-------------------------------------|
| | 2020 | 2019 | 2020 |
| ASSETS | | | |
| Current Assets: | | | |
| Cash and cash equivalents (Notes 9 and 15) | ¥99,658 | ¥85,701 | \$915,727 |
| Receivables (Notes 9 and 15) | | | |
| Trade notes and accounts | 175,687 | 171,084 | 1,614,333 |
| Other | 2,534 | 2,459 | 23,284 |
| Less: Allowance for doubtful accounts | (3,673) | (4,130) | (33,754) |
| Net receivables | 174,548 | 169,413 | 1,603,862 |
| Inventories (Notes 5 and 6) | 37,342 | 36,841 | 343,122 |
| Other | 17,333 | 14,603 | 159,267 |
| Total current assets | 328,882 | 306,560 | 3,021,980 |
| Property, Plant and Equipment (Notes 7 and 8): | | | |
| Land | 15,162 | 15,750 | 139,319 |
| Buildings and structures-net | 44,306 | 45,721 | 407,116 |
| Machinery, equipment and vehicles-net | 6,704 | 6,492 | 61,603 |
| Tools, furniture and fixtures-net | 5,881 | 5,875 | 54,042 |
| Construction in progress | 2,815 | 1,102 | 25,872 |
| Right-of-use assets-net | 7,929 | | 72,864 |
| Lease assets-net (Note 14) | 259 | 198 | 2,383 |
| Total property, plant and equipment | 83,059 | 75,141 | 763,201 |
| Investments and Other Assets: | | | |
| Investment securities (Notes 4, 9 and 15) | 31,958 | 33,316 | 293,655 |
| Investments in and advances to unconsolidated subsidiaries and affiliated companies (Note 15) | 10,974 | 9,233 | 100,840 |
| Goodwill (Note 8) | 3,132 | 6,608 | 28,787 |
| Software (Note 8) | 12,525 | 15,798 | 115,089 |
| Other intangible assets (Note 8) | 7,108 | 11,650 | 65,317 |
| Deferred tax assets (Note 12) | 6,485 | 6,606 | 59,588 |
| Other | 7,524 | 7,214 | 69,137 |
| Less: Allowance for doubtful accounts | (1,971) | (2,016) | (18,118) |
| Total investments and other assets | 77,737 | 88,412 | 714,299 |
| Total Assets | ¥489,678 | ¥470,114 | \$4,499,482 |

See notes to consolidated financial statements.

| | Millions of yen | | Thousands of US dollars (Note 1) |
|---|-----------------|----------|-------------------------------------|
| | 2020 | 2019 | 2020 |
| LIABILITIES AND EQUITY | | | |
| Current Liabilities: | | | |
| Short-term loans payable (Notes 9, 15 and 17) | ¥1,807 | ¥3,568 | \$16,607 |
| Current portion of long-term debt (Notes 9 and 15) | 14,592 | 10,537 | 134,088 |
| Commercial papers (Notes 9 and 15) | 30,000 | | 275,659 |
| Current portion of lease obligations (Notes 9 and 15) | 2,202 | 273 | 20,238 |
| Payables (Notes 9 and 15) | | | |
| Trade notes and accounts | 24,358 | 25,130 | 223,818 |
| Electronically recorded obligations-operating | 9,723 | 9,966 | 89,347 |
| Other | 13,367 | 13,530 | 122,829 |
| Income taxes payable (Note 15) | 4,769 | 4,332 | 43,829 |
| Accrued expenses | 29,024 | 27,429 | 266,691 |
| Advance received | 33,382 | 36,891 | 306,735 |
| Provision for contract loss (Notes 6 and 18) | 7,606 | 7,806 | 69,890 |
| Provision for loss from program errors | 898 | | 8,255 |
| Other | 7,167 | 8,201 | 65,857 |
| Total current liabilities | 178,900 | 147,669 | 1,643,849 |
| Long-term Liabilities: | | | |
| Long-term debt (Notes 9 and 15) | 4,080 | 18,872 | 37,489 |
| Lease obligations (Notes 9 and 15) | 6,757 | 201 | 62,093 |
| Liability for retirement benefits (Note 10) | 4,590 | 4,050 | 42,182 |
| Provision for loss from program errors | 1,840 | | 16,911 |
| Deferred tax liabilities (Note 12) | 793 | 1,914 | 7,287 |
| Other | 1,243 | 1,255 | 11,429 |
| Total long-term liabilities | 19,305 | 26,293 | 177,394 |
| Commitments and Contingent Liabilities (Notes 14, 16 and 17) | | | |
| Equity (Notes 11 and 22): | | | |
| Common stock, authorized, 600,000,000 shares; issued, 268,624,510 shares in 2020 and 2019 | 43,401 | 43,401 | 398,796 |
| Capital surplus | 54,386 | 54,602 | 499,738 |
| Retained earnings | 199,080 | 193,468 | 1,829,277 |
| Treasury stock, 1,690,805 shares in 2020 and 1,689,149 shares in 2019 | (1,400) | (1,397) | (12,872) |
| Accumulated other comprehensive income | | | |
| Net unrealized gain on available-for-sale securities | 7,020 | 9,431 | 64,511 |
| Deferred gain on derivatives under hedge accounting | | 20 | |
| Foreign currency translation adjustments | (14,677) | (8,314) | (134,868) |
| Defined retirement benefit plans | (1,905) | (1,351) | (17,512) |
| Total | (9,562) | (214) | (87,870) |
| Non-controlling interests | 5,568 | 6,290 | 51,167 |
| Total equity | 291,472 | 296,150 | 2,678,237 |
| Total Liabilities and Equity | ¥489,678 | ¥470,114 | \$4,499,482 |

Consolidated Statement of Income

Yokogawa Electric Corporation and its Consolidated Subsidiaries
Year Ended March 31, 2020

| | Millions of yen | | Thousands of US dollars (Note 1) |
|--|-----------------|------------------------|-------------------------------------|
| | 2020 | 2019 | 2020 |
| Net Sales | ¥404,432 | ¥403,711 | \$3,716,190 |
| Cost of Sales (Notes 13 and 18) | 227,922 | 230,641 | 2,094,301 |
| Gross profit | 176,510 | 173,070 | 1,621,888 |
| Selling, General and Administrative Expenses (Notes 13 and 18) | 140,921 | 138,475 | 1,294,875 |
| Operating income | 35,588 | 34,594 | 327,013 |
| Other Income (Expenses): | | | |
| Interest and dividend income | 2,266 | 2,323 | 20,827 |
| Interest expense | (746) | (480) | (6,858) |
| Loss on valuation of investment securities | (92) | (176) | (849) |
| Net gain on sales of investment securities and investment in affiliated companies (Note 3) | 26 | 716 | 241 |
| Foreign exchange loss-net | (1,884) | (545) | (17,318) |
| Net gain (loss) on disposal of property, plant and equipment (Note 18) | 217 | (346) | 2,001 |
| Loss on impairment of long-lived assets (Note 8) | (9,507) | (113) | (87,361) |
| Equity in earnings of affiliates | 1,405 | 1,086 | 12,918 |
| Net gain on sale of investment in a subsidiary (Note 23) | 1,468 | 1,576 | 13,491 |
| Gain on sale of businesses (Note 18) | 823 | | 7,570 |
| Provision for loss from program errors (Note 18) | (3,478) | | (31,965) |
| Other-net | (328) | (208) | (3,020) |
| Other income (expenses)-net | (9,829) | 3,833 | (90,323) |
| Income before Income Taxes | 25,759 | 38,428 | 236,690 |
| Income Taxes (Note 12): | | | |
| Current | 10,125 | 10,784 | 93,035 |
| Deferred | (775) | (2,530) | (7,129) |
| Total income taxes | 9,349 | 8,253 | 85,905 |
| Net income | 16,409 | 30,174 | 150,785 |
| Net income attributable to non-controlling interests | 1,722 | 1,727 | 15,831 |
| Net income attributable to owners of the parent | ¥14,686 | ¥28,446 | \$134,953 |
| | | | |
| Yen | | US dollars (Note 1) | |
| Per Share of Common Stock (Note 20): | | | |
| Basic net income | ¥55.02 | ¥106.54 | \$0.51 |
| Cash dividends applicable to the year | 34.00 | 32.00 | 0.31 |

See notes to consolidated financial statements.

Consolidated Statement of Comprehensive Income

Yokogawa Electric Corporation and its Consolidated Subsidiaries
Year Ended March 31, 2020

| | Millions of yen | | Thousands of US dollars (Note 1) |
|--|-----------------|---------|-------------------------------------|
| | 2020 | 2019 | 2020 |
| Net Income | ¥16,409 | ¥30,174 | \$150,785 |
| Other Comprehensive Loss (Note 19): | | | |
| Net unrealized loss on available-for-sale securities | (2,433) | (2,449) | (22,363) |
| Deferred (loss) gain on derivatives under hedge accounting | (20) | 49 | (186) |
| Foreign currency translation adjustments | (6,411) | (5) | (58,917) |
| Defined retirement benefit plans | (519) | (162) | (4,773) |
| Share of other comprehensive loss in affiliates | (204) | (93) | (1,875) |
| Total other comprehensive loss | (9,589) | (2,661) | (88,115) |
| Comprehensive Income | ¥6,820 | ¥27,513 | \$62,669 |
| Total Comprehensive Income Attributable to: | | | |
| Owners of the parent | ¥5,338 | ¥25,926 | \$49,057 |
| Non-controlling interests | 1,481 | 1,586 | 13,612 |

See notes to consolidated financial statements.

Consolidated Statement of Changes in Equity

Yokogawa Electric Corporation and its Consolidated Subsidiaries
Year Ended March 31, 2020

| | Millions of yen | | | | | | | | | | | |
|--|--|--|-----------------|-------------------|----------------|--|---|--|----------------------------------|----------|---------------------------|--------------|
| | Outstanding number of shares of common stock | Accumulated other comprehensive income | | | | | | | | | | Total equity |
| | | Common stock | Capital surplus | Retained earnings | Treasury stock | Net unrealized gain on available-for-sale securities | Deferred gain on derivatives under hedge accounting | Foreign currency translation adjustments | Defined retirement benefit plans | Total | Non-controlling interests | |
| Balance, April 1, 2018 | 267,227,361 | ¥43,401 | ¥54,560 | ¥173,034 | ¥ (1,393) | ¥11,873 | ¥(29) | ¥(8,426) | ¥(1,112) | ¥2,305 | ¥6,796 | ¥278,704 |
| Net income attributable to owners of the parent | | | | 28,446 | | | | | | | | 28,446 |
| Cash dividends, ¥30 per share | | | | (8,012) | | | | | | | | (8,012) |
| Purchase of treasury stock | (292,000) | | | | (4) | | | | | | | (4) |
| Other | | | 41 | | | | | | | | | 41 |
| Net change in the year | | | | | | (2,442) | 49 | 111 | (239) | (2,519) | (506) | (3,026) |
| Balance, March 31, 2019 | 266,935,361 | ¥43,401 | ¥54,602 | ¥193,468 | ¥(1,397) | ¥9,431 | ¥20 | ¥(8,314) | ¥(1,351) | ¥(214) | ¥6,290 | ¥296,150 |
| Net income attributable to owners of the parent | | | | 14,686 | | | | | | | | 14,686 |
| Cash dividends, ¥34 per share | | | | (9,075) | | | | | | | | (9,075) |
| Purchase of treasury stock | (1,656) | | | | (3) | | | | | | | (3) |
| Change in the parent's ownership interest due to transactions with non-controlling interests | | | (216) | | | | | | | | | (216) |
| Net change in the year | | | | | | (2,410) | (20) | (6,363) | (553) | (9,348) | (722) | (10,070) |
| Balance, March 31, 2020 | 266,933,705 | ¥43,401 | ¥54,386 | ¥199,080 | ¥(1,400) | ¥7,020 | | ¥(14,677) | ¥(1,905) | ¥(9,562) | ¥5,568 | ¥291,472 |

| | Thousands of US dollars (Note 1) | | | | | | | | | | |
|--|--|-----------------|-------------------|----------------|--|---|--|----------------------------------|------------|---------------------------|--------------|
| | Accumulated other comprehensive income | | | | | | | | | | |
| | Common stock | Capital surplus | Retained earnings | Treasury stock | Net unrealized gain on available-for-sale securities | Deferred gain on derivatives under hedge accounting | Foreign currency translation adjustments | Defined retirement benefit plans | Total | Non-controlling interests | Total equity |
| Balance, April 1, 2019 | \$398,796 | \$501,723 | \$1,777,713 | \$(12,841) | \$86,662 | \$186 | \$(76,400) | \$(12,422) | \$(1,974) | \$57,802 | \$2,721,221 |
| Net income attributable to owners of the parent | | | 134,953 | | | | | | | | 134,953 |
| Cash dividends, \$0.31 per share | | | (83,389) | | | | | | | | (83,389) |
| Purchase of treasury stock | | | | (31) | | | | | | | (31) |
| Change in the parent's ownership interest due to transactions with non-controlling interests | | (1,985) | | | | | | | | | (1,985) |
| Net change in the year | | | | | (22,151) | (186) | (58,467) | (5,090) | (85,896) | (6,635) | (92,531) |
| Balance, March 31, 2020 | \$398,796 | \$499,738 | \$1,829,277 | \$(12,872) | \$64,511 | | \$(134,868) | \$(17,512) | \$(87,870) | \$51,167 | \$2,678,237 |

See notes to consolidated financial statements.

Consolidated Statement of Cash Flows

Yokogawa Electric Corporation and its Consolidated Subsidiaries
Year Ended March 31, 2020

| | Millions of yen | | Thousands of US dollars (Note 1) |
|--|-----------------|----------|----------------------------------|
| | 2020 | 2019 | 2020 |
| Operating Activities: | | | |
| Income before income taxes | ¥25,759 | ¥38,428 | \$236,690 |
| Adjustments for: | | | |
| Income taxes paid | (10,774) | (11,664) | (99,003) |
| Depreciation and amortization | 18,032 | 16,126 | 165,690 |
| Goodwill amortization | 759 | 880 | 6,979 |
| Equity in earnings of affiliates | (1,405) | (1,086) | (12,918) |
| Net (gain) loss on disposal of property, plant and equipment | (217) | 346 | (2,001) |
| Gain on sales of investment securities and investment in affiliated companies | (26) | (716) | (241) |
| Gain on sale of investment in a subsidiary | (1,468) | (1,576) | (13,491) |
| Gain on sale of businesses | (823) | | (7,570) |
| Loss on impairment of long-lived assets | 9,507 | 113 | 87,361 |
| Provision for loss from program errors | 3,478 | | 31,965 |
| Changes in assets and liabilities: | | | |
| Increase in trade notes and accounts receivable | (13,039) | (15,733) | (119,814) |
| Increase in inventories | (2,872) | (9,017) | (26,397) |
| (Decrease) increase in trade notes and accounts payable | (402) | 1,860 | (3,697) |
| (Decrease) increase in allowance for doubtful accounts | (433) | 52 | (3,985) |
| Increase in liability for retirement benefits | 678 | 406 | 6,238 |
| Other assets and liabilities | 2,029 | 1,031 | 18,644 |
| Other-net | 2,352 | 1,959 | 21,618 |
| Total adjustments | 5,373 | (17,018) | 49,377 |
| Net cash provided by operating activities | 31,132 | 21,410 | 286,067 |
| Investing Activities: | | | |
| Net (increase) decrease in time deposits | (1,192) | 1,568 | (10,958) |
| Purchases of property, plant and equipment | (9,925) | (7,890) | (91,198) |
| Proceeds from sale of property, plant and equipment | 867 | 174 | 7,972 |
| Acquisitions of intangible assets | (7,090) | (5,593) | (65,151) |
| Proceeds from sale of businesses | 902 | | 8,288 |
| Proceeds from sale of investment securities | 45 | 1,100 | 421 |
| Purchases of investment securities | (1,696) | (1,392) | (15,589) |
| Purchases of investments in subsidiaries with changes in consolidation scope | (1,550) | (194) | (14,248) |
| Purchases of investments in affiliated companies | (759) | | (6,975) |
| Proceed from sale of investments in a subsidiary with changes in consolidation scope | 2,287 | 8,027 | 21,019 |
| Other-net | (70) | 112 | (648) |
| Net cash used in investing activities | (18,182) | (4,088) | (167,070) |
| Forward | ¥12,950 | ¥17,322 | \$118,997 |

(Continued)

Consolidated Statement of Cash Flows

| | Millions of yen | | Thousands of US dollars |
|---|-----------------|---------|-------------------------|
| | 2020 | 2019 | 2020 |
| Forward | ¥12,950 | ¥17,322 | \$118,997 |
| Financing Activities: | | | |
| Net (decrease) increase in short-term loans payable | (1,615) | 2,481 | (14,845) |
| Net increase in commercial papers | 30,000 | | 275,659 |
| Repayments of long-term debt | (10,264) | (176) | (94,312) |
| Repayments of lease obligations | (2,790) | (507) | (25,636) |
| Cash dividends paid | (9,072) | (8,008) | (83,365) |
| Cash dividends paid to non-controlling shareholders | (1,316) | (773) | (12,096) |
| Payments from changes in ownership interests in subsidiaries that do not result in change in scope of consolidation | (354) | | (3,252) |
| Other-net | (3) | (4) | (31) |
| Net cash provided by (used in) financing activities | 4,583 | (6,988) | 42,118 |
| Foreign Currency Translation Adjustments on Cash and Cash Equivalents | (3,577) | (469) | (32,869) |
| Net Increase in Cash and Cash Equivalents | 13,957 | 9,864 | 128,246 |
| Cash and Cash Equivalents, Beginning of Year | 85,701 | 75,836 | 787,481 |
| Cash and Cash Equivalents, End of Year | ¥99,658 | ¥85,701 | \$915,727 |

See notes to consolidated financial statements.

Notes to Consolidated Financial Statements

Yokogawa Electric Corporation and its Consolidated Subsidiaries
Year Ended March 31, 2020

1. Basis of Presentation of the Consolidated Financial Statements

The accompanying consolidated financial statements have been prepared in accordance with the provisions set forth in the Japanese Financial Instruments and Exchange Act and its related accounting regulations and in accordance with accounting principles generally accepted in Japan (“Japanese GAAP”), which are different in certain respects as to application and disclosure requirements of the International Financial Reporting Standards.

In preparing these consolidated financial statements, certain reclassifications and rearrangements have been made to the consolidated financial statements issued in Japan in order to present them in a form which is more familiar to readers outside Japan. In addition, certain reclassifications have been made in the 2019 consolidated financial statements to conform to the classifications used in 2020.

The consolidated financial statements are stated in Japanese yen, the currency of the country in which Yokogawa

Electric Corporation (the “Company”) is incorporated and operates. The translations of Japanese yen amounts into US dollar amounts are included solely for the convenience of readers outside Japan and have been made at the rate of ¥108.83 to \$1, the approximate rate of exchange at March 31, 2020. Such translations should not be construed as representations that the Japanese yen amounts could be converted into US dollars at that or any other rate.

Japanese yen figures less than a million yen and U.S. dollars figures less than a thousand dollars are rounded down to the nearest million yen and thousand dollars, except for per share data. As a result, totals in millions of yen and thousands of U.S. dollars may not add up exactly. Japanese yen figures less than a million yen as of March 31, 2020 and 2019 and for the years then ended are also rounded down to the nearest million yen, which is different from the previous disclosure.

2. Summary of Significant Accounting Policies

● **a. Consolidation**—The consolidated financial statements as of March 31, 2020 include the accounts of the Company and its 109 (108 in 2019) significant subsidiaries (together, the “Group”). Changes include i) purchases of Grazper Technologies ApS and RAP International Ltd.; ii) establishment of Yokogawa Qatar QFZ LLC and Yokogawa Czech Republic, s.r.o.; iii) sale of Yokogawa Medical Solutions Corporation; iv) liquidation of Yokogawa Test Solutions Corporation; v) absorption of Yokogawa Service Ltda. by Yokogawa America do Sul Ltda.

Under the control and influence concept, those companies in which the Company, directly or indirectly, is able to exercise control over operations are fully consolidated, and those companies over which the Group has the ability to exercise significant influence are accounted for by the equity method.

Investments in 1 (1 in 2019) unconsolidated subsidiary and 4 (3 in 2019) affiliated companies are accounted for by the equity method. Sensire Ltd. was included in the scope of equity method due to purchase of its shares for the year ended March 31, 2020.

The excess of the cost of an acquisition over the fair value of the net assets of the acquired subsidiary at the date of acquisition is being amortized on a straight-line basis over a period of up to 20 years. When the amount is not material, the excess of the cost of an acquisition over the fair value of the net assets of the acquired subsidiary is charged to income at the date of acquisition.

All significant intercompany balances and transactions have been eliminated on consolidation. All material unrealized

profit included in assets resulting from transactions within the Group is also eliminated.

● **b. Unification of Accounting Policies Applied to Foreign Subsidiaries for the Consolidated Financial Statements**—Under Accounting Standards Board of Japan (the “ASBJ”) Practical Issues Task Force (“PITF”) No. 18, “Practical Solution on Unification of Accounting Policies Applied to Foreign Subsidiaries for the Consolidated Financial Statements,” the accounting policies and procedures applied to a parent company and its subsidiaries for similar transactions and events under similar circumstances should in principle be unified for the preparation of the consolidated financial statements. However, financial statements prepared by foreign subsidiaries in accordance with either International Financial Reporting Standards or generally accepted accounting principles in the United States of America (Financial Accounting Standards Board Accounting Standards Codification—“FASB ASC”) tentatively may be used for the consolidation process, except for the following items which should be adjusted in the consolidation process so that net income is accounted for in accordance with Japanese GAAP unless they are not material: (1) amortization of goodwill; (2) scheduled amortization of actuarial gain or loss of pensions that has been directly recorded in equity through other comprehensive income; (3) expensing capitalized development costs of R&D; (4) cancellation of the fair value model accounting for property, plant, and equipment and investment properties and incorporation of the cost model of

accounting; and (5) recording a gain or loss through profit or loss on the sale of an investment in an equity instrument for the difference between the acquisition cost and selling price, and recording impairment loss through profit or loss for other-than-temporary declines in the fair value of an investment in an equity instrument, where a foreign subsidiary elects to present in other comprehensive income subsequent changes in the fair value of an investment in an equity instrument.

● **c. Business Combinations**—Business combinations are accounted for using the purchase method. Acquisition-related costs, such as advisory fees or professional fees are accounted for as expenses in the periods in which the costs are incurred. If the initial accounting for a business combination is incomplete by the end of the reporting period in which the business combination occurs, an acquirer shall report in its financial statements provisional amounts for the items for which the accounting is incomplete. During the measurement period, which shall not exceed one year from the acquisition, the acquirer shall retrospectively adjust the provisional amounts recognized at the acquisition date to reflect new information obtained about facts and circumstances that existed as of the acquisition date and that would have affected the measurement of the amounts recognized as of that date. Such adjustments shall be recognized as if the accounting for the business combination had been completed at the acquisition date. The acquirer recognizes the bargain purchase gain in profit or loss immediately on the acquisition date after reassessing and confirming that all of the assets acquired and all of the liabilities assumed have been identified after a review of the procedures used in the purchase price allocation. A parent’s ownership interest in a subsidiary might change if the parent purchases or sells ownership interests in its subsidiary. The carrying amount of non-controlling interest is adjusted to reflect the change in the parent’s ownership interest in its subsidiary while the parent retains its controlling interest in its subsidiary. Any difference between the fair value of the consideration received or paid and the amount by which the non-controlling interest is adjusted is accounted for as capital surplus as long as the parent retains control over its subsidiary.

● **d. Cash Equivalents**—Cash equivalents are short-term investments that are readily convertible into cash and are exposed to insignificant risk of changes in value. Specifically, cash equivalents represent time deposits that mature within three months of the date of placement.

● **e. Inventories**—Inventories are stated at the lower of cost or the net selling value. Cost is mainly determined by the specific identification method for finished goods and work in process, and by the average method for merchandise, raw materials and supplies.

● **f. Investment Securities**—Investment securities are comprised of available-for-sale securities, which are reported at fair value, with unrealized gains and losses, net of applicable taxes, reported under accumulated other comprehensive income in a separate component of equity. Costs of securities sold are calculated primarily by moving average method.

Non-marketable available-for-sale securities are stated at cost determined by the moving-average method. For other-than-temporary declines in fair value, investment securities are reduced to net realizable value by a charge to income.

● **g. Property, Plant and Equipment**—Property, plant and equipment are stated at cost less accumulated depreciation and any impairment in value. Depreciation of property, plant and equipment is mainly calculated by the straight-line method over their estimated useful lives. The estimated useful lives range principally from 3 to 50 years for buildings, and from 4 to 10 years for machinery and equipment. The estimated useful lives for leased assets are the terms of the respective leases.

● **h. Intangible Assets**—Intangible assets consist mainly of software, technology assets, customer-related intangible assets and goodwill. Depreciation of intangible assets is mainly calculated by the straight-line method over their estimated useful lives. The estimated useful lives range principally from 5 to 10 years for software for internal use, from 10 to 15 years for customer-related intangible assets and mainly 7 to 10 years for technology assets.

● **i. Leases**—Finance lease transactions are capitalized by recognizing lease assets and lease obligations in the consolidated balance sheet.

All other leases are accounted for as operating leases.

(Accounting Change)

Overseas consolidated subsidiaries of the Group have applied IFRS No. 16, “Leases,” from the year ended March 31, 2020. IFRS No. 16 requires a lessee to recognize right-of-use assets and lease liabilities for substantially all leases on its balance sheet together with depreciation of right-of-use assets and interest expenses on lease liabilities on its statement of income.

As a result, right-of-use assets, current portion of lease obligations and lease obligations under long-term liabilities increased by ¥7,902 million (US\$72,616 thousand), ¥1,899 million (US\$17,451 thousand) and ¥6,495 million (US\$59,686 thousand), respectively, as of March 31, 2020. The impact on profit and loss for the year ended March 31, 2020 was immaterial.

The Group recognized the cumulative effect of applying IFRS No. 16 at the date of initial application in accordance with the transitional measure.

Depreciation of right-of-use assets is calculated by the straight-line method over shorter of their lease periods or their estimated useful lives.

● **j. Long-lived Assets**—The Group reviews its long-lived assets for impairment whenever events or changes in circumstance indicate the carrying amount of an asset or asset group may not be recoverable. An impairment loss is recognized if the carrying amount of an asset or asset group exceeds the sum of the undiscounted future cash flows expected to result from the continued use and eventual disposition of the asset or asset group. The impairment loss is measured as the amount by which the carrying amount of the asset exceeds its recoverable amount, which is the higher of the discounted cash flows from the continued use and eventual disposition of the asset or the net selling price at disposition.

● **k. Allowance for Doubtful Accounts**—The allowance for doubtful accounts is stated in amounts considered to be appropriate based on the Group’s past credit loss experience and an evaluation of potential losses in the receivables outstanding.

● **l. Provision for Loss from Program Errors**—Provision for loss from program errors is provided in estimated amounts of expenses to be incurred for future periods in connection with enhanced customer support and modification of programs to fix errors.

● **m. Retirement and Pension Plans**—The Company and most of its consolidated subsidiaries have defined contribution plans, and some other consolidated subsidiaries have defined benefit plans for employees.

The main method used to attribute expected benefits to each period is the benefit formula basis.

Actuarial gains or losses are amortized on a straight-line basis over a period within the average remaining years of service of the employees from the following year in which they arise.

Prior service cost is amortized on a straight line basis over a period within the average remaining years of service.

● **n. Research and Development Costs**—Research and development costs are charged to income as incurred.

● **o. Bonuses to Directors**—Bonuses to directors are accrued at the end of the year to which such bonuses are attributable.

● **p. Revenue Recognition**—Overseas subsidiaries have adopted International Financial Reporting Standards (“IFRS”) No. 15, “Revenue from Contracts with Customers,” from the beginning of the year ended March 31, 2019. The effects of applying IFRS No. 15 are immaterial.

● **q. Construction Contracts**—Construction revenue and construction costs are recognized by the percentage-of-completion method, if the outcome of a construction contract can be estimated reliably. The outcome of a construction contract can be estimated reliably when total construction revenue, total construction costs and the stage of completion of the contract at the balance sheet date can be reliably measured. If the outcome of a construction contract cannot be reliably estimated, the completed-contract method should be applied. When it is probable that the total construction costs will exceed total construction revenue, an estimated loss on the contract should be immediately recognized by providing for a loss on such construction contracts.

● **r. Income Taxes**—The provision for income taxes is computed based on the pretax income included in the consolidated statements of income. The asset and liability approach is used to recognize deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the carrying amounts and the tax bases of assets and liabilities. Deferred taxes are measured by applying currently enacted income tax rates to the temporary differences.

The Company and some domestic subsidiaries file their tax returns under the consolidated corporate tax system, which allows these companies to base tax payments on the combined profits or losses of the parent company and its wholly owned subsidiaries in Japan.

With regard to differences under the group tax sharing system established by “Act on Partial Revision of the Income Tax Act (Act No. 8, 2020)” and differences under the single tax return filing system reexamined together with transition to the group tax sharing system, the Company calculates the amounts of deferred tax assets and deferred tax liabilities based on the Income Tax Act before the revision, not applying Paragraph 44 of ASBJ Guidance No. 28, “Implementation Guidance on Tax Effect Accounting,” issued on February 16, 2018, as permitted by Paragraph 3 of the PITF No. 39 “Practical Solution on the Treatment of Tax Effect Accounting for the Transition from the Consolidated Taxation System to the Group Tax Sharing System,” issued on March 31, 2020.

● **s. Foreign Currency Transactions**—Monetary assets and liabilities denominated in foreign currencies at the balance sheet date are translated into Japanese yen at the exchange rate as of that date. The foreign exchange gains and losses from translation are recognized in the consolidated statement of income.

● **t. Foreign Currency Financial Statements**—The balance sheet accounts of the consolidated subsidiaries outside Japan are translated into Japanese yen at the prevailing exchange

rate as of the balance sheet date except for equity, which is translated at the historical rate. Differences arising from such translation are shown as “Foreign currency translation adjustments” under accumulated other comprehensive income in a separate component of equity. Revenue and expense accounts of consolidated subsidiaries outside Japan are translated into yen at the average exchange rate.

● **u. Derivatives and Hedging Activities**—The Company and certain consolidated subsidiaries use a variety of derivative financial instruments, including foreign currency forward contracts, currency options, and interest rate swaps, as a means of hedging foreign currency and interest rate risks. The Group does not enter into derivatives for trading or speculative purposes.

Derivative financial instruments and foreign currency transactions are classified and accounted for as follows: a) All derivatives other than those which qualify for hedge accounting are measured at fair value, and gains or losses are recognized in the consolidated statement of income. b) Derivatives used for hedging purposes, if the derivatives qualify for hedge accounting because of high correlation between the hedging instruments and the hedged items, gains or losses are deferred until maturity of the hedged transactions. These amounts are shown as “Deferred gain on derivative under hedge accounting” under accumulated other comprehensive income in a separate component of equity.

Foreign currency forward contracts are utilized to hedge the foreign currency risk of trade receivables denominated in foreign currencies. If the forward contracts qualify for hedge accounting, these trade receivables are translated at the contracted rates. Interest rate swaps are utilized to hedge the interest rate risk of long-term debt. Those interest rate swaps that qualify for hedge accounting and meet specific matching criteria are not re-measured at market value, but the differential paid or received under the swap agreements is recognized and included in interest expense or income.

● **v. Per Share Information**—Basic net income per share is computed by dividing net income attributable to common shareholders by the weighted-average number of common shares outstanding for the period.

Cash dividends per share presented in the accompanying consolidated statement of income are dividends applicable to the respective years including dividends to be paid after the end of the year.

● **w. New Accounting Pronouncements**—On March 30, 2018, the ASBJ issued ASBJ Statement No. 29, “Accounting Standard for Revenue Recognition” and ASBJ Guidance No. 30, “Implementation Guidance on Accounting Standard for Revenue Recognition,” and revised the standard and guidance

on March 31, 2020. The core principle of the standard and guidance is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. An entity should recognize revenue in accordance with that core principle by applying the following steps:

- Step 1: Identify the contract(s) with a customer
- Step 2: Identify the performance obligations in the contract
- Step 3: Determine the transaction price
- Step 4: Allocate the transaction price to the performance obligations in the contract
- Step 5: Recognize revenue when (or as) the entity satisfies a performance obligation

The accounting standard and guidance are effective for annual periods beginning on or after April 1, 2021. Earlier application is permitted for annual periods beginning on or after April 1, 2018.

The Company expects to apply the accounting standard and guidance issued in 2018 for annual periods beginning on or after April 1, 2020, and the accounting standard and guidance revised in 2020 for annual periods beginning on or after April 1, 2021, and is in the process of measuring the effects of applying the accounting standard and guidance in future applicable periods.

On July 4, 2019, the ASBJ issued the following accounting standards and implementation guidance:

- ASBJ Statement No. 30 “Accounting Standard for Fair Value Measurement”
- ASBJ Statement No. 9 (revised 2019) “Accounting Standard for Measurement of Inventories”
- ASBJ Statement No. 10 (revised 2019) “Accounting Standard for Financial Instruments”
- ASBJ Guidance No. 31 “Implementation Guidance on Accounting Standard for Fair Value Measurement”

On March 31, 2020, the ASBJ issued the following implementation guidance:

- ASBJ Guidance No. 19 (revised 2020) “Implementation Guidance on Disclosures about Fair Value of Financial Instruments”

The ASBJ promoted an initiative to enhance comparability of the requirements between the Japanese accounting standards and international accounting standards, primarily in the areas of guidance on the fair values of financial instruments and their disclosures, and issued “Accounting Standard for Fair Value Measurement,” etc., considering the circumstance where the IASB and the FASB have prescribed almost the similar detailed guidance (IFRS No. 13 “Fair Value Measurement” issued by IASB and Accounting Standard Codification Topic 820 “Fair Value Measurement” issued by FASB).

The ASBJ’s fundamental policies adopted for developing the “Accounting Standard for Fair Value Measurement,” etc. are,

in principle, to implement all the requirements of IFRS No. 13 from the viewpoint of enhancing the comparability of the financial statements of domestic and overseas companies by prescribing unified measurement methods, and also to prescribe exceptional treatments for individual matters so that comparability would not be impaired while the accounting practices that have conventionally been adopted in Japan are taken into account.

The Company expects to apply the accounting standards and guidances for annual periods beginning on or after April 1, 2021, and is in the process of measuring the effects of applying the accounting standard and guidance in future applicable periods.

The ASBJ developed and issued “Accounting Standard for Disclosure of Accounting Estimates” on March 31, 2020, considering the circumstance where the ASBJ received comments requesting consideration for disclosure requirement regarding sources of estimation uncertainty in the Japanese accounting standards since disclosure of such information is required by Paragraph 125 of IAS No. 1 “Presentation of Financial Statements” (“IAS No. 1”) and is highly useful for users of financial statements.

The ASBJ’s fundamental policies adopted for developing the “Accounting Standard for Disclosure of Accounting

Estimates” are, in principle, to make reference to the requirements of IAS No. 1 by presenting principles (disclosure objectives), not enhancing existing notes disclosures, and requiring each entity to determine specific contents of disclosure along with the disclosure objectives.

The Company expects to apply the accounting standard at the end of the annual period ending March 31, 2021.

The ASBJ made required revisions and issued the revised “Accounting Standard for Accounting Policy Disclosures, Accounting Changes and Error Corrections” on March 31, 2020, considering the circumstance where the ASBJ received proposals for consideration of enhancement of notes disclosure information on “accounting policies and procedures adopted when requirements under the relating accounting standards are not clearly defined.”

When enhancing notes disclosure on “accounting policies and procedures adopted when requirements under the relating accounting standards are not clearly defined,” note 1-2 of the Business Accounting Principles should be followed to avoid affecting accounting practices when requirements under the relating accounting standards are clearly defined.

The Company expects to apply the accounting standard at the end of the annual period ending March 31, 2021.

3. Additional Information

The Company is exposed to a highly uncertain business environment due to a significant restriction on economic activities and diminished demand and price decrease of energy resources caused by the spread of COVID-19. Accounting estimates used in the preparation of the Company’s financial statements are based on the assumption that the effect of slow-down in economic activities caused by the spread of COVID-19 will cease and the economy will recover within approximately one year.

The Company anticipates a greater effect in its consulting business due to a decline in appetite for capital expenditure by oil related companies who are the major customers of the consulting business and decreased orders caused by restriction on movement and direct communication with customers. Impairment of long-lived assets in the consulting business was determined based on a reasonable estimates using the assumption that orders in the year ending March 31, 2021 will decrease significantly and the business activities will recover gradually over several years after that.

4. Investment Securities

Investment securities as of March 31, 2020 and 2019 consisted of the following:

| | Millions of yen | | Thousands of US dollars |
|-------------------|-----------------|---------|-------------------------|
| | 2020 | 2019 | 2020 |
| Non-current: | | | |
| Equity securities | ¥31,958 | ¥33,316 | \$293,655 |

The cost and aggregate fair values of investment securities at March 31, 2020 and 2019 were as follows:

| | Millions of yen | | | |
|---------------------------|-----------------|-----------------|-----------------|------------|
| | Cost | Unrealized gain | Unrealized loss | Fair value |
| March 31, 2020 | | | | |
| Securities classified as: | | | | |
| Available-for-sale: | | | | |
| Equity securities | ¥7,750 | ¥10,428 | ¥394 | ¥17,784 |

| | | | | |
|---------------------------|--------|---------|-----|---------|
| March 31, 2019 | | | | |
| Securities classified as: | | | | |
| Available-for-sale: | | | | |
| Equity securities | ¥7,946 | ¥12,871 | ¥55 | ¥20,763 |

| | Thousands of US dollars | | | |
|---------------------------|-------------------------|-----------------|-----------------|------------|
| | Cost | Unrealized gain | Unrealized loss | Fair value |
| March 31, 2020 | | | | |
| Securities classified as: | | | | |
| Available-for-sale: | | | | |
| Equity securities | \$71,215 | \$95,821 | \$3,624 | \$163,411 |

The information for available-for-sale securities sold during the years ended March 31, 2020 and 2019 was as follows:

| 2020 | Millions of yen | | |
|---------------------|-----------------|---------------|---------------|
| | Proceeds | Realized gain | Realized loss |
| Available-for-sale: | | | |
| Equity securities | ¥45 | ¥26 | |

| 2019 | Millions of yen | | |
|---------------------|-----------------|---------------|---------------|
| | Proceeds | Realized gain | Realized loss |
| Available-for-sale: | | | |
| Equity securities | ¥1,102 | ¥718 | ¥(2) |

| 2020 | Thousands of US dollars | | |
|---------------------|-------------------------|---------------|---------------|
| | Proceeds | Realized gain | Realized loss |
| Available-for-sale: | | | |
| Equity securities | \$421 | \$241 | |

Impairment losses are recognized for marketable available-for-sale securities if declines in fair value are 50% or more. If declines in fair value are 30% to 50%, impairment losses may be recognized for amount deemed to be irrecoverable considering the declines are other-than-temporal. Impairment losses for non-marketable available-for-sale securities may be recognized for amount deemed to be irrecoverable if declines in fair value are 30% to 50% considering the declines are other-than-temporal.

The impairment losses on available-for-sale equity securities for the years ended March 31, 2020 and 2019, were ¥92 million (US\$849 thousand) and ¥176 million, respectively.

5. Inventories

Inventories at March 31, 2020 and 2019 consisted of the following:

| | Millions of yen | | Thousands of US dollars |
|--------------------------------|-----------------|---------|-------------------------|
| | 2020 | 2019 | 2020 |
| Merchandise and finished goods | ¥14,297 | ¥13,092 | \$131,373 |
| Work in process | 7,516 | 9,126 | 69,070 |
| Raw materials and supplies | 15,527 | 14,622 | 142,679 |
| Total | ¥37,342 | ¥36,841 | \$343,122 |

6. Expected Loss on Construction Contracts

The Group recognizes an expected loss on construction contracts when it is probable that total contract costs will exceed total contract revenue. The inventory and the expected loss on construction contracts are not offset but are separately presented in the consolidated balance sheet.

The balance of inventories relating to the expected loss on construction contracts for the years ended March 31, 2020 and 2019 was as follows:

| | Millions of yen | | Thousands of US dollars |
|--------------------------------|-----------------|--------|-------------------------|
| | 2020 | 2019 | 2020 |
| Merchandise and finished goods | ¥116 | ¥72 | \$1,073 |
| Work in process | 860 | 2,216 | 7,906 |
| Total | ¥977 | ¥2,289 | \$8,979 |

7. Property, Plant and Equipment

Accumulated depreciation on property, plant and equipment as of March 31, 2020 and 2019 was ¥133,443 million (US\$1,226,163 thousand) and ¥132,166 million, respectively.

8. Long-lived Assets

The Group reviewed its long-lived assets for impairment as of the years ended March 31, 2020 and 2019. For 2020, impairment losses of ¥9,507 million (US\$87,363 thousand) were recognized. Impairment losses for 2019 are not disclosed because the amounts are immaterial.

The main components of loss on impairment of long-lived assets for the year ended March 31, 2020 were as follows:

| | | | Millions of yen | Thousands of US dollars |
|----------------|-----------------|-------------------------------|-----------------|-------------------------|
| Location | Use | Category | Impairment loss | |
| United Kingdom | Business assets | Goodwill | ¥2,936 | \$26,982 |
| | | Other intangible assets | 3,674 | 33,764 |
| | | Software | 968 | 8,900 |
| | | Right-of-use assets | 580 | 5,334 |
| | | Tools, furniture and fixtures | 61 | 568 |
| United States | Business assets | Goodwill | 1,016 | 9,339 |
| | | Other intangible assets | 269 | 2,474 |
| | | Total | ¥9,507 | \$87,363 |

The Group's business assets are grouped according to management accounting classification.

The book value of business assets (goodwill, etc.) arising at the time of acquisition of shares of the UK- based subsidiary, KBC Advanced Technologies Limited and the US- based subsidiary, Soteica Visual Mesa, Limited Liability Company, have been reduced to their respective recoverable amounts as the business results of these companies fell below initially forecasted business plans due to changes in their business environments. The differences between the book values and recoverable amounts have been recorded as impairment losses.

Business assets are measured at their recoverable amounts, which are value in use which is calculated by discounting future cash flows at 10%.

9. Short-term Loans, Commercial Papers, Lease Obligations and Long-term Debt

Short-term bank loans at March 31, 2020 and 2019 included bank overdrafts. The annual average interest rates on the short-term bank loans were 4.554% and 3.646% for the years ended March 31, 2020 and 2019, respectively.

The annual average interest rate on commercial papers was 0.024% for the year ended March 31, 2020.

Long-term debt as of March 31, 2020 and 2019 consisted of the following:

| | Millions of yen | | Thousands of US dollars |
|---|-----------------|---------|-------------------------|
| | 2020 | 2019 | 2020 |
| Loans from banks and other financial institutions | ¥18,672 | ¥29,409 | \$171,577 |
| Lease obligations | 8,960 | 474 | 82,332 |
| Total | 27,633 | 29,884 | 253,910 |
| Less: Current portion | 16,795 | 10,810 | 154,327 |
| Long-term debt, less current portion | ¥10,837 | ¥19,073 | \$99,583 |

Annual maturities of long-term loans from banks and other financial institutions, at March 31, 2020 were as follows:

| Year ending March 31 | Millions of yen | Thousands of US dollars |
|----------------------|-----------------|-------------------------|
| 2021 | ¥14,592 | \$134,088 |
| 2022 | 4,080 | 37,489 |
| 2023 | Nil | Nil |
| 2024 | Nil | Nil |
| 2025 and thereafter | Nil | Nil |
| Total | ¥18,672 | \$171,577 |

The annual average interest rate on long-term loans (excluding current portion) from banks was 0.002% for the year ended March 31, 2020.

Annual maturities of leases obligations at March 31, 2020 were as follows::

| Year ending March 31 | Millions of yen | Thousands of US dollars |
|----------------------|-----------------|-------------------------|
| 2021 | ¥2,202 | \$20,238 |
| 2022 | 3,189 | 29,303 |
| 2023 | 1,182 | 10,868 |
| 2024 | 732 | 6,733 |
| 2025 and thereafter | 1,652 | 15,187 |
| Total | ¥8,960 | \$82,332 |

The annual average interest rate on leases obligations (excluding current portion) was 3.022% for the year ended March 31, 2020.

Collateral and secured debt at March 31, 2020 and 2019 were as follows:

| | Millions of yen | | Thousands of US dollars |
|--|-----------------|--------|-------------------------|
| | 2020 | 2019 | 2020 |
| Collateral: | | | |
| Deposits | ¥12 | ¥14 | \$115 |
| Investment securities | 3 | 4 | 34 |
| Assets in consolidated subsidiaries outside Japan* | 7,038 | 7,904 | 64,672 |
| Total | ¥7,054 | ¥7,923 | \$64,821 |

*"Assets in consolidated subsidiaries outside Japan" represents the aggregate amount of accounts receivable and other assets of such subsidiaries.

| | Millions of yen | | Thousands of US dollars |
|----------------------------------|-----------------|------|-------------------------|
| | 2020 | 2019 | 2020 |
| Secured debt: | | | |
| Trade notes and accounts payable | ¥14 | ¥13 | \$128 |

The Group's interest-bearing debt includes financial covenants which require the Company to maintain certain levels of equity and income on a consolidated basis. The balance of such debt as of March 31, 2020 and 2019 was ¥14,416 million (US\$132,470 thousand) and ¥24,416 million, respectively.

10. Retirement and Pension Plans

The Company and most of its consolidated subsidiaries have defined contribution plans, while some other subsidiaries have defined benefit plans. In certain circumstances, additional payments are made upon the retirement of employees.

A consolidated subsidiary participated in a multi-employer pension fund as a pension plan for its employees.

The simplified method is used to calculate defined benefit obligation for certain consolidated subsidiaries.

(a) The changes in defined benefit obligation for the years ended March 31, 2020 and 2019, were as follows:

| | Millions of yen | | Thousands of US dollars |
|--|-----------------|---------|-------------------------|
| | 2020 | 2019 | 2020 |
| Balance at beginning of year | ¥11,836 | ¥10,983 | \$108,757 |
| Current service cost | 611 | 738 | 5,622 |
| Interest cost | 275 | 270 | 2,529 |
| Actuarial loss (gain) | 528 | (47) | 4,859 |
| Recognized prior service cost | | 57 | |
| Benefits paid | (875) | (763) | (8,046) |
| Increase due to acquisition of newly consolidated subsidiaries | | 566 | |
| Others | (394) | 32 | (3,627) |
| Balance at end of year | ¥11,981 | ¥11,836 | \$110,093 |

(b) The changes in plan assets for the years ended March 31, 2020 and 2019, were as follows:

| | Millions of yen | | Thousands of US dollars |
|--|-----------------|--------|-------------------------|
| | 2020 | 2019 | 2020 |
| Balance at beginning of year | ¥7,905 | ¥7,396 | \$72,645 |
| Expected return on plan assets | 355 | 366 | 3,270 |
| Actuarial loss | (243) | (334) | (2,232) |
| Contributions from the employer | 610 | 607 | 5,613 |
| Benefits paid | (768) | (562) | (7,058) |
| Increase due to acquisition of newly consolidated subsidiaries | | 369 | |
| Others | (355) | 63 | (3,266) |
| Balance at end of year | ¥7,506 | ¥7,905 | \$68,971 |

(c) Reconciliation between the liability recorded in the consolidated balance sheet and the balances of defined benefit obligation and plan assets as of March 31, 2020 and 2019, was as follows:

| | Millions of yen | | Thousands of US dollars |
|--|-----------------|---------|-------------------------|
| | 2020 | 2019 | 2020 |
| Funded defined benefit obligation | ¥11,981 | ¥11,836 | \$110,093 |
| Plan assets | (7,506) | (7,905) | (68,971) |
| Total | 4,475 | 3,930 | 41,122 |
| Net liability for defined benefit obligation | ¥4,475 | ¥3,930 | \$41,122 |

| | Millions of yen | | Thousands of US dollars |
|--|-----------------|--------|-------------------------|
| | 2020 | 2019 | 2020 |
| Liability for retirement benefits | ¥4,590 | ¥4,050 | \$42,182 |
| Asset for retirement benefits | (115) | (120) | (1,060) |
| Net liability for defined benefit obligation | ¥4,475 | ¥3,930 | \$41,122 |

(d) The components of net periodic benefit costs for the years ended March 31, 2020 and 2019, were as follows:

| | Millions of yen | | Thousands of US dollars |
|------------------------------------|-----------------|-------|-------------------------|
| | 2020 | 2019 | 2020 |
| Service cost | ¥611 | ¥738 | \$5,622 |
| Interest cost | 275 | 270 | 2,529 |
| Expected return on plan assets | (355) | (366) | (3,270) |
| Amortization of actuarial loss | 78 | 44 | 723 |
| Amortization of prior service cost | | 57 | |
| Others | 58 | 84 | 534 |
| Net periodic benefit costs | ¥668 | ¥828 | \$6,138 |

(e) Amounts recognized in other comprehensive income (before income tax effect) in respect of defined retirement benefit plans for the years ended March 31, 2020 and 2019 were as follows:

| | Millions of yen | | Thousands of US dollars |
|----------------|-----------------|--------|-------------------------|
| | 2020 | 2019 | 2020 |
| Actuarial loss | ¥(693) | ¥(242) | \$(6,368) |

(f) Amounts recognized in accumulated other comprehensive income (before income tax effect) in respect of defined retirement benefit plans as of March 31, 2020 and 2019 were as follows:

| | Millions of yen | | Thousands of US dollars |
|-----------------------------|-----------------|----------|-------------------------|
| | 2020 | 2019 | 2020 |
| Unrecognized actuarial loss | ¥(2,401) | ¥(1,708) | \$(22,065) |

(g) Plan assets as of March 31, 2020 and 2019 were as follows:

(1) Components of plan assets

Plan assets:

| | 2020 | 2019 |
|---------------------------|------|------|
| Equity investments | 21% | 31% |
| Debt investments | 50 | 35 |
| Cash and cash equivalents | 23 | 26 |
| Others | 6 | 8 |
| Total | 100% | 100% |

(2) Method of determining the expected rate of return on plan assets

The expected rate of return on plan assets is determined based on the expected long-term rates of return for the various plan asset components.

(h) Assumptions used for the years ended March 31, 2020 and 2019 were as follows:

| | 2020 | 2019 |
|--|-------|-------|
| Discount rate | 2.53% | 2.45% |
| Expected rate of return on plan assets | 4.82% | 4.82% |

(i) Payments to defined contribution plans amounted to ¥4,520 million (US\$41,535 thousand) and ¥4,243 million for the years ended March 31, 2020 and 2019, respectively.

11. Equity

Japanese companies are subject to the Companies Act of Japan (the “Companies Act”). The significant provisions in the Companies Act that affect financial and accounting matters are summarized below:

(a) Dividends

Under the Companies Act, companies can pay dividends at any time during the fiscal year in addition to the year-end dividend upon the passing of a resolution at the shareholders’ meeting. For companies that meet certain criteria such as; (1) having a board of directors, (2) having independent auditors, (3) having an audit & supervisory board, and (4) prescribing a one-year term of service for directors (rather than the conventional two-year term) in its articles of incorporation, the board of directors may declare dividends (except for dividends in kind) at any time during the fiscal year if the company has prescribed so in its articles of incorporation.

Semiannual interim dividends may also be paid once a year upon resolution by the board of directors if the articles of incorporation of the company so stipulates. The Companies Act provides certain limitations on the amounts available for dividends or the purchase of treasury stock. The limitation is defined as the amount available for distribution to the shareholders, but the amount of net assets after dividends must be maintained at no less than ¥3 million.

(b) Increases / decreases and transfer of common stock, reserve and surplus

The Companies Act requires that an amount equal to 10% of dividends must be appropriated as a legal reserve (a component of retained earnings) or as additional paid-in capital (a component of capital surplus) depending on the equity account charged upon the payment of such dividends until the total of aggregate amount of legal reserve and additional paid-in capital equals 25% of the common stock. Under the Companies Act, the total amount of additional paid-in capital and legal reserve may be reversed without limitation. The Companies Act also provides that common stock, legal reserve, additional paid-in capital, other capital surplus and retained earnings can be transferred among the accounts under certain conditions upon resolution of the shareholders.

(c) Treasury stock and treasury stock acquisition rights

The Companies Act also provides for companies to purchase treasury stock and dispose of such treasury stock by resolution of the board of directors. The amount of treasury stock purchased cannot exceed the amount available for distribution to the shareholders which is determined by a specific formula. Under the Companies Act, stock acquisition rights are presented as a separate component of equity. The Companies Act also provides that companies can purchase both treasury stock acquisition rights and treasury stock. Such treasury stock acquisition rights are presented as a separate component of equity or deducted directly from stock acquisition rights.

12. Income Taxes

The tax effects of significant temporary differences and tax loss carry-forwards that resulted in deferred tax assets and liabilities at March 31, 2020 and 2019 were as follows:

| | Millions of yen | | Thousands of US dollars |
|---|-----------------|----------|-------------------------|
| | 2020 | 2019 | 2020 |
| Deferred tax assets: | | | |
| Provision for bonuses | ¥2,949 | ¥2,573 | \$27,102 |
| Write-down of inventories | 1,706 | 1,715 | 15,683 |
| Unrealized profit of inventories | 1,886 | 956 | 17,334 |
| Impairment loss on investment securities | 1,284 | 1,206 | 11,801 |
| Tax loss carry-forwards (Note b) | 14,881 | 23,509 | 136,736 |
| Other | 9,555 | 9,311 | 87,801 |
| Subtotal | 32,263 | 39,272 | 296,460 |
| Less: Valuation allowance for tax loss carry-forwards (Note b) | (13,520) | (22,280) | (124,235) |
| Less: Valuation allowance for temporary differences | (7,350) | (5,025) | (67,544) |
| Total valuation allowance (Note a) | (20,871) | (27,306) | (191,780) |
| Total | ¥11,392 | ¥11,966 | \$104,680 |
| Deferred tax liabilities: | | | |
| Net realized gain on available-for-sale securities | ¥(2,803) | ¥(3,319) | \$(25,756) |
| Undistributed earnings of consolidated subsidiaries outside Japan | (667) | (907) | (6,135) |
| Property, plant and equipment | (489) | (524) | (4,499) |
| Intangible assets recognized on business combination | (248) | (1,144) | (2,283) |
| Other | (1,491) | (1,377) | (13,704) |
| Total | ¥(5,700) | ¥(7,273) | \$(52,379) |
| Net deferred tax assets | ¥5,691 | ¥4,692 | \$52,301 |

Notes:

- (a) Valuation allowance decreased by ¥6,434 million (US\$59,126 thousand). Major reason is a decrease in valuation allowance for tax loss carry-forwards in relation to expiration of tax loss carry-forwards due to maturity.
- (b) The expiration of tax loss carryforwards, the related valuation allowances and the resulting net deferred tax assets as of March 31, 2020 and 2019 were as follows:

| | Millions of yen | | | | | | |
|---|------------------|----------------------------------|-------------------------------------|--------------------------------------|-------------------------------------|------------------|----------|
| | 2020 | | | | | | |
| | One year or less | After one year through two years | After two years through three years | After three years through four years | After four years through five years | After five years | Total |
| Deferred tax assets relating to tax loss carry-forwards* | ¥5,529 | ¥3,230 | ¥1,850 | ¥491 | ¥1,586 | ¥2,192 | ¥14,881 |
| Less valuation allowance for tax loss carry-forwards | (4,559) | (3,228) | (1,847) | (479) | (1,574) | (1,831) | (13,520) |
| Net deferred tax assets relating to tax loss carry-forwards | 970 | 2 | 3 | 12 | 11 | 360 | 1,360 |

Millions of yen

| 2019 | | | | | | | |
|---|------------------|--|---|--|---|------------------|----------|
| | One year or less | After one year through two years | After two years through three years | After three years through four years | After four years through five years | After five years | Total |
| Deferred tax assets relating to tax loss carry-forwards* | ¥7,444 | ¥5,724 | ¥3,365 | ¥1,872 | ¥541 | ¥4,561 | ¥23,509 |
| Less valuation allowance for tax loss carry-forwards | (6,441) | (5,681) | (3,365) | (1,872) | (541) | (4,377) | (22,280) |
| Net deferred tax assets relating to tax loss carry-forwards | 1,003 | 42 | | | | 183 | 1,229 |

Thousands of US dollars

| 2020 | | | | | | | |
|---|------------------|--|---|--|---|------------------|-----------|
| | One year or less | After one year through two years | After two years through three years | After three years through four years | After four years through five years | After five years | Total |
| Deferred tax assets relating to tax loss carry-forwards* | \$50,806 | \$29,683 | \$17,005 | \$4,520 | \$14,577 | \$20,142 | \$136,736 |
| Less valuation allowance for tax loss carry-forwards | (41,891) | (29,661) | (16,977) | (4,406) | (14,468) | (16,829) | (124,235) |
| Net deferred tax assets relating to tax loss carry-forwards | 8,915 | 22 | 28 | 113 | 108 | 3,312 | 12,501 |

*Deferred tax assets relating to tax loss carry-forwards were calculated by applying the normal effective statutory tax rate.

A reconciliation between the normal effective statutory tax rate and the actual effective tax rate reflected in the accompanying consolidated statement of income for the years ended March 31, 2020 and 2019 was as follows:

| | 2020 | 2019 |
|--|--------|-------|
| Normal effective statutory tax rate | 30.6% | 30.6% |
| Inhabitant taxes per capita | 0.4 | 0.2 |
| Permanent differences | | |
| Expenses not deductible for income tax purposes | 2.3 | 2.3 |
| Foreign withholding taxes | 1.8 | 1.3 |
| Loss on impairment of long-lived assets | 8.4 | |
| Changes in valuation allowance | 3.1 | (3.8) |
| Lower income tax rates applicable to certain consolidated subsidiaries outside Japan | (14.0) | (9.4) |
| Consolidation adjustments to gain on sale of investment in a subsidiary | 1.3 | 2.6 |
| Other-net | 2.4 | (2.3) |
| Actual effective tax rate | 36.3% | 21.5% |

13. Research and Development Costs

Research and development costs were ¥27,604 million (US\$253,649 thousand) and ¥26,249 million for the years ended March 31, 2020 and 2019, respectively and were included in the cost of sales and selling, general and administrative expenses in the consolidated statement of income.

14. Leases

The Group leases certain machinery, equipment and vehicles, tools, furniture and fixtures, and other assets.

The minimum rental commitments under non-cancelable operating leases at March 31, 2020 and 2019 were as follows:

| | Millions of yen | | Thousands of US dollars |
|---------------------|-----------------|--------|-------------------------|
| | 2020 | 2019 | 2020 |
| Due within one year | | ¥2,494 | |
| Due after one year | | 5,100 | |
| Total | | ¥7,595 | |

Right-of-use assets comprised primarily of building and structures.

15. Financial Instruments and Related Disclosures

(1) Information regarding financial instruments

(a) Group policy on financial instruments

In accordance with the Group's capital expenditure program for the industrial automation and control business and the test and measurement business, the Group uses financial instruments such as bank loans to obtain necessary funding. Cash surpluses are invested in low risk financial assets. Short-term bank loans are used to fund ongoing operations. Derivatives are used to manage exposure to financial risks as described in Note 16 and are not used for speculative purposes.

(b) Nature of the financial instruments and risk management

Receivables such as trade notes and trade accounts are exposed to customer credit risk. Those securities are mainly issued by the Group's customers and suppliers, and are managed by regularly monitoring market value and the financial position of the issuers.

Investment securities are exposed to the risk of market price fluctuations. The Group reviews its holdings of these securities, whose issuers are mainly its customers and suppliers, by regularly checking their market value and the financial position of the issuers.

Payment terms of payables such as trade notes and trade accounts are less than one year.

Long-term debt is used for capital expenditures and investments. In order to manage exposure to market risks from fluctuations in interest rates, the Group principally uses fixed-rate contracts; otherwise, interest rate swap contracts are used for variable rate loans.

Lease obligations are used for primarily capital expenditures and are exposed to liquidity risk at the time of settlement. The Group manages the risk by reviewing funding plan monthly by the group companies.

Foreign currency trade receivables and payables are exposed to market risk resulting from fluctuations in foreign currency exchange rates. Such foreign exchange risk is hedged principally by foreign currency forward contracts and range forward options.

Basic policies on derivative transactions are set out in the Group's internal guidelines. The guidelines prescribe a control policy, designate authorized departments, specify the purpose of the transactions, define the basis for selecting financial institutions, and specify the reporting route.

The fair value of financial instruments is based on the quoted price in an active market. If a quoted price is not available, other valid valuation techniques are used instead.

(2) Fair value of financial instruments

The carrying amounts in the consolidated balance sheet, fair value, and unrealized gain (loss) as of March 31, 2020 and 2019 were as detailed below. Financial instruments, whose fair value is extremely difficult to measure, are not included. Please refer to note (b) (below the following tables) on financial instruments whose fair value cannot be reliably determined.

| Millions of yen | | | |
|---|-----------------|------------|------------------------|
| | 2020 | | |
| | Carrying amount | Fair value | Unrealized gain (loss) |
| Cash and cash equivalents | ¥99,658 | ¥99,658 | |
| Receivables-trade notes and accounts | 175,687 | | |
| Less: Allowance for doubtful accounts | (3,673) | | |
| | 172,014 | 172,014 | |
| Investment securities | 17,791 | 17,791 | |
| Total | ¥289,464 | ¥289,464 | |
| Short-term loans payable | ¥1,807 | ¥1,807 | |
| Commercial papers | 30,000 | 30,000 | |
| Payables-trade notes and accounts | 24,358 | 24,358 | |
| Electronically recorded obligations-operating | 9,723 | 9,723 | |
| Payables-other | 13,367 | 13,367 | |
| Income taxes payable | 4,769 | 4,769 | |
| Long-term debt | 18,672 | 18,653 | ¥(19) |
| Lease obligations | 8,960 | 9,414 | 454 |
| Total | ¥111,659 | ¥112,094 | ¥434 |
| Derivatives | ¥511 | ¥511 | |

| Millions of yen | | | |
|---|-----------------|------------|------------------------|
| | 2019 | | |
| | Carrying amount | Fair value | Unrealized gain (loss) |
| Cash and cash equivalents | ¥85,701 | ¥85,701 | |
| Receivables-trade notes and accounts | 171,084 | | |
| Less: Allowance for doubtful accounts | (4,130) | | |
| | 166,953 | 166,953 | |
| Investment securities | 20,763 | 20,763 | |
| Total | ¥273,418 | ¥273,418 | |
| Short-term loans payable | ¥3,568 | ¥3,568 | |
| Payables-trade notes and accounts | 25,130 | 25,130 | |
| Electronically recorded obligations-operating | 9,966 | 9,966 | |
| Payables-other | 13,530 | 13,530 | |
| Income taxes payable | 4,332 | 4,332 | |
| Long-term debt | 28,934 | 28,847 | ¥(87) |
| Lease obligations | 474 | 471 | (2) |
| Total | ¥85,938 | ¥85,848 | ¥(90) |
| Derivatives | ¥15 | ¥15 | |

| Thousands of US dollars | | | |
|---|-----------------|-------------|------------------------|
| | 2020 | | |
| | Carrying amount | Fair value | Unrealized gain (loss) |
| Cash and cash equivalents | \$915,727 | \$915,727 | |
| Receivables-trade notes and accounts | 1,614,333 | | |
| Less: Allowance for doubtful accounts | (33,754) | | |
| | 1,580,578 | 1,580,578 | |
| Investment securities | 163,476 | 163,476 | |
| Total | \$2,659,783 | \$2,659,783 | |
| Short-term loans payable | \$16,607 | \$16,607 | |
| Commercial papers | 275,659 | 275,659 | |
| Payables-trade notes and accounts | 223,818 | 223,818 | |
| Electronically recorded obligations-operating | 89,347 | 89,347 | |
| Payables-other | 122,829 | 122,829 | |
| Income taxes payable | 43,829 | 43,829 | |
| Long-term debt | 171,577 | 171,396 | \$(181) |
| Lease obligations | 82,332 | 86,507 | 4,174 |
| Total | \$1,026,001 | \$1,029,995 | \$3,993 |
| Derivatives | \$4,698 | \$4,698 | |

Notes:

(a) Fair value measurement of financial instruments

Cash and cash equivalents, trade notes and accounts receivable:

The carrying values of cash and cash equivalents, trade notes and accounts receivable less an allowance for doubtful accounts, approximate fair value because of their short maturities. Investment securities:

The fair value of equity instruments is measured at the quoted equity market price, and the fair value of debt instruments is measured at the quoted price obtained from the respective financial institution. Information on the fair value of each class of investment securities is included in Note 4.

Short-term loans payable, commercial papers, trade notes and accounts payable, electronically recorded obligations-operating, other payables and income taxes payable:

The carrying values of short-term loans payable, commercial papers, trade notes and accounts payable, electronically recorded obligations-operating, other payables, and income taxes payable approximate fair value because of their short maturities.

Long-term debt and lease obligations:

The fair values of long-term debt and lease obligations are determined by discounting cash flows related to the debt at the Group's assumed corporate borrowing rate. Long-term debt is included in the following accounts in the accompanying consolidated balance sheet: current portion of long-term debt and long-term debt. Lease obligations are included in the following accounts in the accompanying consolidated balance sheet: current portion of lease obligations and lease obligations.

Derivatives:

Information on the fair value of derivatives is included in Note 16.

(b) Financial instruments whose fair value cannot be reliably determined

| Thousands of US dollars | | | |
|----------------------------|-----------------|----------------|----------------|
| | Carrying amount | | |
| | Millions of yen | | |
| | March 31, 2020 | March 31, 2019 | March 31, 2020 |
| Unlisted equity securities | ¥25,141 | ¥21,787 | \$231,019 |

Unlisted equity securities whose fair value cannot be reliably determined include investments in and advances to unconsolidated subsidiaries and affiliated companies.

Maturity analysis for financial assets and securities with contractual maturities

| | Millions of yen | | Thousands of US dollars | |
|--------------------------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|
| | March 31, 2020 | | March 31, 2020 | |
| | Due in one year or less | Due after one to five years | Due in one year or less | Due after one to five years |
| Cash and cash equivalents | ¥99,658 | | \$915,727 | |
| Receivables-trade notes and accounts | 175,185 | ¥502 | 1,609,720 | \$4,613 |
| Total | ¥274,844 | ¥502 | \$2,525,448 | \$4,613 |

16. Derivatives

Derivative transactions are used to manage foreign exchange risk and the risk of market rate fluctuations that occur in the normal course of business. The Group does not use derivatives for speculative purposes or for highly leveraged transactions.

(1) Derivative transactions to which hedge accounting was not applied at March 31, 2020 and 2019

| | Millions of yen | | | |
|-----------------------------------|-----------------|--------------------|------------|------------------------|
| | 2020 | | | |
| | Contract amount | | Fair value | Unrealized gain (loss) |
| | Total | Due after one year | | |
| Forward exchange contracts | | | | |
| Selling contracts | | | | |
| US dollar | ¥3,897 | | ¥(6) | ¥(6) |
| Others | 1,573 | | (9) | (9) |
| Currency swaps | | | | |
| | 24,889 | | 527 | 527 |
| Total | ¥30,361 | | ¥511 | ¥511 |

| | Millions of yen | | | |
|-----------------------------------|-----------------|--------------------|------------|------------------------|
| | 2019 | | | |
| | Contract amount | | Fair value | Unrealized gain (loss) |
| | Total | Due after one year | | |
| Forward exchange contracts | | | | |
| Selling contracts | | | | |
| US dollar | ¥5,595 | | ¥(41) | ¥(41) |
| Others | 3,435 | | (17) | (17) |
| Buying contracts | | | | |
| US dollar | 15 | | 0 | 0 |
| Others | 54 | | 0 | 0 |
| Currency swaps | | | | |
| | 25,773 | | 46 | 46 |
| Total | ¥34,874 | | ¥(11) | ¥(11) |

| | Thousands of US dollars | | | |
|-----------------------------------|-------------------------|--------------------|------------|------------------------|
| | 2020 | | | |
| | Contract amount | | Fair value | Unrealized gain (loss) |
| | Total | Due after one year | | |
| Forward exchange contracts | | | | |
| Selling contracts | | | | |
| US dollar | \$35,815 | | \$(61) | \$(61) |
| Others | 14,460 | | (83) | (83) |
| Currency swaps | | | | |
| | 228,700 | | 4,843 | 4,843 |
| Total | \$278,976 | | \$4,698 | \$4,698 |

(2) Derivative transactions to which hedge accounting was applied at March 31, 2020 and 2019

| | Hedged item | Millions of yen | | |
|----------------------------|----------------|-----------------|--------------------|------------|
| | | 2020 | | |
| | | Contract amount | | Fair value |
| | | Total | Due after one year | |
| Interest rate swaps | | | | |
| Pay fixed/Receive floating | Long-term debt | ¥8,396 | | Note (b) |

| | Hedged item | Millions of yen | | |
|-----------------------------------|----------------|-----------------|--------------------|------------|
| | | 2019 | | |
| | | Contract amount | | Fair value |
| | | Total | Due after one year | |
| Forward exchange contracts | | | | |
| Buying contracts | | | | |
| US dollar | Payables | ¥4,280 | | ¥27 |
| Interest rate swaps | | | | |
| Pay fixed/Receive floating | Long-term debt | 18,396 | ¥8,396 | Note (b) |

| | Hedged item | Thousands of US dollars | | |
|----------------------------|----------------|-------------------------|--------------------|------------|
| | | 2020 | | |
| | | Contract amount | | Fair value |
| | | Total | Due after one year | |
| Interest rate swaps | | | | |
| Pay fixed/Receive floating | Long-term debt | \$77,155 | | Note (b) |

Notes:

- (a) The above interest rate swaps which qualify for hedge accounting and meet specific matching criteria are not re-measured at market value, but the differential paid or received under the swap agreements is recognized and included in interest expense or income.
- (b) The fair value of such interest rate swaps is included in that of hedged items disclosed in Note 15.

The fair value of derivative transactions is measured at the quoted price obtained from the respective financial institution. The contract or notional amounts of the derivatives shown in the above table do not represent the amounts exchanged by the parties and are not a measure of the Group's exposure to credit or market risk.

17. Commitment Line Agreements

The Company has commitment line agreements with financial institutions in order to obtain funds for stable and efficient operation.

The commitment line of credit as of March 31, 2020 and 2019 was as follows:

| | Millions of yen | | Thousands of US dollars |
|---------------------------------|-----------------|---------|-------------------------|
| | 2020 | 2019 | 2020 |
| Total commitment line of credit | ¥45,000 | ¥45,000 | \$413,488 |
| Outstanding borrowings | Nil | Nil | Nil |
| Unused credit line | ¥45,000 | ¥45,000 | \$413,488 |

18. Other Notes to Consolidated Statement of Income

(1) Provision for contract loss

The following provision for contract loss was included in the cost of sales in the consolidated statement of income:

| | Millions of yen | | Thousands of US dollars |
|-----------------------------|-----------------|--------|-------------------------|
| | 2020 | 2019 | 2020 |
| Provision for contract loss | ¥288 | ¥2,308 | \$2,646 |

(2) Selling, general and administrative expenses

The major components of selling, general and administrative expenses were as follows:

| | Millions of yen | | Thousands of US dollars |
|---------------------------------------|-----------------|---------|-------------------------|
| | 2020 | 2019 | 2020 |
| Salaries | ¥42,608 | ¥42,092 | \$391,510 |
| Net periodic retirement benefit costs | 3,571 | 4,171 | 32,816 |
| Provision for bonuses | 5,562 | 5,380 | 51,107 |
| Allowance for doubtful accounts | 544 | (460) | 5,006 |
| Research and development costs | 26,141 | 25,990 | 240,209 |

(3) Net gain (loss) on disposal of property, plant and equipment

The net gain (loss) on disposal of property, plant and equipment was as follows:

| | Millions of yen | | Thousands of US dollars |
|-----------------------------------|-----------------|--------|-------------------------|
| | 2020 | 2019 | 2020 |
| Buildings and structures | ¥86 | ¥(322) | \$795 |
| Machinery, equipment and vehicles | (12) | 2 | (113) |
| Tools, furniture and fixtures | (17) | (9) | (159) |
| Land | 103 | (8) | 954 |
| Other intangible assets | 57 | (9) | 524 |
| Total | ¥217 | ¥(346) | \$2,001 |

(4) Gain on sale of businesses

Gain on sale of businesses was recognized for a transfer of resin model vortex flowmeters business.

(5) Provision for loss from program errors

Provision for loss from program errors was recognized to take measures and strengthen support for program errors in software provided to the customers.

19. Other Comprehensive Loss

The components of other comprehensive loss for the years ended March 31, 2020 and 2019 were as follows:

| | Millions of yen | | Thousands of US dollars |
|---|-----------------|----------|-------------------------|
| | 2020 | 2019 | 2020 |
| Net unrealized loss on available-for-sale securities: | | | |
| Losses arising during the year | ¥(3,008) | ¥(2,187) | \$(27,639) |
| Reclassification adjustments to profit or loss | 66 | (936) | 607 |
| Amount before income tax effect | (2,941) | (3,124) | (27,032) |
| Income tax effect | 508 | 675 | 4,669 |
| Total | ¥(2,433) | ¥(2,449) | \$(22,363) |
| Deferred (loss) gain on derivatives under hedge accounting: | | | |
| Gains arising during the year | ¥113 | ¥96 | \$1,045 |
| Reclassification adjustments to profit or loss | (140) | (30) | (1,294) |
| Amount before income tax effect | (27) | 66 | (249) |
| Income tax effect | 6 | (16) | 62 |
| Total | ¥(20) | ¥49 | \$(186) |
| Defined retirement benefit plans: | | | |
| Adjustments arising during the year | ¥(771) | ¥(143) | \$(7,092) |
| Reclassification adjustments to profit or loss | 78 | (98) | 723 |
| Amount before income tax effect | (693) | (242) | (6,368) |
| Income tax effect | 173 | 79 | 1,595 |
| Total | ¥(519) | ¥(162) | \$(4,773) |
| Foreign currency translation adjustments: | | | |
| Adjustments arising during the year | ¥(6,411) | ¥(96) | \$(58,917) |
| Reclassification adjustments to profit or loss | | 143 | |
| Amount before income tax effect | (6,411) | 47 | (58,917) |
| Income tax effect | | (53) | |
| Total | ¥(6,411) | ¥(5) | \$(58,917) |
| Share of other comprehensive loss in affiliates: | | | |
| Losses arising during the year | ¥(200) | ¥(85) | \$(1,846) |
| Reclassification adjustments to profit or loss | (3) | (8) | (29) |
| Total | ¥(204) | ¥(93) | \$(1,875) |
| Total other comprehensive loss | ¥(9,589) | ¥(2,661) | \$(88,115) |

20. Per Share Information

Basic net income per share (EPS) for the years ended March 31, 2020 and 2019 was as follows:

| | Millions of yen Net income attributable to owners of the parent | Thousands of shares Weighted average shares | Yen | US dollars |
|--|---|---|---------|------------|
| | EPS | | | |
| 2020 | | | | |
| Basic EPS | | | | |
| Net income attributable to common shareholders | ¥14,686 | 266,934 | ¥55.02 | \$0.51 |
| 2019 | | | | |
| Basic EPS | | | | |
| Net income attributable to common shareholders | ¥28,446 | 267,008 | ¥106.54 | \$0.96 |

Diluted net income per share was not disclosed because there were no dilutive securities in the years ended March 31, 2020 and 2019.

21. Supplemental Cash Flow Information

Significant non-cash transactions for the years ended March 31, 2020 and 2019 were as follows:

| | Millions of yen | | Thousands of US dollars |
|---------------------|-----------------|------|-------------------------|
| | 2020 | 2019 | 2020 |
| Lease assets | ¥259 | ¥198 | \$2,383 |
| Right-of-use assets | 7,929 | | 72,864 |
| Lease obligations | 8,960 | 474 | 82,332 |

Right-of-use assets and lease obligations for the year ended March 31, 2020 include increase due to initial application of IFRS No. 16 of ¥7,902 million (US\$72,616 thousand) and ¥8,394 million (US\$77,138 thousand), respectively.

22. Subsequent Events

Appropriation of retained earnings

The Board of Directors proposed the following appropriation of retained earnings, at March 31, 2020, which was approved at the general meeting of the shareholders of the Company held on June 24, 2020:

| | Millions of yen | Thousands of US dollars |
|---|-----------------|-------------------------|
| Year-end cash dividends, ¥17.0 (US\$0.15) per share | ¥4,537 | \$41,696 |

23. Segment Information

Under ASBJ Statement No. 17, “Accounting Standard for Segment Information Disclosures,” and ASBJ Guidance No. 20, “Guidance on Accounting Standard for Segment Information Disclosures,” an entity is required to report financial and descriptive information about its reportable segments. Reportable segments are operating segments or aggregations of operating segments that meet specified criteria. Operating segments are components of an entity about which separate financial information is available and such information is evaluated regularly by the chief operating decision maker in deciding how to allocate resources and in assessing performance. Generally, segment information is required to be reported on the same basis as is used internally for evaluating operating segment performance and deciding how to allocate resources to operating segments.

(1) Description of reportable segments

The Group’s reportable segments are those for which separate financial information is available and regular evaluation by the Company’s management is being performed in order to decide how resources are allocated among the Group. The Group operates in three business segments: industrial automation and control, test and measurement, and aviation and other businesses.

The industrial automation and control business offers comprehensive solutions including field instruments such as flow meters, differential pressure/pressure transmitters, and process analyzers; control systems and programmable controllers; various types of software to enhance productivity; and services that minimize plant lifecycle costs.

The test and measurement business offers waveform measuring instruments; optical communications measuring instruments; signal generators; electric voltage, current, and power measuring instruments; LCD drivers; and confocal scanners for observation of live cells.

The aviation and other businesses segment mainly offers instruments for aviation use.

(2) Accounting methods for each reportable segment’s sales, income (loss), assets, and other items

The accounting policies for each reportable segment are consistent with those disclosed in Note 2, “Summary of Significant Accounting Policies.”

The aggregate of the income or loss for each reportable segment corresponds to the operating income or loss in the consolidated statement of income.

The assets of a reportable segment consist of receivables-trade notes and trade accounts, inventories, property, plant and equipment, and intangible assets.

(3) Information about sales, income (loss), assets and other items

| | Millions of yen | | | | |
|---|---|-------------------------|--------------------|----------------------------|--------------|
| | 2020 | | | | |
| | Reportable segment | | | | |
| | Industrial automation and control | Test and measurement | Aviation and other | Eliminations/ Corporate | Consolidated |
| Sales to customers | ¥370,550 | ¥24,777 | ¥9,105 | | ¥404,432 |
| Intersegment sales | | | | | |
| Total sales | ¥370,550 | ¥24,777 | ¥9,105 | | ¥404,432 |
| Segment income (loss) | ¥34,159 | ¥1,638 | ¥(209) | | ¥35,588 |
| Segment assets | 286,037 | 14,041 | 18,776 | | 318,855 |
| Depreciation and amortization | 16,540 | 1,149 | 341 | | 18,032 |
| Loss on impairment of long-lived assets | 9,507 | | | | 9,507 |
| Increase in property, plant and equipment and intangible assets | 17,442 | 2,150 | 1,588 | | 21,181 |
| Amortization of goodwill | 696 | 63 | | | 759 |
| Goodwill | 1,738 | 237 | 1,156 | | 3,132 |

| Millions of yen | | | | | |
|---|---|-------------------------|--------------------|----------------------------|--------------|
| 2019 | | | | | |
| | Reportable segment | | | Eliminations/ Corporate | Consolidated |
| | Industrial automation and control | Test and measurement | Aviation and other | | |
| Sales to customers | ¥364,774 | ¥22,870 | ¥16,066 | | ¥403,711 |
| Intersegment sales | | | | | |
| Total sales | ¥364,774 | ¥22,870 | ¥16,066 | | ¥403,711 |
| Segment income (loss) | ¥33,970 | ¥1,939 | ¥(1,315) | | ¥34,594 |
| Segment assets | 286,289 | 14,863 | 15,971 | | 317,124 |
| Depreciation and amortization | 14,871 | 755 | 499 | | 16,126 |
| Increase in property, plant and equipment and intangible assets | 13,372 | 1,493 | 410 | | 15,276 |
| Amortization of goodwill | 864 | 15 | | | 880 |
| Goodwill | 6,307 | 301 | | | 6,608 |

| Thousands of US dollars | | | | | |
|---|---|-------------------------|--------------------|----------------------------|--------------|
| 2020 | | | | | |
| | Reportable segment | | | Eliminations/ Corporate | Consolidated |
| | Industrial automation and control | Test and measurement | Aviation and other | | |
| Sales to customers | \$3,404,852 | \$227,668 | \$83,669 | | \$3,716,190 |
| Intersegment sales | | | | | |
| Total sales | \$3,404,852 | \$227,668 | \$83,669 | | \$3,716,190 |
| Segment income (loss) | \$313,876 | \$15,057 | \$(1,920) | | \$327,013 |
| Segment assets | 2,628,296 | 129,023 | 172,534 | | 2,929,853 |
| Depreciation and amortization | 151,983 | 10,564 | 3,142 | | 165,690 |
| Loss on impairment of long-lived assets | 87,361 | | | | 87,361 |
| Increase in property, plant and equipment and intangible assets | 160,275 | 19,756 | 14,594 | | 194,625 |
| Amortization of goodwill | 6,396 | 582 | | | 6,979 |
| Goodwill | 15,975 | 2,185 | 10,627 | | 28,787 |

Note: Disclosure of information about loss on impairment of long-lived assets is omitted for the year ended March 31, 2019 because the amount was immaterial.

(4) Information about geographical areas
(a) Sales

| Millions of yen | | | | | | | | | |
|-----------------|-----------------------------|---------|---------|---------|---------|------------------|------------------------|--------------------------------|----------|
| 2020 | | | | | | | | | |
| Japan | Southeast Asia, Far East | China | India | Europe | Russia | North America | Middle East, Africa | Middle and South America | Total |
| ¥126,467 | ¥66,000 | ¥47,310 | ¥15,339 | ¥32,599 | ¥19,511 | ¥32,705 | ¥55,461 | ¥9,039 | ¥404,432 |

| Millions of yen | | | | | | | | | |
|-----------------|-----------------------------|---------|---------|---------|---------|------------------|------------------------|--------------------------------|----------|
| 2019 | | | | | | | | | |
| Japan | Southeast Asia, Far East | China | India | Europe | Russia | North America | Middle East, Africa | Middle and South America | Total |
| ¥128,080 | ¥72,558 | ¥47,049 | ¥13,839 | ¥34,223 | ¥18,086 | ¥31,759 | ¥49,776 | ¥8,338 | ¥403,711 |

| Thousands of US dollars | | | | | | | | | |
|-------------------------|-----------------------------|-----------|-----------|-----------|-----------|------------------|------------------------|--------------------------------|-------------|
| 2020 | | | | | | | | | |
| Japan | Southeast Asia, Far East | China | India | Europe | Russia | North America | Middle East, Africa | Middle and South America | Total |
| \$1,162,060 | \$606,450 | \$434,717 | \$140,946 | \$299,540 | \$179,281 | \$300,519 | \$509,614 | \$83,059 | \$3,716,190 |

Note: Sales are categorized in each country or area based on the location of end users.

(b) Property, plant and equipment

| Millions of yen | | | | | | | | | |
|-----------------|-----------------------------|--------|--------|--------|--------|------------------|------------------------|-----------------------------|---------|
| 2020 | | | | | | | | | |
| Japan | Southeast Asia, Far East | China | India | Europe | Russia | North America | Middle East, Africa | Middle and South America | Total |
| ¥53,232 | ¥9,810 | ¥4,947 | ¥1,160 | ¥8,311 | ¥712 | ¥2,106 | ¥2,319 | ¥457 | ¥83,059 |

| Millions of yen | | | | | | | | | |
|-----------------|-----------------------------|--------|-------|--------|--------|------------------|------------------------|-----------------------------|---------|
| 2019 | | | | | | | | | |
| Japan | Southeast Asia, Far East | China | India | Europe | Russia | North America | Middle East, Africa | Middle and South America | Total |
| ¥52,525 | ¥7,933 | ¥3,510 | ¥854 | ¥6,309 | ¥74 | ¥2,669 | ¥1,091 | ¥172 | ¥75,141 |

| Thousands of US dollars | | | | | | | | | |
|-------------------------|-----------------------------|----------|----------|----------|---------|------------------|------------------------|-----------------------------|-----------|
| 2020 | | | | | | | | | |
| Japan | Southeast Asia, Far East | China | India | Europe | Russia | North America | Middle East, Africa | Middle and South America | Total |
| \$489,136 | \$90,146 | \$45,462 | \$10,662 | \$76,369 | \$6,548 | \$19,355 | \$21,311 | \$4,208 | \$763,201 |

(5) Information about major customers

No customer accounts for 10% or more of total sales of the Group.

INDEPENDENT AUDITOR'S REPORT

To the Board of Directors of
Yokogawa Electric Corporation:

Opinion

We have audited the consolidated financial statements of Yokogawa Electric Corporation and its consolidated subsidiaries (the "Group"), which comprise the consolidated balance sheet as of March 31, 2020, and the consolidated statement of income, consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies, all expressed in Japanese yen.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of March 31, 2020, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with accounting principles generally accepted in Japan.

Convenience Translation

Our audit also comprehended the translation of Japanese yen amounts into U.S. dollar amounts and, in our opinion, such translation has been made in accordance with the basis stated in Note 1 to the consolidated financial statements. Such U.S. dollar amounts are presented solely for the convenience of readers outside Japan.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in Japan. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the provisions of the Code of Professional Ethics in Japan, and we have fulfilled our other ethical responsibilities as auditors. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of Management and Audit & Supervisory Board Members and the Audit & Supervisory Board for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with accounting principles generally accepted in Japan, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern in accordance with accounting principles generally accepted in Japan and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Audit & Supervisory Board members and the Audit & Supervisory Board are responsible for overseeing the Directors' execution of duties relating to the design and operating effectiveness of the controls over the Group's financial reporting process.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with auditing standards generally accepted in Japan will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with auditing standards generally accepted in Japan, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks. The procedures selected depend on the auditor's judgment. In addition, we obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain, when performing risk assessment procedures, an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate whether the overall presentation and disclosures of the consolidated financial statements are in accordance with accounting principles generally accepted in Japan, as well as the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with Audit & Supervisory Board members and the Audit & Supervisory Board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide Audit & Supervisory Board members and the Audit & Supervisory Board with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

Interest Required to Be Disclosed by the Certified Public Accountants Act of Japan

Our firm and its designated engagement partners do not have any interest in the Group which is required to be disclosed pursuant to the provisions of the Certified Public Accountants Act of Japan.

Deloitte Touche Tohmatsu LLC

June 24, 2020

Corporate Data / Stock Information / Principal Subsidiaries and Affiliates

As of March 31, 2020

Corporate Data

- **Corporate Name:**
Yokogawa Electric Corporation
 - **President and CEO**
Hitoshi Nara
- **Headquarters:**
2-9-32 Nakacho, Musashino-shi, Tokyo 180-8750, Japan
 - **Founded:**
September 1, 1915
 - **Incorporated:**
December 1, 1920
- **Paid-in Capital:**
43,401 million yen
 - **Number of Employees:**
18,107 (consolidated) 2,496 (non-consolidated)
 - **Subsidiaries and Affiliates:**
104 outside Japan, 10 in Japan

Investor Information

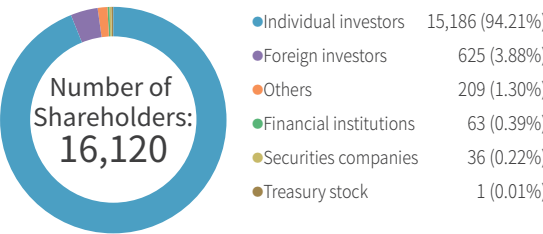
- **Number of Shares Authorized:**
600,000,000
 - **Number of Shares of Common Stock Issued:**
268,624,510
 - **Number of Shareholders:**
16,120
- **Stock Exchange Listing:**
Tokyo Stock Exchange
 - **Administrator of the Register of Shareholders:**
Mizuho Trust & Banking Co., Ltd.
1-2-1 Yaesu, Chuo-ku, Tokyo 103-8670, Japan
- **Annual General Meeting of Shareholders:**
The annual general meeting of shareholders of the Company is held in June.
 - **Accounting Auditor:**
Deloitte Touche Tohmatsu LLC

Major Shareholders (Top 10)

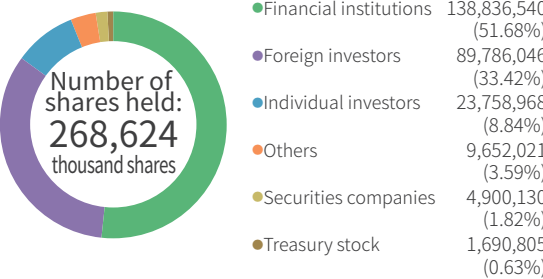
| Shareholders | Number of shares held (thousand shares) | Shareholding ratio (%) |
|--|---|------------------------|
| Master Trust Bank of Japan Limited (trust account) | 38,878 | 14.6 |
| Japan Trustee Services Bank, Limited (trust account) | 16,008 | 6.0 |
| The Dai-ichi Life Insurance Company, Limited | 15,697 | 5.9 |
| Nippon Life Insurance Company | 13,484 | 5.1 |
| Retirement Benefit Trust in Mizuho Trust & Banking Co., Ltd. (Mizuho Bank, Ltd. account); Trust & Custody Services Bank, Ltd. as a Trustee of Retrurst | 11,261 | 4.2 |
| Japan Trustee Services Bank, Limited (trust account 9) | 10,415 | 3.9 |
| State Street Bank and Trust Company 505223 | 6,907 | 2.6 |
| BNYM as AGT/CLTS 10 PERCENT | 6,088 | 2.3 |
| Yokogawa Electric Employee Shareholding Program | 5,465 | 2.0 |
| Japan Trustee Services Bank, Limited (trust account 7) | 5,215 | 2.0 |

Notes: 1. The Company holds 1,690 thousand shares of treasury stock.
2. The shareholding ratio is calculated after deducting treasury stock.

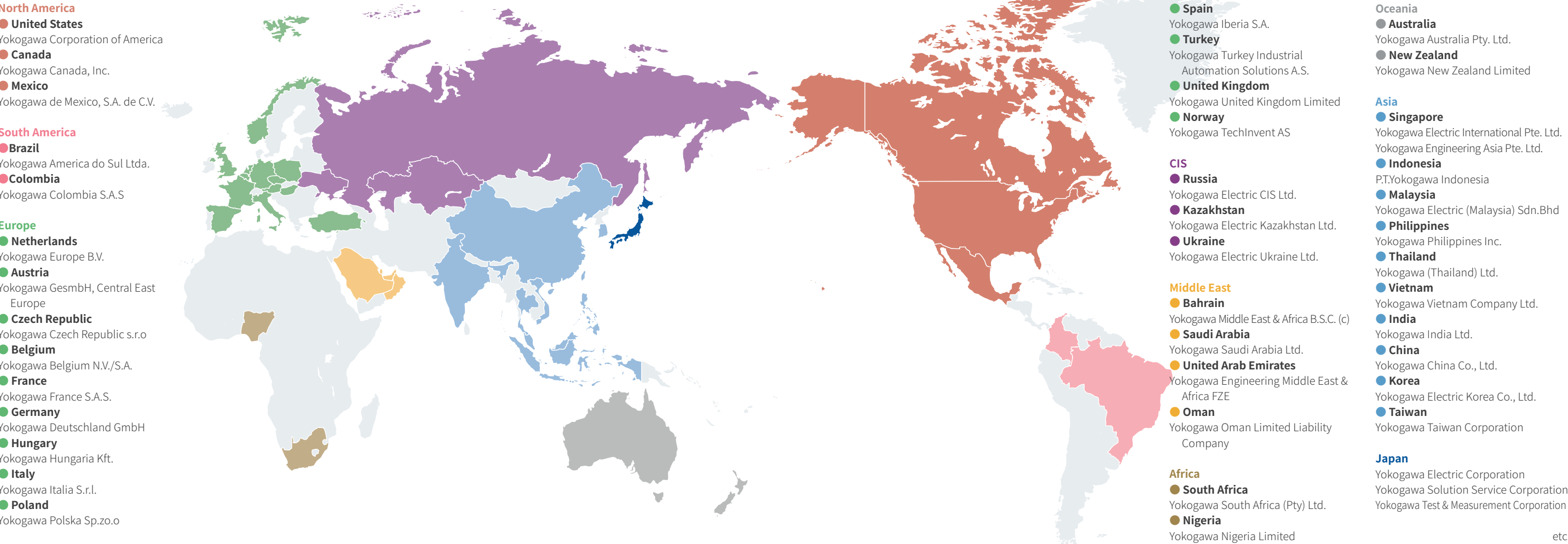
Shareholders by Category



Shareholding by Category



Principal Subsidiaries and Affiliates



Yokogawa Electric Corporation

Treasury and IR Department, Corporate Administration Headquarters
2-9-32 Nakacho, Musashino-shi, Tokyo 180-8750, Japan
Phone: +81-422-52-6845 Facsimile: +81-422-55-1202

<https://www.yokogawa.com/>

