YASKAWA

YASKAWA Report 2020

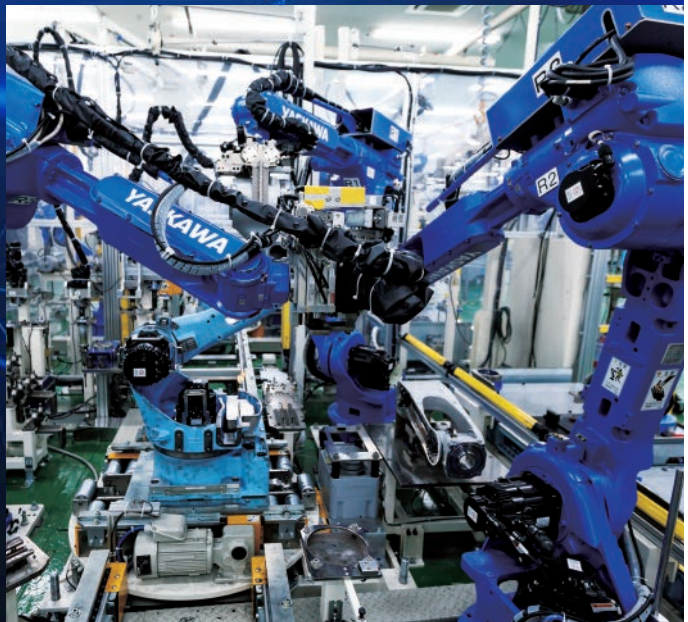
Toward the Realization of the Automation Revolution

Since its establishment in 1915, Yaskawa Electric has defined “Motors and their applications” as its business domain, and has always supported the cutting-edge industries of the age with its products and technologies.

Based on the business policies and memorandum of our founder, Mr. Daigoro Yasukawa, Yaskawa Group’s management principle has a mission to “Contributing to the development of society and the welfare of humankind through business operations” with focus on quality, profitability and market orientation. This mission has been firmly passed down to the present and rooted in the organization.

Today, the business environment of the Yaskawa Group is undergoing dramatic changes, including changes in the global population structure, environmental problems caused by increased energy consumption, and changes in production sites due to the rapid evolution of information and communications technology.

Based on the management principle, we will utilize our core technologies to contribute to the resolution of clients’ management issues while creating new added value for society, and thereby achieve sustainable growth.



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Cover Explanation

The manufacturing base for AC servo, "YASKAWA Solution Factory" in Iruma City, Saitama Prefecture, began operations in FY2018 to create new value at manufacturing sites. We have applied solutions that combine the latest IT technologies with motion control technologies we have cultivated over many years to our production sites to realize the evolution of manufacturing.

Our History

Since its establishment, Yaskawa Electric has held its mission of being “a company founded on technology” in order to undertake the business by its own technologies and continued to make challenges into the latest technology of the times. In 1969, Yaskawa led the world in putting forward the concept “mechatronics” combining mechanism and electronics. In 1970s, Yaskawa shaped an idea of “unmanned factories” which are automated plants where human and machines coexist. And Yaskawa has begun the full utilization of digital data and announced the concept “i³-Mechatronics*” (i cube Mechatronics) for creating new value at manufacturing sites in 2017. In 2018, YASKAWA Solution Factory was established to realize the unmanned factory which had been planned for a long time.
Yaskawa Group continues to take on challenges for realizing new industrial automation revolution.

* Yaskawa’s solution concept for realizing a new industrial automation revolution

1915
Founding

Three-phase induction motor
Yaskawa’s first commercial product

The first VS motor 5HP
Variable speed motor

Minertia motor
A motor that became the basis for the servo motor available today.
A revolutionary product that had a response rate 100 times greater than conventional motors.

Promoter
Keiichiro Yasukawa

Keiichiro Yasukawa, the promoter of Yaskawa absorbed new knowledge and philosophies from the West. He engaged himself in mining, later expanding his business to spinning, steel, railway and banking. He personally funded the opening of Meiji College of Technology, a vocational school for training engineers. The school later became Kyushu Institute of Technology, and continues to produce numerous engineers to this day.

Founder
Daigoro Yasukawa

Electric motors were starting to advance into all industrial segments as replacements for steam engine at the beginning of the Taisho period. Daigoro Yasukawa, the fifth son of Keiichiro, was among those who learned the fundamentals of such leading-edge technology. In 1915, with his father promising “to provide financial support, but not interfere with the way you run the business”, Daigoro founded our predecessor, Yaskawa Electric Manufacturing Co. The company started its business by manufacturing electric motors for mining, where the imported products dominated and domestically produced motors were scarce. Daigoro wished to contribute to the nation by exporting domestically produced motors to overseas as “motivation of establishment”, and aimed at undertaking the business with the company’s own technologies, not by copying the leading Western products.

Motion Control

Electric Motors and their Applications

Evolution of Products and Technologies

1917 Commercialized “three-phase induction motor”
1927 Commercialized “super synchronous motor”
1928 Commercialized “three-phase induction motor with ball bearings”
1953 Commercialized the first VS motor
1958 Invented the “minertia motor” DC servo motor
1968 Developed automation equipment “MOTO-FINGER”, “MOTO-ARM” and “MOTO-HAND”

1915-
Startup period

1950-
Motor manufacturer

Developments in Management

- Focusing business on electric motors and their applications
- Focusing on motors as hardware and intelligence as software to control motors

- Aiming for mechanical automation by leveraging advancements in control technology
- Establishment of Yaskawa’s first overseas subsidiary YASKAWA Electric America, Inc. (1967)
- Proposed concept of “Mechatronics” ahead of the world (1969)

Development of society and industry

Coal mining equipment shifted from steam engines to electricity (motor)

Energy shifted from coal to oil and the heavy and chemical industries developed

Development of DNA (corporate culture)

Company founded on technology

Pursuing customer satisfaction

Quality-oriented

FY1981 Annual sales exceeded **100** billion JPY

FY2014 Annual sales exceeded **400** billion JPY

FY2015 Centenary

Japan's first all-electric vertical articulated industrial robot

MOTOMAN-L10

World's first transistor AC drive

VS-616T

World's first general-purpose vector control AC drive

VS-616G5

World's first multiple robot cooperative control

MOTOMAN-UP6

World's first dual-arm industrial robot for volume production

MOTOMAN-DA20

World's first matrix converter

Varispeed AC

MotoMINI The smallest and lightest robot in industry

Robotics

Power Conversion

Σ series World's smallest and lightest

World's first GaN power semiconductor equipped

servo motor with built-in amplifier

1974 Commercialized general-purpose transistor AC drive "VS -616 T"
1977 Commercialized "MOTOMAN-L10" all-electric vertical articulated industrial robot
1992 Commercialized "Σ series" AC servo drives
1995 Commercialized "VS-616G5" vector control AC drive
1998 Commercialized "MOTOMAN-UP6"
2005 Commercialized new generation robot (dual-arm and 7-axis)
2005 Commercialized matrix converter "Varispeed AC"
2017 Commercialized servo motor with built-in amplifier
2017 Commercialized collaborative robot MOTOMAN-HC10

1970–
Automation provider

- Announced the concept of "unmanned factory", automated plant with support of machines (1970)
- Aggressively devoted management resources into the rapidly growing mechatronics market; unveiling new products back-to-back
- YASKAWA Electric Europe GmbH established (1980)

1990–
Mechatronics promoter

- Changed the company name from YASKAWA Electric Manufacturing Co., Ltd. to YASKAWA Electric Corporation on the occasion of 75th anniversary (1991)
- YASKAWA Electric (Singapore) PTE. LTD. established (1991)
- YASKAWA Electric Korea Corporation established (1994)
- YASKAWA Electric (Shanghai) CO., LTD. established (1999)

2005–
Total solution provider

- Launch of "i³-Mechatronics", a new solution concept (2017)
- Established YASKAWA Solution Factory to realize "unmanned factory" (2018)

Expansion of mass production-oriented manufacturing of automobiles, home appliances, etc. due to Japan's high economic growth

Popularization of personal computers and progress in computerization

Spread of the Internet and smartphones

Transition to a data-driven society through the use of IoT and AI

Mechatronics as a forward-looking business concept

Policy management

Glocal management

Our Identity

Since its founding, Yaskawa Electric has continued to pursue the latest technologies and supported the development of cutting-edge industries in each era, and has achieved growth over the past 100 years.
Although there have been many difficulties since our founding, we have become a company that is active on a global scale as a result of the wisdom of the people in each era and the bold challenges they have made without fear of failure. The six DNAs that Yaskawa Group has developed over the years — (1) a company founded on technology, (2) pursuing customer satisfaction, (3) quality-oriented, (4) mechatronics as a forward-looking business concept, (5) policy management, and (6) *glocal* management — have become important corporate cultures that serve as the Group's strengths today.

Six DNAs

that have been nurtured since our founding (Corporate Culture)

1. A company founded on technology
2. Pursuing customer satisfaction
3. Quality-oriented
4. Mechatronics as a forward-looking business concept
5. Policy management
6. *Glocal* management

Strength

- R&D focused on the world's first and best technologies
- Customers' trust
- Ability to transform
- Ability to execute business
- Global management rooted in local communities

i³-Mechatronics

New value with "i cube", digital data solution

Integrated
Intelligent
Innovative

"i³-Mechatronics" is Yaskawa Group's solution concept in "Vision 2025".

By implementing the three "i"s for problem solving in the order of "integrated", "intelligent", followed by "innovative", we aim at achieving total optimization.

We solve problems by comprehensively visualizing (integrated) and analyzing/learning (intelligent) customer's production site data. Then, we will realize automation revolution (innovative) in manufacturing.

We will also implement "i³-Mechatronics" within Yaskawa Group and achieve "digital transformation (YDX)" while advancing manufacturing.

Business Model Transformation

Maximizing value creation through the strengths based on the six DNAs

Advances in information and communications technology are rapidly evolving the world into a data-driven society. Collecting, correlating, analyzing and utilizing large amounts of data is becoming the basis of social development.

Yaskawa Group has adopted "i³-Mechatronics (i cube mechatronics)" as its vision for a new form of factory automation, and is building on its corporate culture cultivated thus far to lead the evolution of manufacturing in a data-driven society through the use of IoT and AI. In addition, we will pursue balanced ESG management and open a new era, aiming to be a company that can further contribute to "Sustainable Development Goals (SDGs)".

Global Network

The DNA of Yaskawa Group's "*Glocal* management" is based not only on globally-minded management, but also on the ability to respond locally in the best way possible with roots in local communities anywhere in the world. Currently, we have business bases in 30 countries and regions around the world. We provide strong support for our customers' global businesses through area-oriented and fine-tuned operations.

Europe

Germany
- YASKAWA EUROPE GmbH
- VIPA GmbH

Sweden
- YASKAWA NORDIC AB

U.K.
- YASKAWA ELECTRIC UK LTD.
- YASKAWA UK LTD.

Italy
- YASKAWA ITALIA S.R.L

France
- YASKAWA FRANCE SARL

Spain
- YASKAWA IBERICA S.L.

Finland
- YASKAWA FINLAND OY
- THE SWITCH ENGINEERING OY

Norway
- THE SWITCH MARINE DRIVE NORWAY AS

Netherlands
- YASKAWA BENELUX BV

Slovenia
- YASKAWA EUROPE ROBOTICS D.O.O
- YASKAWA SLOVENIJA D.O.O.
- YASKAWA RISTRO D.O.O.

Czech Republic
- YASKAWA CZECH S.R.O

Poland
- YASKAWA POLSKA SP. ZO. O.

YASKAWA EUROPE GmbH

Middle East & Africa

Israel
- YASKAWA EUROPE TECHNOLOGY LTD.

Turkey
- YASKAWA TURKEY ELEKTRIK TICARET LTD. STI.

South Africa
- YASKAWA SOUTHERN AFRICA (PTY) LTD.

North America

U.S.A.
- YASKAWA AMERICA, INC.
- SOLECTRIA RENEWABLES, LLC

Canada
- YASKAWA CANADA INC.

Mexico
- YASKAWA MEXICO S.A. DE C.V.

YASKAWA AMERICA, Inc.

Japan

- YASKAWA ELECTRIC CORPORATION (Headquarters)

South America

Brazil
- YASKAWA ELETRICO DO BRASIL LTDA.
- MOTOMAN ROBOTICA DO BRASIL, LTDA.

Asia-Pacific

China
- YASKAWA ELECTRIC (CHINA) CO., LTD.
- SHANGHAI YASKAWA DRIVE CO., LTD.
- YASKAWA TSUSHO(SHANGHAI)CO., LTD.
- YASKAWA ELECTRIC (SHENYANG) CO., LTD.
- YASKAWA SHOUGANG ROBOT CO., LTD.
- YASKAWA (CHINA) ROBOTICS CO., LTD.

Korea
- YASKAWA ELECTRIC KOREA CORPORATION

Taiwan
- YASKAWA ELECTRIC TAIWAN CORPORATION

Singapore
- YASKAWA ASIA PACIFIC PTE. LTD.

Thailand
- YASKAWA ELECTRIC (THAILAND) CO., LTD.

Indonesia
- PT. YASKAWA ELECTRIC INDONESIA

India
- YASKAWA INDIA PRIVATE LIMITED

Vietnam
- YASKAWA ELECTRIC VIETNAM CO., LTD.

Malaysia
- YASKAWA MALAYSIA SDN. BHD.

Creating Social Value

Under the slogan, “Contributing to the development of society and the welfare of humankind through business operations” the Yaskawa Group has pursued a variety of initiatives aimed at realizing management principle. In our long-term business plan “Vision 2025”, we have identified five areas in which we aim to create social value through our business, and are working to achieve these goals. By leveraging our unique strengths and further promoting the implementation of management principle, we will contribute to “Sustainable Development Goals (SDGs)” social issues that need to be addressed on a global scale, and aim to realize a prosperous future.

1 Freedom from 3D labor through automation

One of the motivations for Yaskawa to develop robots was to improve the 3D* workplace. By eliminating 3D labor through the effective use of robots and factory automation and optimization, we will create a rewarding workplace for people.

* Dirty, dangerous and demeaning, a word for harsh working conditions

2 Energy conservation and reduction of environmental impact

Motors are used in a variety of equipment and are said to account for more than 50% of the world’s electricity consumption. Robots, production equipment, fans and other factory equipment are also driven by motors, and these improvements in efficiency directly contribute to energy conservation at production sites. AC drive also realizes energy conservation by controlling the rotations of motors and preventing excessive operation of the machine.

3 Increased use of renewable energy

As a response to climate change, which is a global issue, renewable energy sources such as solar and wind power, which do not emit greenhouse gases when generating electricity, are becoming increasingly widespread. Yaskawa Group supports the expansion of the use of renewable energy by providing PV inverters for photovoltaic power generation, and generators and converters for large-scale wind power generation.

4 Stable food supply by vegetable factories

In Japan, food sustainability has become an issue due to a decrease in the number of people engaged in agriculture, a decrease in the self-sufficiency rate of food, the impact of abnormal weather on harvesting, the explosive population growth mainly in developing regions, desertification, and soil pollution caused by agricultural chemicals. Yaskawa Group's vegetable factories that use automated technology can stably produce safe, chemical-free vegetables, contributing to a secure and stable supply of food.

5 Contribution to the medical and welfare fields

With the advent of a super-aging society, there is a labor shortage in medical and welfare fields, and the application of robotics technology is expected. Yaskawa aims to create a market for advanced medical and welfare equipment by applying robot technology cultivated in the industrial automation market to the medical and welfare fields and utilizing open innovation such as alliances and industry-academia-government collaboration.

Value Creation

Yaskawa Group is implementing business strategies to realize “Vision 2025” by capitalizing on the management base it has accumulated over many years. In addition to achieving sustainable growth through this initiative, Yaskawa is contributing to the SDGs through creating social value, thereby helping to realize management principle.

Social Issues and Customers’ Management Issues

Declining birthrate and aging population in developed countries

- Work style reform
- Productivity improvement
- Labor-saving
- Elimination of 3D labor
- Multi-product variable-volume production

Environmental issues and climate change

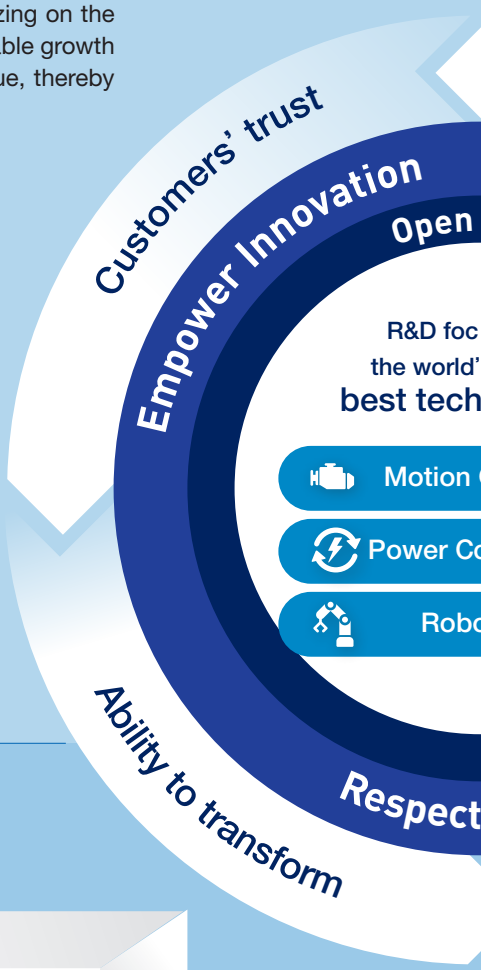
- Decarbonization
- Energy conservation
- Stable supply, safety and security of food
- Utilization of renewable energy

Spread of infection

- Labor-saving and remote operation
- Ensuring social distance

Evolution of information and communications technology

- Digital transformation (DX)
- Information security



Optimal Allocation of Management Capital P31

Business model transformation

Management base to

Digital transformation (YDX) P23

Corporate governan

Value Creation P9

Realization of management principle

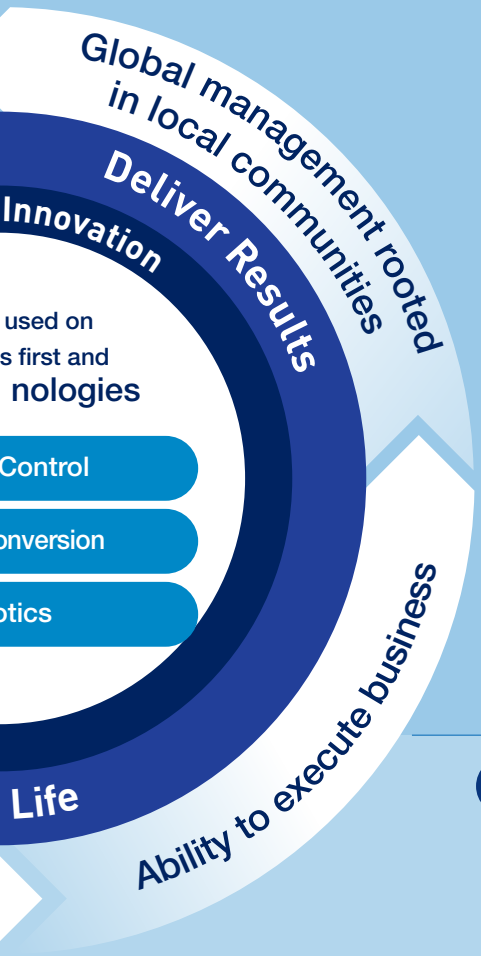
Leveraging the pursuit of our business to contribute to the advancement of society and the well-being of humankind

Energy conservation and reduction of environmental impact	Increased use of renewable energy	Liberation from 3D labor through automation	Stable food supply by vegetable factories	Contribution to the medical and welfare fields

FY2025 Financial Targets

Operating profit over 100 billion yen

ROE 15% or more	ROIC 15% or more	Dividend payout ratio 30% + α



Promotion of Business Strategies P17

Factory Automation/ Optimization

- Realization of revolutionary industrial automation through "i³-Mechatronics"
- Pursuing the global No.1 in core business

i³-Mechatronics

Mechatronics Applications

- Challenge for new mechatronics applications

・Energy Saving
・Food & Agri
・Clean Power
・Humatronics

i³-Mechatronics P19

o support sustainable growth

ce P47

Environmental and social initiatives P41 P43 P45

Message From the President

**The spread of the new coronavirus infection changed the world economy and people's lives.
However, manufacturing activities do not stop.
We will continue to evolve in anticipation of further growth beyond these difficulties.**

My understanding of the impact of the new coronavirus

New coronavirus infections (Hereinafter, "coronavirus") are spreading around the world. I would like to express my deepest sympathies to those affected by the disease, and express my respect and gratitude to those who focus on treatment and infection prevention. Yaskawa Group places top priority on the safety and security of its employees and all other stakeholders, and is committed to collecting accurate information and implementing preventive measures based on prompt judgment.

The impact of this coronavirus on Yaskawa Group's business environment has become more and more prolonged over time. It has become difficult to imagine that in the future people's movements will return to what they used to be, and it will become even more difficult to set a long-term outlook. As a result, I feel the need to accelerate our efforts to build a robust corporate structure.

As the movement of people is restricted by the effect of coronavirus, consumption is expected to cool down, and we have to assume a severe business environment for the next few years. On the other hand, however, the movement triggered by this lesson is related to human life, and from the perspective of BCP, I believe that it will lead to accelerating investment in automation and manpower saving of manufacturing on a global scale.

For example, in Yaskawa Group, there was a temporary concern about the procurement of processed parts, which raised the issue of in-house production of parts. In addition, we are operating the factories after taking measures against infection, such as wearing masks and ensuring social distance. However, in order to make the factory more thorough in measures, it is necessary to change the layout of the production line using robots, etc., and to further automate production. I assume that similar problems exist in many manufacturing sites.

In addition, the coronavirus has increased the momentum to review the globalization of the economy, and there are growing concerns about

disruptions in supply chains, as well as a growing tendency among countries, including the United States and China, toward inward-oriented economy.

Under these circumstances, Yaskawa's role is to support Japanese manufacturers, including us, so that they can continue to be competitive, with data utilization such as AI and IoT and leading-edge technologies at their core. For the automation and mechanization of the manufacturing industry, it is also important to understand how people can remotely install robots and tune machines without moving around. Yaskawa is committed to making this a reality.

Strategies for achieving "Vision 2025" and mid-term business plan "Challenge 25"

The efforts we have made in our long-term business plan "Vision 2025", including the promotion of automation and optimization of plants centered on "i³-Mechatronics", and digital transformation are not intended to respond to the effect of coronavirus, but they have led to the establishment of a structure that enables us to quickly adapt to changes in the business environment.

For example, because we had been preparing for the full-scale application of telework, approximately 2,000 employees in Japan were able to quickly shift to telework, and as a result, the introduction of telework accelerated rapidly. At present, coronavirus has had a significant positive effect on factors other than business results, such as strengthening of the corporate structure, as seen in the reform of the way we work and expenses. This effect must be sustained.

At the same time, as the business environment changes rapidly, we recognize the need to further localize operations in each region of the world. The role of the Japanese head office in Yaskawa Group's *glocal* management is to determine major directions (strategy), and it becomes increasingly important to leave operational decisions to the local top and execute them quickly. It may be a problem if the direction is not the same, but we will continue to localize operations and create a system that enables

speedy implementation.
Mid-term business plan “Challenge 25” has set an operating profit target of ¥70 billion. Despite the adverse business environment, we believe that we can achieve our profit targets even at a time when sales growth is unlikely by improving our profit structure and establishing a sound corporate structure through promoting digital transformation to enable working style reform and more thorough cost control, as well as promoting localization of operations.

What I would like to achieve with digital transformation

FY2020 is positioned as the first year of Yaskawa Group’s DX (digital transformation), and the following four items have been set as the goals of our activities.

① Real-time visualization of consolidated management conditions, including orders received, sales, profits, expenses, plant operation, quality information, and other elements
② Promotion of work style reforms aimed at achieving fair evaluation and rewarding work environment
③ Enabling settlement of consolidated full-year fiscal data in two weeks and quarterly fiscal data in a week
④ Eliminating handover period when an employee is transferred to another department by accumulating know-how

Rather than being misled by the general definition of DX in the world, Yaskawa has named its activities to achieve digital transformation “YDX” - YASKAWA Digital Transformation-. As the head of the ICT Strategy Promotion Div., I am promoting this initiative top-down and speedily.
I also want to create a new corporate culture with YDX through awareness and business reforms. In the long history of Yaskawa, there was a time when we had to undergo difficult business operations. We overcame difficulties by cutting salaries for all employees and putting up with it together. For this reason, we were called “equal” and “good company”. However, in order for Yaskawa to evolve into a truly highly profitable company, I believe that “fair” rather than “equal” should be the way we are. We must promote the spread of a culture to realize “fair evaluation of the results (profit) achieved by employees who act on their own initiative”. Digital evaluation, which aims to evaluate the results of work fairly rather than the time spent at work, are one of the ways to support work style reforms.

Review of FY2019 and FY2020 initiatives

In FY2019, the business environment was generally severe due to the impact of trade friction between the United States and China. As the effects of these measures began to lessen toward the end of the fiscal year, the spread of coronavirus throughout the world forced the Group to post lower revenues and profits. Under these circumstances, we have steadily implemented technological, production, and sales reforms under the banner of “i³-Mechatronics”. These include the establishment of a system that enables us to respond to customers in an integrated manner, from inquiries to services, through the acquisition of a service subsidiary, the establishment of a new subsidiary i3 DIGITAL that handles AI and IoT businesses for factory automation in the manufacturing industry, and the launch of the “i³-Mechatronics CLUB” with the aim of planning and creating solutions in collaboration with partners.
In FY2020, although a recovery in the Chinese market and solid performance in the semiconductor-related market are positive factors, the operating environment in general is expected to remain challenging. Against this backdrop, we will focus on acceleration of YDX’s initiatives and establishing YASKAWA Technology Center (Scheduled to start operation in March 2021) as a new base that will integrate technology development, which are the keys to achieving man-

agement success over the next 10 years.
As part of our efforts to establish a business model based on "i³-Mechatronics", we will strive to expand high-quality orders by building relationships with customers in growing markets and strengthening collaboration. We will also strengthen our engineering structure and expand our collaboration with business partners. In the food business, which is a new business area, we will expand orders by establishing solutions for home-meal replacement production and vegetable plants, and strengthening collaboration with leading companies in the food industry. We will also enter the logistics market in earnest and strengthen the AI/IoT field by leveraging the comprehensive capabilities of the Yaskawa Group and other partners, including an AI subsidiary AI Cube, an IT subsidiary i3 DIGITAL, and IT partner YE DIGITAL.

Message to stakeholders

The coronavirus has transformed the world economy and people's lives. However, manufacturing never stops. Even if people don't move, things are still manufactured and transported.
This impact is not negative for Yaskawa Group in the long run, and I am confident that we can achieve further growth by overcoming this impact.
I would like to take this opportunity to thank our shareholders, investors and other stakeholders, and look forward to the continued support as we move forward.

Changes in the External Environment

The impact of the new coronavirus, which occurred at the end of FY2019, has completely changed the direction of the global economy, which had been on a growth track. In addition, the future is more uncertain than ever due to increasing geopolitical risks, including the U.S.-China trade friction. On the other hand, the trend toward automation, robotization, energy conservation and decarbonization is expected to continue to grow against the backdrop of such factors as the innovation of digital technology, the aging of the population in developed countries with a low birth rate, climate change and other environmental problems, as well as the avoidance of the “three Cs*” to prevent the spread of new coronavirus infections. Thus, the FA related market and the application market of power conversion technology, in which Yaskawa Group excels, are expected to grow steadily.

* Closed spaces, crowded places and close-contact settings

Declining birthrate and aging population in developed countries

Customers’ management issues	Opportunities	Risks
• Work style reform • Productivity improvement • Labor-saving and manpower saving • Elimination of 3D labor • High-mix and variable-volume production	Growing need for factory automation and optimization expanding business opportunities for Yaskawa Group	Risks of increased competition due to the rise of new manufacturers and the strategies of competitors, and restraint of capital investment due to geopolitical risks

Environmental issues and climate change

Customers’ management issues	Opportunities	Risks
• Decarbonization • Energy conservation • Stable supply and safety of food • Utilization of renewable energy	Expanding market for power conversion technology applications (Energy conservation, energy creation, and energy utilization), which is one of our strengths	Risks of decreased added value for Yaskawa due to changes in energy-related regulations and in-house production of parts by customers

Spread of infection

Customers’ management issues	Opportunities	Risks
• Manpower saving and remote operations • Securing social distance	Increasing business opportunities for Yaskawa Group due to the increasing need for more labor-saving and remote operation in production	Risks of widespread restrictions on economic activities due to the spread of infectious diseases

Evolution of information and communications technology

Customers’ management issues	Opportunities	Risks
• Digital transformation (DX) • Information security	Increasing demand for innovations in manufacturing using data and smart factories are expanding business opportunities for Yaskawa Group	Risk of not being able to secure sufficient human resources with the technologies and skills required to provide new solutions

Steps to Achieve Mid-Term Business Plan “Challenge 25”

Based on the external environment above, we will continue our strategy to achieve our long-term business plan “Vision 2025”, and will strive to maximize profits by controlling expenses, positioning the situation as an emergency in the short term. At the same time, from the viewpoint of mid- to long-term competitiveness to achieve “Vision 2025” we will continue to make necessary investments in such areas as enhancement of development capabilities and digital transformation, in order to strengthen our business foundation to improve profitability with the “i³-Mechatronics” as its core.

Progress in Mid-Term Business Plan “Challenge 25”

As the second stage of the “Vision 2025”, the mid-term business plan “Challenge 25” was launched in FY2019. As the first year of the mid-term business plan, which is based on the theme of “Creating new value and markets” we are aggressively expanding our business and strengthening our management base, focusing on the following three basic policies.

Positioning of “Challenge 25”

Basic Policy 01

Business model transformation through "i³-Mechatronics"

While strengthening our development, production, and sales capabilities to promote the "i³-Mechatronics" solution concept, we first worked to penetrate the concept and increase orders by enhancing our proposals to existing customers.

	Achievements	Challenges
Development capability	• Started construction of "YASKAWA Technology Center" (Scheduled to start operation in March 2021) • Started development of integrated controller "YRM Controller (tentative name)" (To be launched in 2021)	• Integration of development system toward the launch of "YASKAWA Technology Center" • Early commercialization of integrated controller "YRM Controller (tentative name)"
Manufacturing capability	• Stable production operation utilizing data at "YASKAWA Solution Factory" • Started robot production at the Slovenia Plant in Europe	• Global expansion of "YASKAWA Solution Factory" production system
Sales capability	• Identifying customers' management issues through top sales • Penetration and establishment of cross-business sales through single face sales activities • Merger of a service and engineering subsidiary	• Early creation of synergies through the merger of service and engineering subsidiary

Basic Policy 02

Maximizing revenue with expanding "robotics business"

In the fields of 3C* and semiconductor, which are expected to expand significantly due to the introduction of 5G and other innovations in information and communications technology, we strengthened our ability to provide solutions by expanding our lineup through the commercialization of new products such as collaborative robots, SCARA robots, and semiconductor wafer transfer robots.

*3C: Digital communications equipment
(From the three acronyms Computer, Communication, and Consumer Electronics)

Basic Policy 03

Expanding new business areas by enhancing resources through "selection and concentration"

To expand our focused Energy Saving business, we worked to strengthen our solutions by combining AC drive with high-efficiency motors. Furthermore, in order to enhance the profitability of our Clean Power business, we continued to strengthen sales in order to acquire large-scale wind power generation projects. In addition, in our PV inverter business, we launched and expanded sales of new products.

Furthermore, in order to strengthen our management foundation to promote the above, we accelerated initiatives to centralize management data and integrate business processes on a global scale through the YDX (YASKAWA Digital Transformation) project.

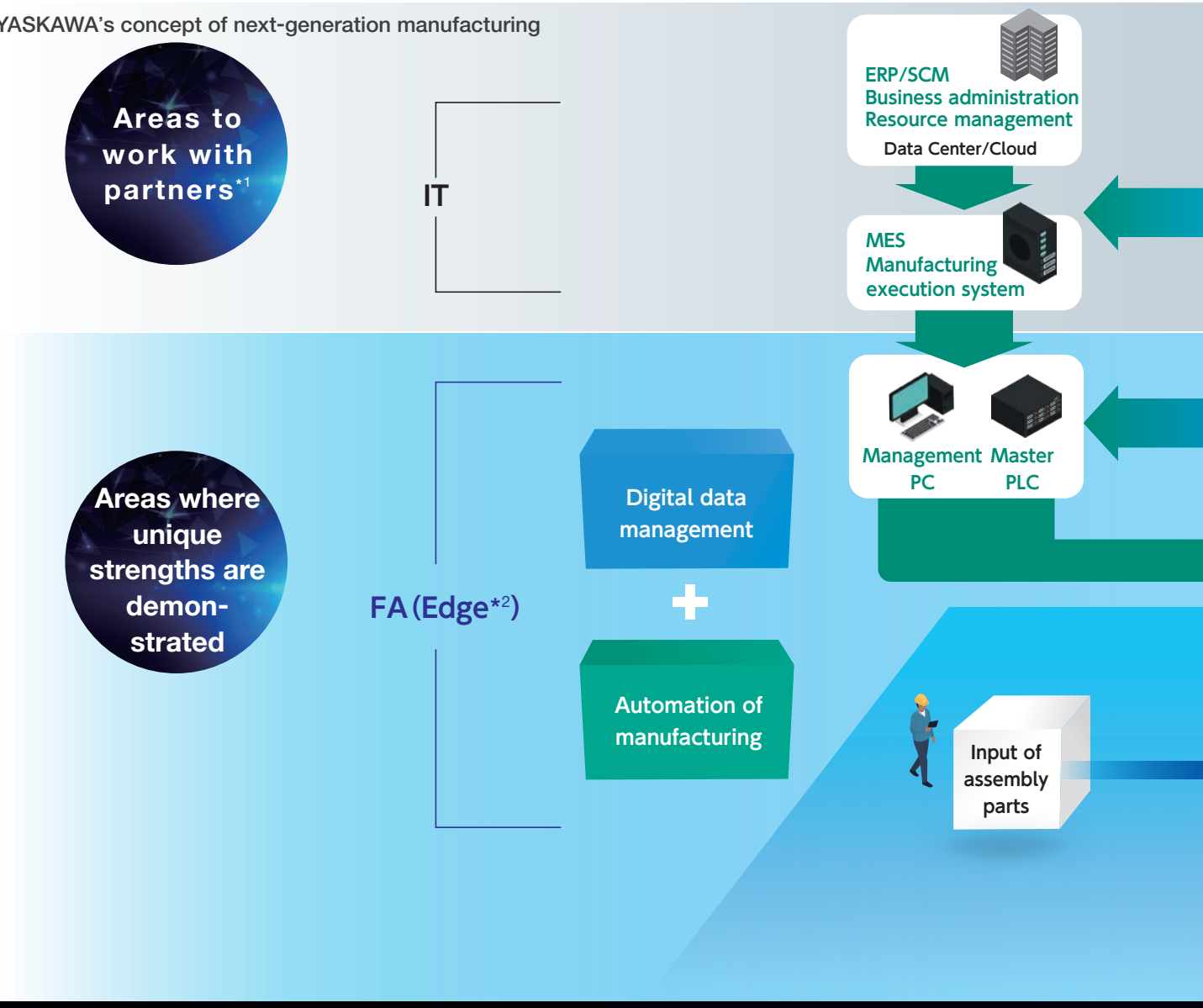
Creating Value through a New Business Model Based on "i³-Mechatronics"

Since its founding, Yaskawa has positioned "motors and their applications" as its business area, and through the development of the world's first and best technologies, has created the core products of today's factory automation equipment, including AC servo motors, AC drives and robots. Formerly, we have aimed for the No. 1 global business by strengthening each product individually. With the shift to a data-driven society, however, in recent years, the concept of next-generation manufacturing, which aims to improve the efficiency and optimization of the entire plant by linking equipment, has spread throughout the manufacturing world.

Based on the solution concept "i³-Mechatronics" for next-generation manufacturing, Yaskawa will combine core products that have been refined over the years and optimize cells (Assembly, processing and other processes at production sites) by utilizing IoT and AI. By doing so, we will create value by providing solutions that directly lead to solutions to our customers' management issues, such as shortening production lead times, improving non-stop rates (defect reduction), and increasing utilization rates.

Based on our track record of maintaining the global No.1 share in AC servo motors, which is essential for driving various machines and robots used in factories, as well as our extensive customer base as a result of having been engaged in sales on a separate product basis and our extensive know-how related to data obtained from motors, we will lead the next generation manufacturing with our unique approach.

YASKAWA's concept of next-generation manufacturing



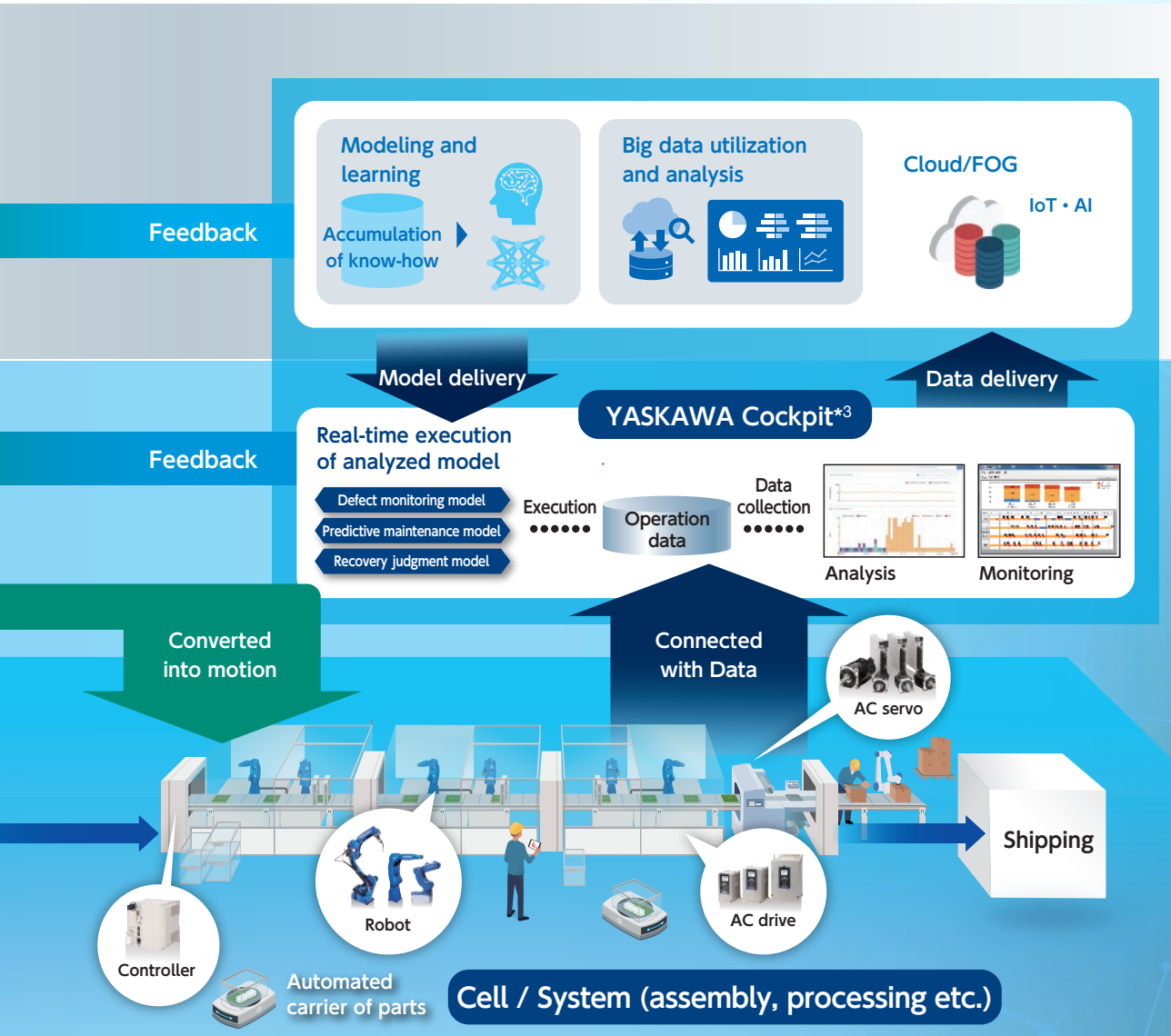
Traditional manufacturing issues

① Occurrence of defects
② Occurrence of brief stops*4
③ Variation in quality

Next-generation manufacturing realized through "i³-Mechatronics"

① Reduction of work in process by improving the non-stop rate*5 (Reduction of defects)
② Suppression of brief stops
③ Quality stabilization

*1 Partners to strengthen IT, including subsidiaries AI Cube Inc. and i3 DIGITAL CORPORATION
*2 Location of information processing for real-time data analysis and feedback (Areas close to production floor, such as factories and production sites)
*3 Software that can collect, store, and analyze data on production facilities and equipment in real time
*4 Production stoppage due to equipment trouble
*5 Percentage of products that pass all inspections from the beginning to the end of the production processes at one time



Satoru Shiraishi
Factory Manager
Motion Control Plant
Motion Control Div.

Improvements in manufacturing have made steady progress.

Shiraishi: In Step 1 of the manufacturing process targeted by the YASKAWA Solution Factory, we are working based on the principles of “strict adherence to market-required delivery dates”, “labor-saving” and “increasing productivity” by reducing and stabilizing production lead times based on “a system to improve with data”.

In the past, production lines used to have an excessive amount of work in progress in the middle of the manufacturing process, which resulted in overtaking of the production sequence and lead times varying. The lead-time has been greatly reduced by making it possible to manufacture different models one by one, and by adopting a system that allows a product to flow all the way to the end once it

Goal	Control item		End of FY2019	Target
Strict adherence to market-required delivery dates	Takt time* (production speed)	Motor	–50%	–60%
		Amplifier	–80%	–80%
	Compliance rate on delivery dates	Motor	99%	99% or more
		Amplifier	99%	
Labor-saving	Indirect headcount*		–30%	–50%
Increased direct productivity	Manufacturing lead time*	Motor	–85%	–85%
		Amplifier	–85%	–85%
	Direct headcount*	Motor	–35%	–40%
		Amplifier	–50%	–50%

* Compared to previous production method

“i³-Mechatronics” Achieves Evolutions in M

YASKAWA Solution Factory, an AC servo factory started operation in FY2018 as a demonstration plant for “i³-Mechatronics”. Two years later, Shiraishi, the factory manager, and Kondo, the manager in charge of production innovation, explain how manufacturing has evolved.

to increase production and the number of personnel required to operate the factory is small, it is easy to respond by increasing production shifts without significantly increasing the number of personnel. We also confirmed that we can maintain the same level of productivity as the day shift in the night shift.

Transformation of manufacturing based on data

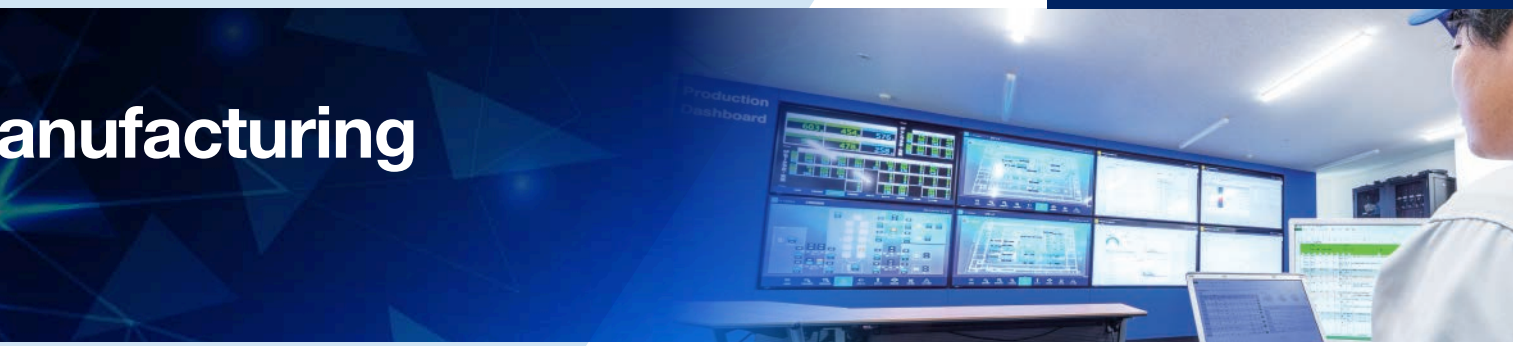
Kondo: Currently, we are moving to Step 2, where we analyze data such as torque, vibration, and heat coming up from manufacturing sites, in order to prevent the occurrence of brief stops or equipment troubles. This is being implemented in cooperation with our AI subsidiary AI Cube Inc.
Specifically, we collect multiple on-site data, analyze changes and abnormalities

is put on the production line.
In addition, it has become possible to confirm the production progress of an order on a PC in real time, instead of having to go to the site to confirm the production progress in response to an inquiry about the delivery date. The productivity of indirect work has improved, and the shift to more creative work is progressing, freeing us from work that deals with current issues. As a result, the rate of compliance with deadlines for customers has improved significantly, and manufacturing improvements are steadily making progress.

Kondo: Furthermore, the YASKAWA Solution Factory has built a structure that makes it easy to keep up with the significant fluctuations in production volume, which is a management issue for Yaskawa. In the past, in order to cope with increased production, it was necessary to increase production shifts and secure a large number of new workers, which required additional costs. In addition, there was a problem that the productivity of the night shift differed from that of the day shift due to issues in the management system. Since the YASKAWA Solution Factory does not require additional investment

Jun Kondo
Section Manager
Motion Control Plant
Motion Control Div.

anufacturing



in products and equipment, and clarify the correlation with errors that occur. This enables feedback control to prevent equipment errors and poor machining and assembly accuracy, enabling true “non-stop” production.
In addition, we are actively working to transform manufacturing by utilizing various data from the field and using AI and big data analysis in the conventional inspection and adjustment processes.

Utilizing data from manufacturing sites in product development

Shiraishi: In conventional manufacturing, when a problem occurs, it was difficult to identify the real cause because it cannot be analyzed whether the cause is equipment, parts, or people. However, the ability to analyze field data in an integrated manner has made it easier to find the real cause. At the same time, we are identifying issues arising from the structure of AC servo drive which were previously unknown. We are feeding back the results of this analysis to the development of new products and have also improved the current Sigma-7.

Aiming to solve common problems for the manufacturing companies

Shiraishi: Since the establishment of the YASKAWA Solution Factory, many customers have visited us, and the challenges faced by many manufacturing companies are similar to those faced by us. I hope that seeing what is being done here will lead to a chance to advance efforts to resolve issues, by finding how data will improve manufacturing.
Going forward, Yaskawa Group will continue to advance the implementation of “i³-Mechatronics” in this plant and expand it to other plants and products in order to evolve its manufacturing. We will also build and establish solutions that will form the basis for proposals to customers, thereby expanding new business opportunities.

Roundtable Discussion:
The Aim of Yaskawa Group's DX*1

Realizing flexible management and efficiency in line with changes in the market and the times to achieve "Vision 2025"

In FY2020, Yaskawa Group made "Building a foundation for digital transformation" promoted by "the YDX project" one of its policies, and embarked on full-scale activities as the first year of the project. We asked President Ogasawara, who is also in charge of the ICT Strategy Promotion Div., and deputy manager Shimoike about YDX's aims and goals.

*1 Digital transformation: Using digital technologies to transform business activities, business models, and overall management

Representative Director, President
Hiroshi Ogasawara

Q Since becoming president in 2016, you have been sending a message that "Making Data a Global Common Language". What made you think so?

Ogasawara: The idea of "Making Data a Global Common Language" had been in my head long before I became president. I came to think so when I went on a long business trip to Korea for the first time in 1981. We didn't understand each other at all, and we talked using pictures and numbers, or "Data". This experience made me realize that it's data, not language, which prevails throughout the world.

Q What is behind the promotion of YDX?

Ogasawara: Under its long-term business plan, "Vision 2025" Yaskawa Group has set a target of achieving an operating income of at least ¥100 billion. One of the key words to achieve this is "integrated" which is also the first step of "i³-Mechatronics (i cube mechatronics)".
We have integrated our sales by establishing a cross-divisional system*2 , and our development by preparing the "YASKAWA Technology Center (Scheduled to start operation in March 2021)"*3, which will serve as an integrated R & D base from basic research to trial mass production and quality control.

On the other hand, systems and data within Yaskawa Group are not yet integrated. For example, data such as "Price" may be "the price at which something is sold to a customer" or "the price at which something is sold to an agency" depending on the country or person. To truly integrate development, production, and sales, we need to align our data definitions. For this reason, we have designated FY2020 as the "first year of YDX" and have begun full-scale efforts to integrate data.

*2 Please refer to YASKAWA Report 2018, page 11 "Special Feature: Achieving Revolutionary Industrial Automation with the 'i³-Mechatronics' Solution Concept".

*3 Please refer to YASKAWA Report 2019, page 39 "CTO Message" and page 37 of this report "Intellectual Capital".

Q What do you do specifically?

Ogasawara: We accelerate global unification of data within Yaskawa Group. The first step to do so is to unify "Code". A code refers to "products", "parts", "business partner", "account", etc., but each division or group company has its own code and classifies it independently. This prevents the smooth transfer of data between divisions and group companies, and prevents the true integration of development, production, and sales.

Q How do you proceed with code unification?

Shimoike: This fiscal year, we launched the "Global Code Management Group" and assigned personnel to approximately 70 group companies in Japan and overseas. At all companies, personnel were also assigned for each code, including "products" "parts" "business partners" and "account". We will accelerate the expansion of this system to group companies on a global basis by clarifying where

Deputy Manager, ICT Strategy Promotion Div.,

Shoichiro Shimoike

the entire Group should conform to regarding different levels and definitions for each division and company.

Q What are the challenges in moving forward?

Shimoike: In order for the Group as a whole to proceed, it is necessary to have a common understanding and a sense of speed in implementation among about 70 companies. We sometimes have difficulty communicating with overseas group companies due to differences in language and culture, but the group companies and head office divisions must work together to promote business reform and awareness reform, and resolve issues one by one.

At present, we are working to unify the codes and make management information visible. For about 40 of our group companies, data such as orders and sales are updated on a daily basis and made visible. We hope to further expand the scope. Through meetings with other companies that are implementing similar initiatives, I was told that some companies struggle with governance. In the case of Yaskawa, however, we have a clear vision and the president himself promotes these initiatives from a top-down approach. As a result, we believe that we can carry out activities together as a global group with a sense of speed.

Q What is your ultimate goal of YDX?

Ogasawara: The ultimate goal of YDX is to "standardize operations". To utilize IT is not our purpose, but I believe that the correct approach is to standardize operations so that we utilize IT where it can be effective.

Furthermore, if YDX advances, it will change the perspective

of individual optimization to a holistic view of the entire business situation, allowing us to see the global business situation in real time. This will also enable us to understand how to achieve overall optimization and make appropriate management decisions.

Q Will the way employees work and their job satisfaction change?

Ogasawara: YDX makes it easier to see how everyone's work and output contributes to the company. For example, an employee in the development department can see how much the product he/she designed is selling for, an employee in the sales department can see how much profit he/she is making from selling a product, and an employee in the general affairs department can see who will benefit from his/her job.

And when the code is unified, it consolidates and streamlines the work that has been done by multiple people. And that leads to standardization of work, which in turn leads to less time for handover. When an employee is transferred to a new department, he/she can begin practical work immediately, which results in enhancing his/her skills more efficiently.

Furthermore, even in telework, which has been accelerated due to the impact of the new coronavirus, work that can be done at home and work that cannot be done at home will be separated, and a variety of ways of working will be possible.

The promotion of YDX will change the way each employee works, which will increase the efficiency of the entire Group and lead to profits.

Q What is your message to stakeholders?

Ogasawara: "i³-Mechatronics" consists of three i's: "integrated" "intelligent" and "innovative". Digital transformation can be realized by taking the steps of "i³-Mechatronics". In addition to achieving flexible management that adapts to changes in the market and the times, the Group aims to achieve "Vision 2025" by establishing a highly profitable corporate structure through business standardization across the Group that leads to stronger governance and greater efficiency.

At a Glance

The Yaskawa Group deploys the technology and knowhow of the highest global standards to its products and services through business activities in the three core business segments of Motion Control, Robotics and System Engineering.

Business Overview

MOTION CONTROL

- AC servo & controller business

AC servo motors are incorporated in production equipment for electronic parts, semiconductor products, etc., that require high precision.

AC servo Σ-7series and machine controller MP3300

MOTION CONTROL

- Drives business

AC drives are used in social infrastructure, such as HVAC, escalators and elevators, and contribute to energy-saving.

Yaskawa AC drive new series

Matrix converter U1000

PM motor

ROBOTICS

- Arc and spot welding robots
- Painting robots
- Handling robots
- Clean/vacuum transfer robots for semiconductor and LCD manufacturing equipment

Our main product is vertical articulated robots, which contribute to automation of welding, painting, assembly and transportation at production sites in various fields, mainly in the automotive market.

Robot controller YRC1000

Arc-welding robot MOTOMAN-AR1730

Collaborative robot MOTOMAN-HC20DT

SYSTEM ENGINEERING

- Steel plant business
- Social system business
- Environment & energy business
- Industrial electronics business

Our advanced technological capabilities in system engineering and electrical products contribute to the automation and stable operation of steel plants, water treatment plants and large crane equipment, and to the expansion of the use of renewable energy in environmental energy markets such as photovoltaic power generation and large-scale wind power generation.

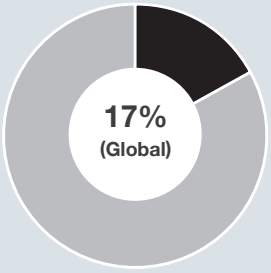
Generator and converter for large-scale wind turbines

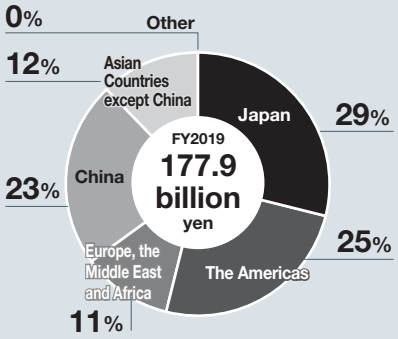
Medium-voltage matrix converter

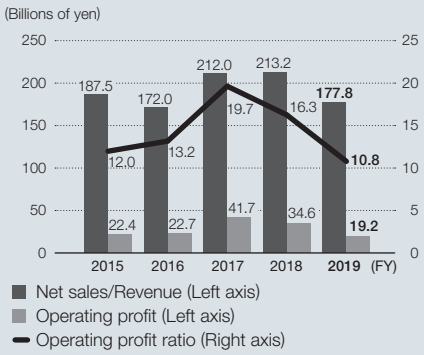
PV inverter

Market Share (Company estimate)	Breakdown of Revenue by Region in FY 2019	Net Sales/Revenue, Operating Profit, Operating Profit Ratio*

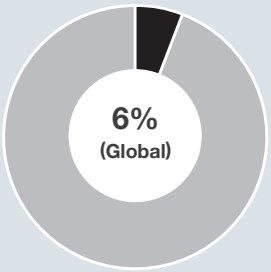
AC servo drives



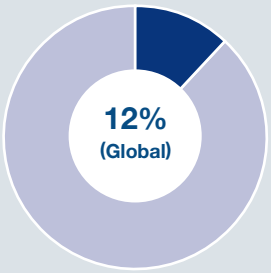


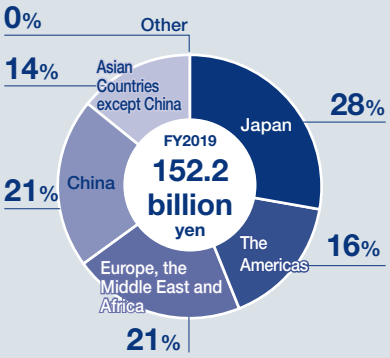


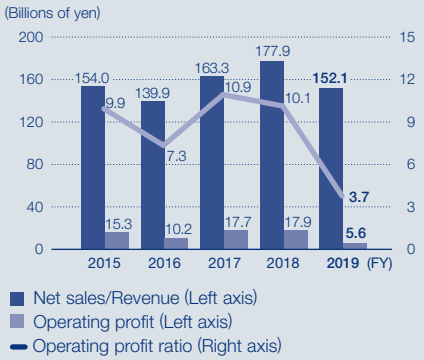
AC drives



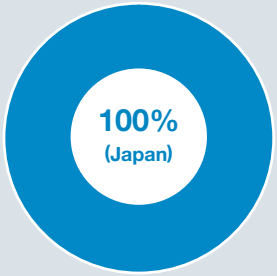
Industrial robot

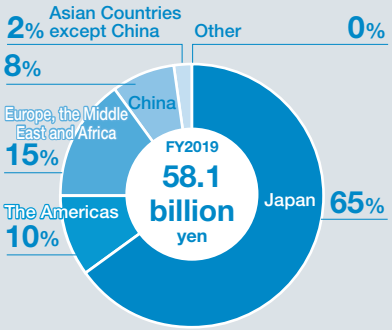


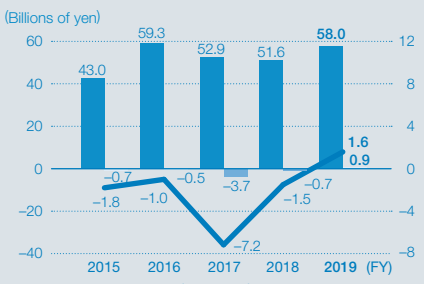




Steel plant facilities (Blast furnace system)







* Results up to FY 2017 are based on Japanese GAAP, and results after FY 2018 are based on International Financial Reporting Standards (IFRS).

MOTION CONTROL

• AC Servo & Controller Business

Enhancing machine performance as major components incorporated in production equipment

SWOT Analysis of Business

Strengths:

Strengths of Our Business and Differentiation

- Developed the world's first "minertia motor" which is the prototype of the current servo motor in 1958
  ⇒ World-class performance and quality
  ⇒ Brand value as global No.1market share
- Hold strong relationships of trust with leading companies in various manufacturing equipment
  ⇒ Contributing to the advancement and performance of machines through the pursuit of leading-edge technologies

Weaknesses:

Challenges

- Speed-up of the process from development to mass production
- Reinforcement of production response to rapid changes in demand
- Evolution from component sales to sales of integrated solutions

Opportunities:

Business Opportunities

- Growing demand for industrial automation
- Industry sophistication, including 5G, IoT, and self-driving

Threats:

Business Risks

- Supply chain disruptions associated with geopolitical risks
- Pricing strategies by manufacturers in emerging countries
- Response to new product launches by other companies
- Emergence of an actuator that can surpass the motor in performance and have the potential to replace the motor

"Challenge 25" (2019 – 2021) Goals

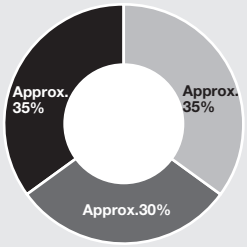
We will further advance our solutions capabilities through "i³-Mechatronics" and expand our components to respond to changes in the production systems. We will also build a highly profitable business structure and establish ourselves as the global No.1 leading company.

Progress on the "Challenge 25"

Financial Targets*	Progress of Measures	FY2019 Results*
Revenue: 240.0 B.JPY **Operating profit:** 43.4 B.JPY **Operating profit ratio:** 18.1%	**Development:** • Began development of strategic products to realize "i³-Mechatronics" **Production:** • Systematic expansion of models produced by the method of YASKAWA Solution Factory **Sales:** • Restructured the organizational structure to enhance customer service • Strengthened relationships with customers and create sales opportunities through top sales activities **Improved profitability:** • Improved productivity of indirect operations by applying the latest production methods	**Revenue:** 177.8 B.JPY **Operating profit:** 19.2 B.JPY **Operating profit ratio:** 10.8% • Revenue decreased due to U.S.-China trade friction and the outbreak of a new coronavirus although semiconductor-related demand is recovering. • Profit decreased due to the impact of a decline in utilization rate from revenue decline and inventory cutbacks amid sluggish demand.

* Motion Control Segment

Revenue Breakdown by Application
(FY2019 Results)



- Electronics-related industries including semiconductor, FPD and electronic components
- Machinery-related industries including machine tool, metal processing, press machine and robots
- Other (Packaging, textile, injection molding, etc.)

Global Market Outlook for AC Servo (Company estimation)

Estimated market size in FY2021

Approx. 870 billion yen

Average annual market growth for 2018 – 2021 (CAGR)

2.4%

MOTION CONTROL

• AC Drive Business

Contributing to sustainable development of society and industry by realizing energy-saving and higher performance of machinery through optimum motor control

SWOT Analysis of Business

Strengths:

Strengths of Our Business and Differentiation

- Power electronics technology and high-efficiency motor technology that lead in energy-saving performance
- Control and sensing technologies based on motor drive cultivated over many years
- Knowledge of machinery and equipment founded on system engineering
- Worldwide sales and service bases, development centers, and production plants

Weaknesses:

Challenges

- Improvement of development speed including new technologies
- Improvement in cost competitiveness
- External procurement of main parts

Opportunities:

Business Opportunities

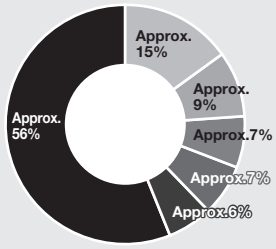
- Expansion of infrastructure investment
- Continual expansion of energy conservation needs
- Accelerate factory automation including 5G and IoT
- Enhancing the performance of industrial equipment through AI, etc.
- Rise of market in emerging countries

Threats:

Business Risks

- Intensification of cost competition due to the rise of emerging manufacturers and the self-manufacture of drive products by some customers
- Parts procurement risk due to factors such as rapid growth in the 5G and EV sectors
- Impact of falling crude oil prices on investment in oil and gas-related facilities

Sales Breakdown by Application
(FY2019 Results)



- Air-conditioning systems for buildings (HVAC) and compressors
- Cranes and hoists
- Pumps and fans
- Oil & gas
- Elevators
- General-purpose machinery / Other (Textile machinery, metal processing machinery, packaging machinery, conveyors, etc.)

Global Market Outlook for AC Drive (Company estimation)

Estimated market size in FY2021

Approx. 1.35 trillion yen

Average annual market growth for 2018 – 2021 (CAGR)

1.6%

“Challenge 25” (2019 – 2021) Goals

With an aim of achieving a 10% market share, we expand drive applications (General machinery, oil and gas, elevators, cranes, etc.) steadily and establish a foundation for expanding market share in energy-saving applications. (HVAC, fans, pumps, etc.)

Progress on the “Challenge 25”

Financial Targets*	Progress of Measures	FY2019 Results*
Revenue: 240.0 B.JPY Operating profit: 43.4 B.JPY Operating profit ratio: 18.1%	Development: • Began development of new application-specific AC drive and high-capacity AC drive Production: • Established a high-efficiency production system through the introduction of a new production system Sales: • Strengthened systems to identify potential needs together with customers • Strengthened development of energy-saving markets, particularly in Asia Improved profitability: • Increased productivity and profitability by launching new products globally	Revenue: 177.8 B.JPY Operating profit: 19.2 B.JPY Operating profit ratio: 10.8% • Although oil & gas-related demand in the U.S. was firm in the first half of the fiscal year, revenue were sluggish due to weak demand for capital investment mainly in China and other Asian countries.

* Motion Control Segment

ROBOTICS

Answering expanding automation needs of production sites to open up new opportunities of use

SWOT Analysis of Business

Strengths:

Strengths of Our Business and Differentiation

- Developed Japan's first all-electric articulated robot in 1977
  ⇒ Respond to diversified automation needs with the world's broadest product lineup
  ⇒ Hold top-class global market share
- The servo motor, which is the most important factor for the performance of the robot, is manufactured in-house.
  ⇒ Securing competitive advantage by improving robot performance and reducing production costs

Weaknesses:

Challenges

- Improving the speed of product development as the basis for realizing the "i³-Mechatronics" concept
- Establishing and expanding sales channels of collaborative robots
- Strengthening production capability when demand is rapidly increasing

Opportunities:

Business Opportunities

- Expanded demand for labor saving and automation in general industries
- Manufacturing innovation in the automobile industry
- Enhancement of production through IoT

Threats:

Business Risks

- Decline in demand for capital investment due to geopolitical risks
- Excessive expectations for market growth
- Rise of emerging manufacturers

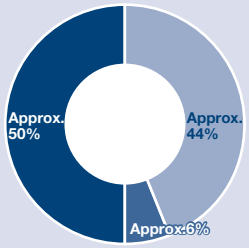
"Challenge 25" (2019 – 2021) Goals

Achieving growth that exceeds the growth of the robot market

Progress on the "Challenge 25"

Financial Targets	Progress of Measures	FY2019 Results
Revenue: 210.0 B.JPY **Operating profit:** 27.3 B.JPY **Operating profit ratio:** 13.0%	**Development:** • Based on the "i³-Mechatronics" concept, we developed products with the aim of realizing "Autonomous and decentralized manufacturing driven by data" (Autonomous robots, digital twins, etc.). • Expanded lineup of collaborative robots (Dust-proof, drip-proof specifications, for food, high payload) • Expanded lineup of robots for general industry (SCARA robot, palletizing robots) **Production:** • Plant in Slovenia began full-scale mass production **Sales:** • Created sales opportunities and won new orders by promoting the "i³-Mechatronics" concept. **Improved profitability:** • Continuous improvement in production and sales profitability due to the effect of switching of models • Improvement of added value through production automation	**Revenue:** 152.1 B.JPY **Operating profit:** 5.6 B.JPY **Operating profit ratio:** 3.7% • Sales declined due to U.S.-China trade friction and the impact of the outbreak of new coronavirus. • Sales of automobile-related products were firm in Japan, while overseas sales slowed due to restrained capital investment. • In the general industrial sector, automation investment continued to lack momentum, particularly in China. • Profit decreased due to the impact of a decline in utilization rate from revenue decline and inventory cutbacks.

Sales Breakdown by Application
(FY2019 Results)



- Automotive-related applications (arc welding, spot welding, painting, etc.)
- Semiconductors- and LCDs-related applications
- General / Other (handling, etc.)

Global Market Outlook for Industrial Robots (Company estimation)

Estimated market size in FY2021

Approx. 1.26 trillion yen

Average annual market growth for 2018 – 2021 (CAGR)

3.0%

SYSTEM ENGINEERING

Supporting prosperous life and society through technologies and proven performance accumulated over a century

SWOT Analysis of Business

Strengths:

Strengths of Our Business and Differentiation

- Power conversion technology and automation/remote technology for energy saving and high efficiency
- Reliable technological and customer service capabilities that can meet the needs for PV inverters and electrical products for large-scale wind power generation in the diversifying renewable energy market, as well as a rich record of delivery
- Achievements in the field of electric systems for water supply and sewage and system technology development capabilities
- 100% domestic share of systems for blast furnaces in steel plants
- Share higher than 50% in port crane market in Japan, China and Southeast Asia
- Top-class share in Japan in the industrial electric business including film, textiles, and paper machinery

Weaknesses:

Challenges

- Improvement in cost competitiveness
- Improvement in product development speed
- Creation of Business Synergies

Opportunities:

Business Opportunities

- Growing momentum for renewable energy utilization and market expansion
- Expansion of the wind power market from Europe and America to Asia
- Demand for labor-saving and efficient electrical systems for steel plants and water and sewage systems using IoT, AI, robots, etc.
- Increase in the investment for production of new materials for EVs
- Full automation and remote operation of harbor cranes

Threats:

Business Risks

- Oligopolization of wind turbine manufacturers and in-house production
- Modification of feed-in tariffs and grid interconnection regulations for renewable energy
- Reduction of added value by in-house engineering for customers
- Intensifying cost competition
- Decline in infrastructure investment in Japan

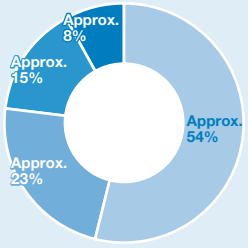
"Challenge 25" (2019 – 2021) Goals

Achieve stable earnings by strengthening profitability in the environmental energy businesses and pursuing high profitability in the social systems and industrial automation drive businesses

Progress on the "Challenge 25"

Financial Targets	Progress of Measures	FY2019 Results
Revenue: 60.0 B.JPY Operating profit: 1.8 B.JPY Operating profit ratio: 3.0%	**Development:** • Development of PV inverter "XGI 1500" for U.S. market and domestic release • Promotion of miniaturization of induction motors and development of large-capacity drive panels and integrated controllers **Production:** • Construction of test facilities for next-generation large generators for wind power generation • Centralized product development, engineering, and production of industrial drive system equipment and motors **Sales:** • Continued orders for large-scale wind power projects • Implementation and examination of value-added proposals for social systems, steel, industrial electric, and cranes **Improved profitability:** • Reorganization of the U.S. solar business • Withdrawing from unprofitable areas and strengthening approaches to high-profit markets	Revenue: 58.0 B.JPY Operating profit: 0.9 B.JPY Operating profit ratio: 1.6% • While domestic sales of steel plant-related products and electric systems for water supply and sewerage remained firm, sales in the environmental energy field, including solar and large-scale wind power generation, declined. • Overall segment sales increased due to the impact of new consolidation, and profit returned to profitability through structural reforms, etc.

Sales Breakdown by Business (FY2019 Results)



- Industrial automation drive (steel, industrial electric, crane)
- Environmental energy
- Social system
- Other

Global Market Outlook (Company estimation)

Estimated market size in FY2021

Generator and converter for offshore wind power generation:
Approx. 95 billion yen

Three-phase distributed PV inverter:
Approx. 400 billion yen

Industrial automation drives (Yaskawa's served market):
Approx. 200 billion yen

Average annual market growth for 2016-2040 (CAGR)

Wind power
6.0%

Solar power
10.3%

Industrial automation drives
1.0 ~ 3.0%

Our Capitals

	Financial Capital	Manufactured Capital	Intellectual Capital
Use of capital to create value	We will use the cash generated by our business activities in three directions: investment for growth, shareholder return, and employee allocation to achieve sustainable earnings growth and increase corporate value. We maintain and improve a sound financial position to support stable business operations.	We constantly strive to improve the efficiency of our production systems, while at the same time ensuring sufficient production capacity to meet market needs. As a business-to-business manufacturing company, we will utilize the capital to propose improvements to our customers' production.	As a "company founded on technology" we will continue to develop the world's first and best technologies, strengthen our response to digital solutions, collaborate with joint development partners, and exercise our global intellectual property strategies to create customer value, thereby realizing sustainable business development.
Mid-term business plan "Challenge 25" targets	**Promotion of capital-efficient management** • ROE 15% or more • ROIC 15% or more **Cash allocation for sustainable enhancement of corporate value** • Growth investment (Including M & A) 100 billion yen (FY2019 to FY2021 total) • Payout ratio 30%+α	**Improving indirect work efficiency through the introduction of the common production system** • Introduction of the common production system at seven factories AC servo factory (Iruma City, Japan/Shenyang City, China) AC drive factory (Yukuhashi City, Japan/Shanghai City, China) Robot factory (Kitakyushu City, Japan/Changzhou City, China/Slovenia) • Indirect man-hours at the AC servo factory (Iruma City, Japan): -30% (Compared to FY2018) **Strengthening of common production system** • Visualization of global production information • Establishment of a digital production preparation environment	**Promotion of R&D focused on the world's first and best technologies** • Maintaining the ratio of R & D expenses to consolidated revenue at approximately 4.5%
Initiatives to reinforce capital	Initiatives to reinforce financial capital are introduced on the following pages. • **Strategy by Business Segment (P 27-30)** • **Financial Capital (P33-36)**	Initiatives to reinforce manufactured capital are introduced on the following pages. • **Field Report: "i³-Mechatronics" Achieves Evolutions in Manufacturing (P21-22)** • **Manufactured Capital (P37-38)**	Initiatives to reinforce intellectual capital are introduced on the following pages. • **Intellectual Capital (P39-40)**
FY2019 Results	**Promotion of capital-efficient management** • ROE 6.6% • ROIC 5.9% **Cash allocation for sustainable enhancement of corporate value** • Growth investment (Including M & A) 24.2 billion yen • Payout ratio 87.5%	**Improving indirect work efficiency through the introduction of the common production system** • Introduction of the common production system at three factories AC servo factory (Iruma City, Japan/Shenyang City, China) AC drive factory (Yukuhashi City, Japan) • Indirect man-hours at the AC servo factory (Iruma City, Japan): −22% (Compared to FY2018)	**Promotion of R&D focused on the world's first and best technologies** • Ratio of R & D expenses to consolidated revenue 4.6%

Human Capital

In order to respond swiftly to rapidly changing global markets and to achieve corporate evolution and strengthen competitiveness, it is important for diverse employees to make the most of their abilities. We will strengthen our human resources while aiming to be a company that is rewarding to work for.

Reform personnel system with emphasis on employee job satisfaction

- Percentage of employees who feel rewarding to work

80% or more

Empower highly diverse human resources

- Female percentage of those applying for employment (Compared to the FY2018 level)

Secure at least 125 %
(Cumulative total from FY2019 to FY2021)

- Percentage of female employees who are willing to become managers

23% or more

- Penetration among employees about promotion of human resource diversity

70% or more

Initiatives to strengthen human capital are introduced on the following pages.

• **Human Capital (P41-42)**

Reform personnel system with emphasis on employee job satisfaction

- Percentage of employees who feel rewarding to work

78% (November 2019)

Empower highly diverse human resources

- Female percentage of those applying for employment (Compared to the FY2018 level)

100% (No change from FY2018)

- Percentage of female employees who are willing to become managers

25%

- Penetration among employees about promotion of human resource diversity

60%

Social and Relationship Capital

Yaskawa Group's business is founded on relationships of trust with stakeholders, including customers, business partners, and local communities. We are working to build relationships that lead to continuous mutual development.

Coexistence with *glocal* communities

- Continued implementation of symbiosis activities at each local site

Support development of next-generation engineers by utilizing YASKAWA Innovation Center

- Number of visitors

30,000 or more per year

- Number of student visitors

10,000 or more per year

Guaranteeing product safety and quality

- Visualization of real-time global quality information

Build a sustainable supply chain

- Obtain agreement on procurement policies from 100% of major suppliers

Initiatives to strengthen social and relationship capital are introduced on the following pages.

• **Social and Relationship Capital (P43-44)**

Coexistence with *glocal* communities

- Continued implementation of symbiosis activities at each local site

Support development of next-generation engineers by utilizing YASKAWA Innovation Center

- Number of visitors

31,253 per year

- Number of student visitors

10,168 per year

Guaranteeing product safety and quality

- Completed introduction of quality information collection system in China and other Asian markets

Build a sustainable supply chain

- Thorough dissemination of procurement policies to major suppliers 100%

Natural Capital

Based on the recognition that global environmental conservation is one of the most important issues shared by all humankind, we create value by reducing the environmental impact of our products (green products) and by reducing the environmental impact of Yaskawa Group's business activities (green process).

Improve energy consumption by spreading the use of Yaskawa products (Green products)

- Contribution to reducing CO_2 emissions through products

40 million t-CO_2 or more
(Cumulative since FY2016)

Reduce effects on the environment throughout the Yaskawa Group (Green process)

- Improvement of CO_2 emissions per unit of revenue

-6% or more
(Compared to FY2015)

- Introduction of photovoltaic power generation

Cumulative capacity of 2.5 MW or more

Initiatives to strengthen natural capital are introduced on the following pages.

• **Natural Capital (P45-46)**

Improve energy consumption by spreading the use of Yaskawa products (Green products)

- Contribution to reducing CO_2 emissions through products

21.85 million t-CO_2
(Cumulative since 2016)

Reduce effects on the environment throughout the Yaskawa Group (Green process)

- Improvement of CO_2 emissions per unit of revenue

+4% (Compared to FY2015)

- Introduction of photovoltaic power generation

Cumulative 1.7 MW

Financial Capital

Basic Approach to Reinforcing Financial Capital

Yaskawa Group has adopted ROE*1 and ROIC*2 as management indicators in its financial and capital strategies, with the aim of generating returns that exceed the cost of equity of approximately 10% and maximizing return on invested capital. Based on this approach, we will strive to maximize returns while ensuring financial security by controlling the net DE ratio*3 to a certain level.
Cash generated by operating activities will be effectively used in three directions: (1) investment for growth, (2) shareholder return, and (3) employee allocation to achieve sustainable growth in corporate value.

*1 ROE: Return on Equity = Profit attributable to owners of parent/Equity attributable to owners of parent
*2 ROIC: Return on Invested Capital = Profit attributable to owners of parent/Invested capital
*3 Net DE ratio: (Interest-bearing debt - Cash and deposits)/Equity attributable to owners of parent

Targets and Progress of Mid-Term Business Plan "Challenge 25"

	FY2019 Results	Targets
Promotion of capital-efficient management		
ROE	6.6%	15% or more
ROIC	5.9%	15% or more
Cash allocation for sustainable enhancement of corporate value		
Growth investment (Including M & A)	24.2 billion yen	100 billion yen (FY2019 to FY2021 total)
Dividend payout ratio	87.5%	30%+α

View of Progress in FY2019 (Results and Challenges)

Results

From the end of FY2018 to the end of FY2019, we made efforts to maintain and strengthen our financial position by reducing inventories by 9.7 billion yen, controlling foreign exchange risks by minimizing receivables and payables in group transactions, and reviewing our holdings of investment securities, despite the impact of the economic slowdown caused by the U.S.-China trade friction and infectious diseases. In FY2019, we reduced expenses by 3.1 billion yen from the FY2018 level to secure profits.

Challenges

The ongoing challenge is that profits fluctuate widely. This is because Yaskawa's core product AC servo motor's revenue has a high exposure to the markets with large economic swings, such as semiconductors and electronic components. Consequently, Yaskawa's earnings are greatly affected by end-users' capital investment plans and the production status of equipment manufacturers and inventory status of equipment manufacturers and distributors. In such a business environment, it is important to build a business model that can ensure a certain level of profit during periods of low demand.

Future Initiatives

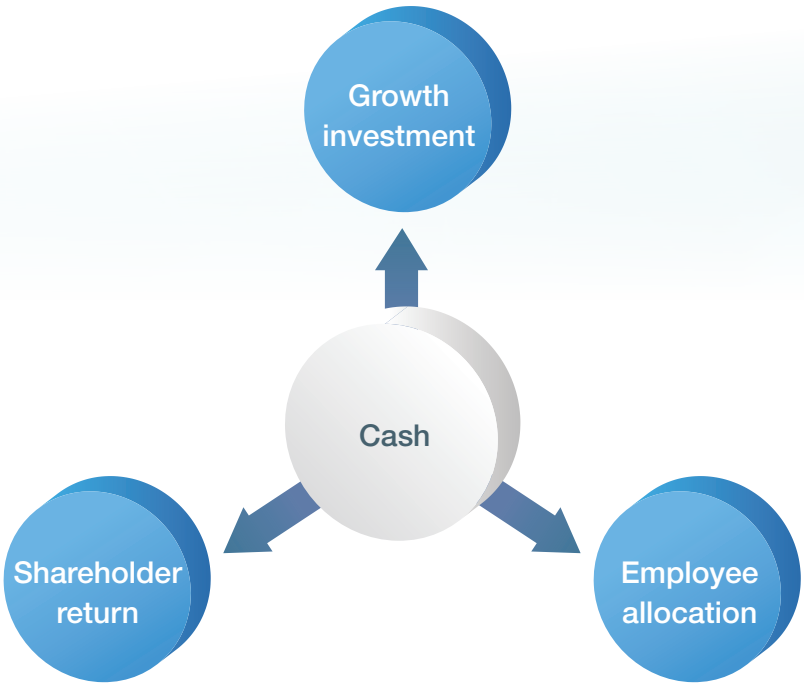
The future of the global economy remains uncertain due to the spread of the new coronavirus infection and prolonged U.S.-China trade friction. In a market environment where it is difficult to expect dramatic growth in revenue, we envision an ideal profit structure (Example: Profit margin of 10% on sales of 400 billion yen) and implement group-wide measures to increase added value and optimize the cost structure.

As for future sales growth, we will be able to respond to such growth while controlling expenses by reaping the fruits of our investments in productivity improvement, and we will make preparations to achieve mid-term business plan's final target of an operating income ratio of 13%, with revenue lower than expected.

Beginning with the financial statements for the year ended February 2020, Yaskawa Group voluntarily adopted International Financial Reporting Standards (IFRS). As a result, we will standardize the financial data of each Group company to the IFRS standards and improve comparability among Group companies as well as comparability with other companies on a global basis.

Furthermore, by standardizing business processes under the same accounting standards for each group company, we are able to visualize management indicators in real time, which will lead to the advancement of management control as described in YDX.

Cash Allocation for Sustainable Enhancement of Corporate Value



Financial Capital

Financial Capital Strategy

Basic Approach to Balance Sheet Structure

❶ Current assets (Cash and cash equivalents, etc.)

Yaskawa Group's basic policy is to keep cash on hand at the level of monthly turnover of about 1 month by not making it dispersed globally so that it does not get excessive.
However, in light of the current economic situation, we will secure a commitment line* of 10 billion yen in preparation for emergencies, and raise the level of cash and deposits on hand, in order to operate with a greater emphasis on security.

* A credit line committed by a bank to be executed

❷ Non-current assets (Growth investment, M & A, etc.)

We will actively make investments that will contribute to future growth and productivity. During the current mid-term business plan period, we plan to use 6 - 7% of revenue for capital investment and M & A. The main purpose of M & A is to supplement technology to enhance our ability to create value.

❸ Capital structure

At the former mid-term business plan, we have improved our shareholders' equity ratio and reduced interest-bearing debt. As a result of this, we now have a prospect of improving our capital structure. At the present mid-term business plan, we will control the net DE ratio to a certain level and maximize corporate value by utilizing leverage to the extent that we can maintain our credit rating.

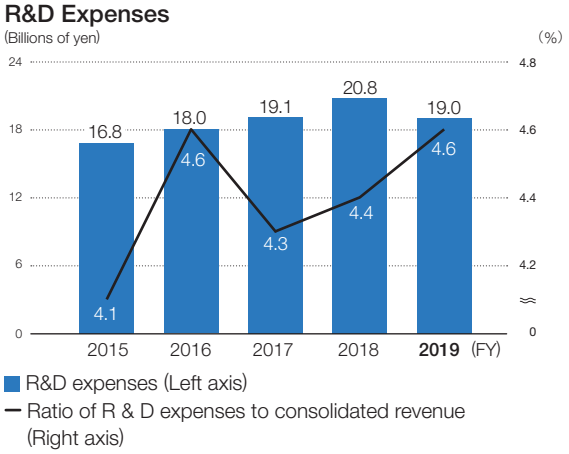
Basic Approach to Cash Allocation

Yaskawa's basic policy is to realize sustainable growth by effectively allocating cash generated by operating activities in the following three directions: (1) investment for growth, (2) shareholder return, and (3) employee allocation. In FY2019, we also reduced the payment site for business partners, thereby returning funds to suppliers and subcontract factories. This resulted in a temporary decline in cash flow of approximately 8 billion yen, but this was used to strengthen relationships with business partners.

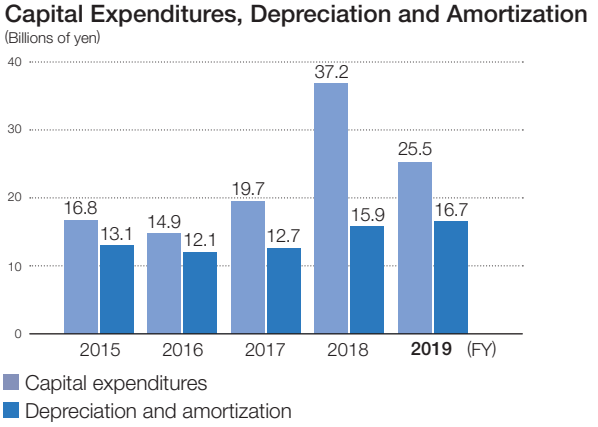
❶ Growth investment

To achieve medium- to long-term growth in Yaskawa Group, 4 - 5% of sales will be invested in R & D.
In addition, we plan to invest 6 - 7% of net sales in equipment and M & A activities. In FY2020, we plan to carefully select and implement profit-generating investments such as YASKAWA Technology Center (Scheduled to start operation in March 2021), a new base for technological development, while closely monitoring the impact of the spread of infectious diseases on the global economy. Investments to build a digital transformation platform through FY2025 are also included.

R&D Expenses



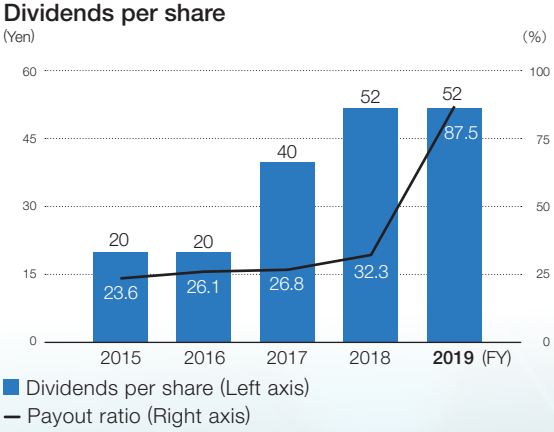
Capital Expenditures, Depreciation and Amortization



❷ Shareholder return

We are implementing management practices that assume a payout ratio of 30% +α to the profit planned at the start of mid-term business plan. If profits increase or decrease as a result, the amount of dividends is adjusted in consideration of the cash generated during the period. Even in the event of a decline in profits, we will return profits as planned, based on stable dividends as long as cash is available. If profits increase and cash is generated more than expected, we will consider additional return measures.

Dividends per share



❸ Employee allocation

We intend to make appropriate allocations to employees who are the most important to our business operations.
In addition to executive compensation, bonuses for managers are highly linked to performance. Bonuses to managers are calculated based on an operating profit ratio of 10%, with no upper or lower limits set to return profits. In calculating both executive remuneration and managerial bonuses, we take into account the relativity of performance improvement in comparison with other benchmark companies, and we are enhancing incentives to achieve higher profit growth than other companies.

In FY2020, we introduced a policy of setting no upper limit if the operating profit margin exceeds 10%, while setting a lower limit for bonuses in the event of a decline in profits for general employees. By doing so, we aim to raise awareness of profit margins throughout the company. We are also investing in employee benefits, such as building new dormitories for young employees.

Manufactured Capital

Basic Approach to Reinforcing Manufactured Capital

By developing and introducing a production system that is common to all divisions (factory), we will achieve more efficient production operations.
In particular, for indirect work related to production (Procurement, production and inventory planning), this common production system will be expanded not only to plants in Japan but also to overseas plants, leading to a reduction in indirect man-hours throughout Yaskawa Group.
In addition, we will integrate the production engineering departments that deal with production equipment at our plants to improve the skills of our production engineers, and reduce direct man-hours by installing more productive production equipment at plants in Japan and overseas.
We will also drastically review our production organization and business procedures to reduce production costs and achieve our long-term business plan "Vision 2025" targets.

Targets and Progress of Mid-Term Business Plan "Challenge 25"

	FY2019 Results	Targets
Improving indirect work efficiency through the introduction of the common production system	• Introduction of the common production system at three factories AC servo factory (Iruma City, Japan/ Shenyang City, China) AC drive factory (Yukuhashi City, Japan) • Indirect man-hours at the AC servo factory (Iruma City, Japan): - 22% (Compared to FY2018)	• Introduction of the common production system at seven factories AC servo factory (Iruma City, Japan/ Shenyang City, China) AC drive factory (Yukuhashi City, Japan/ Shanghai City, China) Robot factory (Kitakyushu City, Japan/ Changzhou City, China/Slovenia) • Indirect man-hours at the AC servo factory (Iruma City, Japan): - 30% (Compared to FY2018)
Strengthening of common production system	—	• Visualization of global production information • Establishment of a digital production preparation environment

View of Progress in FY2019 (Results and Challenges)

Results

In FY2019, the introduction of the common production system at three plants and the reduction of indirect man-hours at the motion control plant progressed as planned.

Challenges

We recognize that we need to further improve our procurement capabilities, as parts that do not align in a timely manner can affect production in some areas. Yaskawa Group is working to improve procurement capabilities by integrating and streamlining its procurement operations. At the same time, we are recognizing the risks that the impact of the new coronavirus may have on our manufacturing and strengthening measures to hedge these risks.

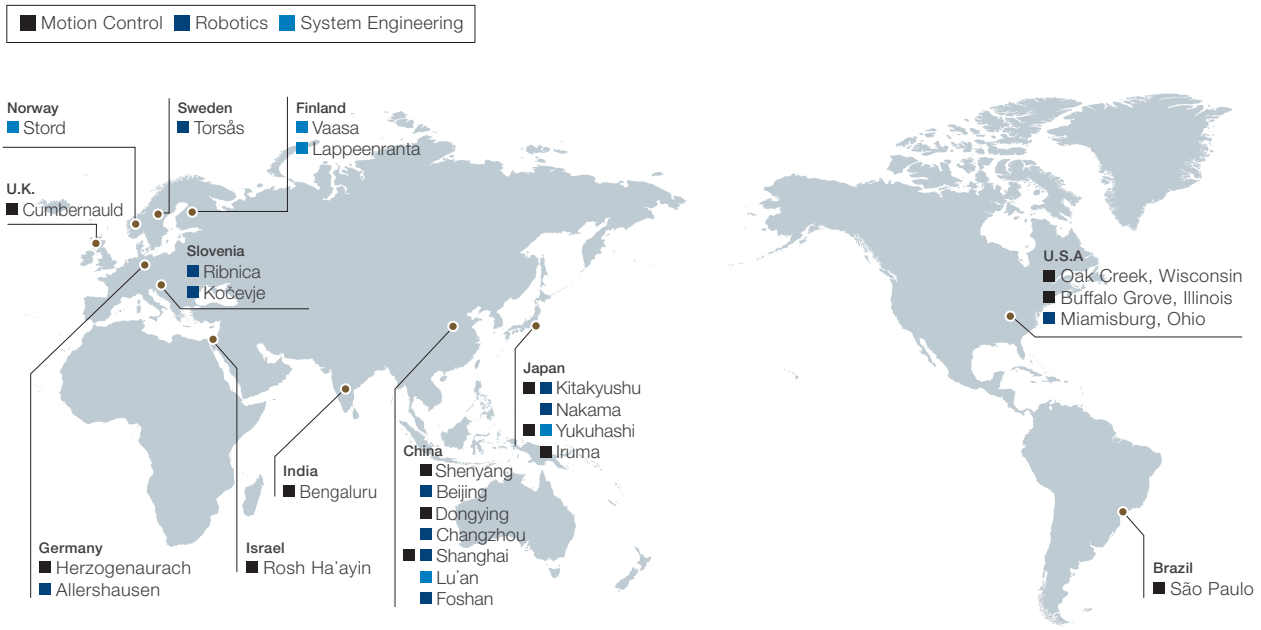
Future Initiatives

In the past, each plant used its own production system for indirect operations such as procurement and production planning, but we will introduce a newly developed common production system to seven plants in Japan and overseas by the end of the current mid-term business plan. This enables us to standardize indirect operations related to production and visualize the global production status and inventory status of parts and products in real time, thereby improving the sophistication and efficiency of production management.

With regard to production technology that directly contributes to the reduction of man-hours, we will integrate the organizations that had been separated for each plant, and carry out initiatives so that engineers who have worked on production equipment for the AC servo factory can work next on equipment for AC drive production. As a result, the increased knowledge and experience of engineers will further enhance production technology, enabling the construction of new facilities in a short period of time. At the same time, we will be able to apply the solutions to the problems of the facilities made previously to another product we will be working on from the beginning and to install improved facilities. In this way, we will accelerate the upgrading of company-wide production technologies and directly reduce the number of man-hours by introducing excellent automation equipment to each factory. Specifically, we will introduce the standardized facilities introduced at our AC servo and AC drive plants in Japan to our AC servo and AC drive plants in China by FY2021. We will continue to standardize our production facilities on a global basis, so that we can respond quickly and centrally to equipment problems.

The lessons learned from the new coronavirus may further accelerate the automation of manufacturing processes in the future. As a Business to Business manufacturer, Yaskawa hopes to use the production facility concept demonstrated in the Group to automate and improve the efficiency of its customers' manufacturing processes.

Global Production Network at 28 locations in 12 countries



Intellectual Capital

Basic Approach to Reinforcing Intellectual Capital

The intellectual capital of the Yaskawa Group consists of technology and intellectual property, which are the sources of products and services.
In terms of technology, we will continue to develop products and technologies that are the world's first and best in the world, and create customer value through a wide range of initiatives, including the combination of products and technologies, enhanced response to digital solutions, and expanded collaboration with universities and other companies, in order to create solutions that lead to solutions to our customers' management issues.
In relation to intellectual property, we will promote strategies in conjunction with business plans and technology strategies, and support business development through prevention of intellectual property disputes, appropriate protection of our own technologies, and prompt responses to technical contracts in accordance with business characteristics.

Targets and Progress of Mid-Term Business Plan "Challenge 25"

	FY2019 Results	Targets
Promotion of R&D focused on the world's first and best technologies		
Ratio of R & D expenses to consolidated revenue	4.6%	Maintain approximately 4.5%

View of Progress in FY2019 (Results and Challenges)

Results

We conducted a thorough analysis of the development process for products that had problems such as development delays in the past. The results of this analysis are used to improve business processes at new technology development base "YASKAWA Technology Center" scheduled to start operations in 2021, and a mechanism was examined to share and visualize data necessary for improvement. The layout of the building also emphasizes the business environment that leads to value creation, such as the creation of development synergies across divisions and products.

Challenges

Our challenge is to ensure that the convergence of development resources and changes in the way we work following the establishment of YASKAWA Technology Center will lead to increased R & D output.
In addition, we believe it is necessary to invest more aggressively and effectively in R & D activities that will lead to the expansion of the Yaskawa Group's business, such as the early introduction of new products, the realization of ideas for combining existing technologies and products, the supplement of technologies that are lacking, and collaboration with third parties.

Future Initiatives

In FY2020, with the aim of establishing YASKAWA Technology Center, we will promote new business process of R & D activities and improve the infrastructure and environment to realize these activities. We will also establish development themes in a new environment and joint development themes with universities.
At the same time, we will explore joint development partners such as universities and companies. At YASKAWA Technology Center, R & D, production technology, quality control, and other related departments work together on development projects. In this way, we build cost structures and quality from the initial stages of development, and establish a system that ensures that products that meet targeted performance, quality, and price levels are launched to the market within a set period of time.
In the area of intellectual property, we will strengthen the protection of technologies that support solution concept "i³-Mechatronics" for the realization of a new industrial automation revolution, as well as technologies related to new mechatronics application areas such as food and agriculture.
Furthermore, we will build a digital infrastructure to support YASKAWA Technology Center's goal of "integrated system from development to manufacturing" and manage all data necessary for technology and product development in an integrated manner, including research and development results, patent data, past failure information, simulation data, parts data, and production facility design data. In this way, we will change the way we develop technologies and products, and expand remote work in our technology departments, which will lead to the strengthening of BCP measures in the event of an emergency such as an infectious disease.
R & D investment in this mid-term business plan is currently set at around 4.5% of revenue, and we plan to maintain this level.


Rendering of YASKAWA Technology Center

Selected as "Derwent Top 100 Global Innovators Award 2020" for five consecutive years


President Ogasawara (right) receiving the trophy

Yaskawa was selected by Clarivate Analytics (Headquarters: Philadelphia, U.S.A.) as one of the "Derwent Top 100 Global Innovators Award 2020". This is the 5th consecutive year since 2015.
Based on patent data held by Clarivate Analytics, a global information services company, the award analyzes intellectual property and patent trends and selects 100 of the world's most innovative companies and institutions. This award is evaluated based on the following four criteria: "number of patents" "success rate" "globality" and "patent influence in citation". Among these standards, Yaskawa received particularly high praise for its "patent influence in citation" which indicates the number of patents cited in inventions of other companies. We will continue to develop technologies on a global scale and create new value for society through these technologies, in order to continuously increase corporate value.

Human Capital

Basic Approach to Reinforcing Human Capital

Yaskawa Group has established a human resources philosophy to define a basic approach to human resources and various personnel systems. The ideal is for employees to continue to take on challenges with a high level of motivation, and based on that ideal we continue to improve our personnel system, work style, and human resource development to achieve this goal. Through these efforts, we aim to increase the motivation of each and every employee, improve Yaskawa Group's competitiveness, and continuously improve corporate value.

Targets and Progress of Mid-Term Business Plan "Challenge 25"

	FY2019 Results	Targets
Reform personnel system with emphasis on employee job satisfaction		
Percentage of employees who feel rewarding to work	78%	80% or more
Empower highly diverse human resources		
Female percentage of those applying for employment (Compared to the FY2018 level)	100% (No change in percentage)	Secure at least 125 % (Cumulative total from FY2019 to FY2021)
Percentage of female employees who are willing to become managers	25%	23% or more
Penetration among employees about promotion of human resource diversity*	60%	70% or more

* Rate of positive responses to the question asking whether "a workplace culture that makes use of the strengths of diverse human resources is realized" in the ES questionnaire

View of Progress in FY2019 (Results and Challenges)

Results

The percentage of female employees who are willing to become managers exceeded the FY2021 target ahead of schedule. We believe that this is a result of the diversity promotion measures that Yaskawa has been implementing for a long time, including work style reform and training. The monthly ES (employee satisfaction) Questionnaire has also enabled us to regularly quantify and visualize other indicators of human capital reinforcement, such as employee job satisfaction and employee awareness, and has created a foundation for implementing PDCA (plan, do, check, action) cycle.

Challenges

Utilizing the response data received from employees through the ES questionnaire, we will promote PDCA of measures for employees, such as hiring, human resource development, optimal allocation, and labor reform, in order to improve job satisfaction and diversity, and strengthen our corporate structure.

Future Initiatives

Based on the recognition that "job satisfaction" constantly changes according to the environment and mental conditions surrounding individuals, we have set the target percentage of employees who feel it is rewarding to work at 80% or higher and are implementing various measures to maintain and improve it.

At Yaskawa, we will start implementing measures that are expected to have great effects so that we will realize a diversity of human resources by enabling employees with diverse lifestyles to find their jobs rewarding.

With regard to the personnel system, we support employees to take on challenges with a high level of motivation, and we will continue to reform the system to realize our aim.

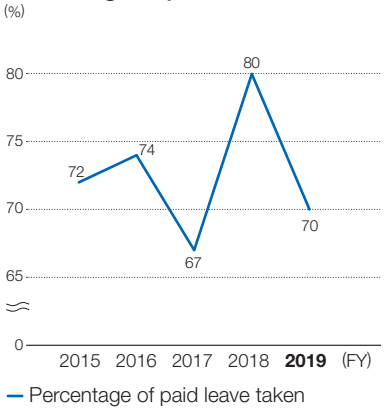
Even before the spread of the new coronavirus, we have institutionalized teleworking for childcare and nursing care, and have been preparing to expand the introduction of such systems from the perspective of the BCP. In the future, we will consider expanding the telework system and discretionary work as a way of increasing the freedom of place and time of work from the perspective of maximizing efficiency, reducing costs, and improving productivity regardless of the impact of viruses, as well as from the perspective of improving job satisfaction that matches various lifestyles.

With regard to human resource development, we believe it is important to improve the capabilities of the employees hired, measure how they are contributing to the creation of customer value, and feed the results back to the development program. In the future, in addition to the development of standard training programs, we will enhance training programs that are optimized for each individual.

With the keywords of job satisfaction and a diversity of lifestyles, we will promote work style reforms that combine employee awareness reforms and operational reforms to maximize the abilities of each employee and the ability to create customer value, thereby enhancing Yaskawa Group's competitiveness.

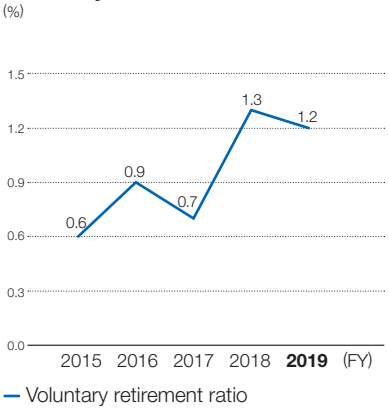
Other Data Related to Human Capital

Percentage of paid leave taken



Aiming to transform our work style into more productive ways, we are encouraging employees to take annual paid leave in five consecutive days and providing individual follow-up to employees who have not taken enough days off.

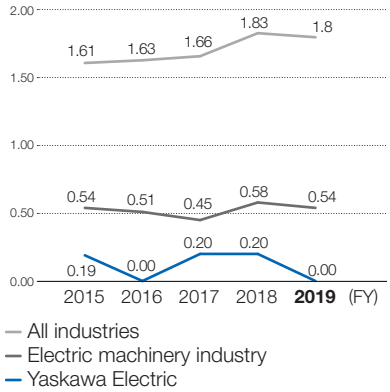
Voluntary retirement ratio



The voluntary retirement ratio has been around 1% due to the improvements of work environments suited to various lifestyles.

Frequency of Work Accidents (frequency rate)

(number of cases /one million hours)



By continuously improving our occupational health and safety management system, the frequency rate remains below the industry average.

Social and Relationship Capital

Basic Approach to Reinforcing Social and Relationship Capital

Yaskawa Group has inherited the founder's commitment to "serve the nation and society without pursuing temporary interests" and has contributed to the prosperity of the society by taking root in local communities. We have more than 100 years of history thanks to our relationships of trust with our stakeholders, including customers, business partners, and local communities.

As a global company, we will not only carry out business activities rooted in local communities, but also develop various symbiotic activities in line with local social issues. We will further deepen our dialogue and co-creation with stakeholders and strive to realize a sustainable society.

Targets and Progress of Mid-Term Business Plan "Challenge 25"

	FY2019 Results	Targets
Coexistence with *glocal* communities		
Continued implementation of symbiosis activities at each local site	Continued implementation of symbiosis activities at each local site	Continued implementation of symbiosis activities at each local site
Support development of next-generation engineers by utilizing YASKAWA Innovation Center		
Number of visitors	31,253 per year	30,000 or more per year
Number of student visitors	10,168 per year	10,000 or more per year
Guaranteeing product safety and quality		
	Completed introduction of quality information collection system in China and other Asian markets	Visualization of real-time global quality information
Build a sustainable supply chain		
	Thorough dissemination of procurement policies to major suppliers 100%	Obtain agreement on procurement policies from 100% of major suppliers

View of Progress in FY2019 (Results and Challenges)

Results

In order to promote social contribution throughout the Group, we established the Social Contribution Committee and began full-scale activities for local communities. Specifically, we donated robots to technical colleges, provided robot operation education for students at technical high schools and technical colleges, held handmade motor classes for elementary school students, and engaged in activities that lead to the fostering of future engineers. In addition, we actively participated in events in Kitakyushu where our head office is located, and continued

to provide support in areas such as the promotion of culture, the arts, and sports. We also conducted community-based activities overseas.
As part of our quality activities to ensure that our customers can continue to use Yaskawa products with security, we have standardized our quality information reporting, which were not unified in the past, and introduced a system to Group companies in China and other Asian countries.
With regard to procurement activities that support stable production, in addition to strengthening relationships through close information sharing with suppliers on a daily basis, we held supplier briefings to ensure that Yaskawa Group's procurement policies were thoroughly understood in order to appropriately respond to social issues in the supply chain. In addition, we further strengthened our relationships with suppliers and subcontract factories by shortening payment sites.


"Girl's Day" an experience-based event to introduce science and engineering workplaces and manufacturing sites to junior high school girls


Handmade motor class held at "Sainokuni Open Factory in Iruma"


Support for Kitakyushu City Opera

Support for the soccer team Giravanz Kitakyushu

Donation of a school bus to a special support school in India

Challenges

As a result of the spread of the new coronavirus infection, we have been forced to refrain from holding public events and face-to-face communication with stakeholders. We will take measures such as switching to remote communication using IT tools to enhance dialogue with stakeholders.
We will also accelerate efforts to unify our quality management systems in Europe and the U.S. in order to visualize global quality information in real time.

Future Initiatives

Taking advantage of the characteristics of the Yaskawa Group, we will promote activities for local communities based on the two pillars of policies, "Developing human resources who will lead the evolution of manufacturing" and "Coexistence and co-creation with local communities".
To maximize the value provided to customers, we practice quality management aimed at improving the overall quality and efficiency of our operations. Through these activities, we will secure resources to realize the goal of creating customer value described in "Vision 2025" by making existing businesses more robust.
In terms of product quality and safety, we will build quality through corporate-wide development activity with the establishment of YASKAWA Technology Center (To be completed in 2021), and build an optimal quality assurance system that will enable us to provide customers with even greater levels of safety and security.
In order to build a sustainable supply chain, Yaskawa is working to further promote the understanding of its procurement policies among its business partners. At the same time, the company is making steady progress in addressing social issues in its procurement activities, aiming to achieve its mid-term business plan target of obtaining 100% agreement.
In this way, we will develop activities aimed at stakeholders and establish a system to appropriately incorporate activities that contribute to solving various social issues in Japan and overseas into our business.
Based on these activities, we will strengthen our response to future social risks, and strive to further ensure sustainable enhancement of corporate value through activities that maximize customer value while responding to changes in the external environment.

Natural Capital

Basic Approach to Reinforcing Natural Capital (Environmental Management)

Yaskawa Group's environmental management is promoted through two approaches: "green process" which aims to reduce the environmental impact of Yaskawa's operations; and "green products*1" which aims to contribute to reducing the environmental impact of customers around the world through Yaskawa products.
In particular, recognizing that addressing climate change is an urgent global issue, Yaskawa will promote environmental management with the goal of making the contribution of products in reducing CO_2 emissions at least 100 times the amount of CO_2 emitted by Yaskawa Group (CCE 100*2) in 2025.

*1 The degree of environmental contribution of a product is evaluated from the three viewpoints of "prevention of global warming", "resource conservation and recycling" and "proper management of chemical substances". Products that meet a certain standard are certified as Green Products, and products that demonstrate the highest level of environmental performance in the industry are certified as Super Green Products.
*2 Contribution to Cool Earth 100

Targets and Progress of Mid-Term Business Plan "Challenge 25"

	FY2019 Results	Targets
Improve energy consumption by spreading the use of Yaskawa products (Green products)		
Contribution to reducing CO_2 emissions through products (Cumulative since FY2016)	21.85 million t-CO_2	40 million t-CO_2 or more
Reduce effects on the environment throughout the Yaskawa Group (Green process)		
Improvement of CO_2 emissions per unit of revenue (Compared to FY2015)	+4%	-6% or more
Introduction of photovoltaic power generation	Cumulative capacity of 1.7 MW	Cumulative capacity of 2.5 MW or more

View of Progress in FY2019 (Results and Challenges)

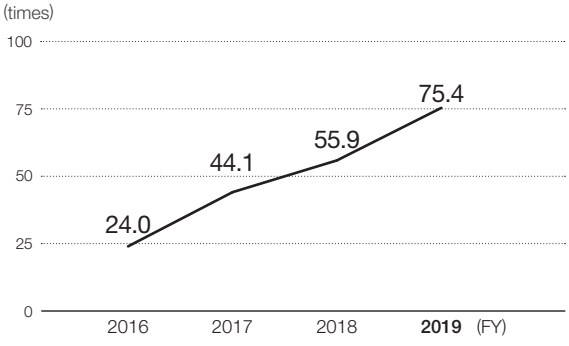
Results

Thanks to strong sales of Green Products, Yaskawa's contribution to the reduction of CO_2 emissions by its products was approximately 75 times that of Yaskawa Group's CO_2 emissions, and we made steady progress toward our target of 100 times or more by 2025.

(t-CO_2)

(FY)	2016	2017	2018	2019
Yaskawa products' contribution to CO_2 emissions reduction	1,233,457	2,275,450	3,045,926	3,993,240
CO_2 emissions by Yaskawa Group	51,305	51,609	54,476	52,934

Trends in CCE 100 (Yaskawa products' contribution to CO_2 emissions reduction/Yaskawa Group's CO_2 emissions)



Challenges

Although Green Products contributed to the environment favorably, Yaskawa Group's CO_2 emissions per unit of revenue, calculated by dividing the total by revenue, increased significantly from -8% (FY2018 results) in FY2015 to +4% (FY2019 results) due to the decrease in consolidated revenue.

Future Initiatives

In order to promote environmental management throughout the Group and translate it into results, we will collaborate with factories in Japan, Europe, the U.S., and China to reduce the environmental impact of our production activities.
Specifically, we will reduce energy consumption by switching to LED lighting, replacing air conditioning equipment, and improving the efficiency of production facilities. In addition, we will install more solar panels at each plant and switch to renewable energy. Plans for these measures will be shared with each plant on a global basis and implemented.
In addition, we will increase the proportion of Green Products in the Group's revenue, comply with the European RoHS Directive and REACH regulations, and ensure the control of chemical substances contained in products. Through these activities, we will increase the environmental contribution of our products and accelerate our efforts to reduce their environmental impact.


Energy conservation patrol at AC servo factory (Shenyang City, China)


Photovoltaic power generation system at a business site in Yukuhashi City, Japan


Solar power generation facility at Yaskawa Europe (Germany)

Responding to Recommendations of the Task Force on Climate-Related Financial Information Disclosure (TCFD)

Yaskawa endorsed the TCFD proposal in September 2019. With the impact of climate change becoming a global problem, Yaskawa has contributed to reducing CO_2 emissions through products such as AC drives that utilize power conversion technology, which is one of the core technologies. With the endorsement of the TCFD Philosophy, we will strive to contribute to the realization of a sustainable society and increase corporate value by further enhancing information disclosure on climate change and continuously promoting environmentally conscious business activities.

Message from Outside Director

Mr. Tsukamoto, Outside Director commented on Yaskawa's management and corporate governance.

Continual Review of Corporate Governance System Based on the Expectations of Shareholders and Investors Is Needed

Outside Director,
Audit and Supervisory Committee Member
Hideo Tsukamoto

Evaluation of management

I have the impression that under the leadership of President Ogasawara, the attitude of providing solutions for customers has been widespread in order to promote "i³-Mechatronics". We toured the European operations, including a robotics plant in Slovenia that began operations in FY2019. I feel the same way for the overseas subsidiaries. The future of the business environment remains uncertain, partly due to the impact of the new coronavirus infection, but I expect growth in order to achieve mid-term business plan "Challenge 25".

Future initiatives

In order to improve corporate value on a sustainable basis, management needs to have both "offensive" and "defensive" views. Although defensive measures tend to be regarded as cost centers, appropriate risk management under compliance management is a major premise for offensive management. From this perspective, I believe that there is a need to clarify and strengthen the authority and responsibility of the departments responsible for legal affairs in a broad sense, and to conduct management with due consideration to the allocation of sufficient and appropriate human resources.

Assessment of corporate governance

At the meetings of the Board of Directors and the Audit and Supervisory Committee, four outside directors are actively expressing their opinions based on their respective knowledge, which gives a sense of tension to management in a positive sense. On the other hand, the governance system needs to be constantly reviewed, taking into account the expectations of shareholders and investors. In particular, I believe that it is necessary to continue working to strengthen the core part of the supervision by the Board of Directors regarding appointment and compensation, as well as the governance system for Group companies, including overseas subsidiaries.

Targets and Progress of Mid-Term Business Plan “Challenge 25”

	FY2019 Results	Targets
Establish a “defensive” governance system Strengthen initiatives for an “offensive” governance system using Corporate Governance Code	Number of serious violations: zero	Maintain zero cartel and other serious violations of laws and regulations
	Awareness of the reporting system for violations of laws and regulations Improved by 28% (Results of the 2019 employee questionnaire)	Awareness of the reporting system for violations of laws and regulations Improvement by 20% (Measure through employee questionnaire)
	Improvement of level evaluation scores for security measures +18% (Compared to FY2018. Especially information security systems enhancement, including auditing organizations)	Improvement of level evaluation scores for security measures +10% or more (Measure evaluation scores for each IPA-compliant security index)
	Percentage of domestic offices that meet in-house standards in the checklists for measures against major earthquakes, heavy rains, and river flooding 100%	Percentage of domestic offices that meet in-house standards in the checklists for measures against major earthquakes, heavy rains, and river flooding 100%
	Implementation of Board of Directors’ evaluation (August 2019)	Continue implementation of Board of Directors’ evaluation (once a year)

Activities in FY2019

【Maintain zero cartel and other serious violations of laws and regulations】

In order to maintain no occurrence of serious violations of laws and regulations, including cartels, we conducted global educational activities on related laws and regulations as well as compliance in general, including at affiliated companies, by expanding the application of the “Guidelines for Preventing Cartels (Enacted on February 28, 2018)” within Yaskawa Group, strengthening education, and revising and publicizing the “Yaskawa Compliance Manual (First published in October 2017, Revised in October 2019)”.

【Awareness of the reporting system for violations of laws and regulations】

Experts on business operations and applicable laws and regulations were assigned in the Compliance Promotion Department to strengthen reporting systems and raise awareness at each business operation. Awareness of the reporting system has also increased through the dissemination of the message from the president and the enhancement of public awareness through communications by Yaskawa Group’s “Compliance Promotion Leader”.
We will continue to provide information on a regular basis to maintain and improve the recognition of our reporting system.

【Improvement of level evaluation scores for security measures】

At Yaskawa, we are strengthening our management and security measures by introducing thin client computers. Specifically, we are continuously implementing measures to reduce security risks such as information leaks by managing and operating all important internal data in safe locations (In-house data centers and cloud environments with appropriate security measures).
As part of our work style reforms, we have introduced a new cloud-based system for secure remote meetings and file sharing in order to accommodate a variety of work styles, and are also working to improve convenience.
We will continue to conduct regular monitoring of changes in the environment and technological progress to maintain and improve security levels.

【Percentage of domestic offices that meet in-house standards in the checklists for measures against major earthquakes, heavy rains, and river flooding】

Of the 9 regions in Japan, we took measures in 2 regions where targets were not achieved. As a result, all domestic offices met our standards in the major earthquake, heavy rain, and river flooding countermeasures checklist.
In addition, we identified major risks in the areas of our major plants that could occur in the event of a major earthquake or river flooding, and worked to formulate a BCP.

【Continue implementation of Board of Directors’ evaluation】

For details, see “Evaluation of the Board of Directors’ Effectiveness” on the following page.

Corporate Governance System

As a Business-to-Business manufacturing company, Yaskawa's management requires in-depth knowledge of market characteristics and technological trends, it has selected a system with an Audit and Supervisory Committee as an institutional design for its organization on the assumption that the president has authority over management policies, nominations, and compensation.

At the same time, we have developed a governance system to enhance the effectiveness of the Board of Directors by actively incorporating external knowledge, and to strengthen both defensive and offensive governance, in order to continuously improve corporate value. Yaskawa will continue to pursue its best, enhance management transparency, and further enhance corporate governance.

Background of strengthening corporate governance system

FY		FY2011	FY2012 – FY2014	FY2015 – FY2017	FY2018 – FY2019
Reinforcement measures			FY2012 • Introduction of executive officer system • Number of Directors was reduced to 12 from 20 FY2014 • Establishment of a voluntary Compensation Advisory Committee	FY2015 • Shift to a company with Audit and Supervisory Committee • Establishment of a voluntary Nominating Advisory Committee FY2016 • Start of effectiveness evaluation	FY2018 • 30% of board members appointed as independent outside directors
Institution establishment		Company with Board of Corporate Auditors		Company with Audit and Supervisory Committee	
Composition of the Board of Directors	Internal	14	6	8*	8*
	Independent outside (Female)	1	1	3*	4* (1)
Composition of Audit and Supervisory Committee (Up to FY2014, data indicated as "Board of Corporate Auditors")	Internal	2	2	2	2
	Independent outside (Female)	2	2	3	4 (1)
Remuneration system				FY2017 • Introduction of performance-based stock compensation system for directors (excluding directors who are Audit and Supervisory Committee members) • Introduction of stock compensation system for Directors who are Audit and Supervisory Committee members	FY2019 • Revision of performance-based stock compensation system FY2020 • Revision of remuneration of directors who are Audit and Supervisory Committee members
Accounting standards		Japanese GAAP (End of fiscal year: March 20)		FY2017 • Fiscal year end from March 20 to the last day of February	FY2019 • Voluntary application of International Financial Reporting Standards (IFRS)
Aim and purpose			• Reduce the number of directors and improve the flexibility of the Board of Directors • Accelerate business execution by introducing an executive officer system	• Enhance effectiveness by stimulating discussions on the decision-making process and contents of business execution (validity) • Enhancing "offensive" and "defensive" governance	• Increase diversity (Gender and Age) • Achieved a balanced structure with six directors who are not Audit and Supervisory Committee members and six Directors who are Audit and Supervisory Committee members

* Including directors who are Audit and Supervisory Committee members.

Composition of the Board of Directors

Yaskawa's Board of Directors is made up of personnel with advanced knowledge and experience in each field of corporate management. In addition, areas of particular importance to corporate management are defined as "corporate management and management strategy" "corporate governance" "finance and accounting" "legal" "sales and marketing" "manufacturing, R & D and IT" and "global". We expect each director to demonstrate his or her abilities to the fullest.

In May 2018, we increased the number of independent outside directors by 1 to one third of the Board of Directors. In addition, the number of directors is not unevenly distributed in important management areas where each director is expected to demonstrate his or her abilities.

* Please refer to the Notice of the Annual General Meeting of Shareholders for the reasons for the election of each director.
https://www.yaskawa-global.com/wp-content/uploads/2020/04/104_agm_en.pdf

Structures for the Board of Directors, the Audit and Supervisory Committee, and Advisory Committees

Name (Age)		Attributes	Structure				Field of capability that Yaskawa expect each director to demonstrate							● Male ○ Female
			Board of Directors	Audit and Supervisory Committee	Nomination Advisory Committee	Remuneration Advisory Committee*	Corporate management Management strategy	Corporate governance	Finance Accounting	Legal	Sales Marketing	Manufacturing R & D and IT	Global	
Junji Tsuda (69)	Representative Director, Chairman of the Board		◎				●	●			●		●	●
Hiroshi Ogasawara (64)	Representative Director, President		○		◎		●	●	●		●	●	●	●
Shuji Murakami (61)	Representative Director, Corporate Executive Vice President		○			○	●	●	●	●			●	●
Yoshikatsu Minami (60)	Director, Corporate Senior Vice President		○				●	●				●	●	●
Masahiro Ogawa (55)	Director, Corporate Senior Vice President		○				●	●			●	●	●	●
Yuji Nakayama (60)	Director, Member of the Audit and Supervisory Committee		○	◎			●	●	●				●	●
Koichi Tsukahata (59)	Director, Member of the Audit and Supervisory Committee		○	○			●	●					●	●
Yoshiki Akita (68)	Outside Director and Member of the Audit and Supervisory Committee	Independent	○	○	○	◎	●	●	●	●			●	●
Junko Sasaki (60)	Outside Director and Member of the Audit and Supervisory Committee	Independent	○	○	○	○	●	●			●	●	●	○
Hideo Tsukamoto (39)	Outside Director and Member of the Audit and Supervisory Committee	Independent	○	○	○	○	●	●		●			●	●
Yuichiro Kato (50)	Outside Director and Member of the Audit and Supervisory Committee	Independent	○	○	○	○	●	●			●	●	●	●

◎ Chairman ○ Member

* Members include the General Manager of Human Resources & General Affairs Div.

Note: The above table does not represent the full knowledge of each director. Age is as of the 104th general meeting of shareholders held on May 27, 2020.

Evaluation of the Board of Directors' Effectiveness

Yaskawa has been evaluating the effectiveness of the Board of Directors every year since FY2016 to ensure a sustainable increase in corporate value through improved effectiveness. All directors, including Audit and Supervisory Committee members, understand the purpose of the evaluation, and answer the "Questionnaire on Board of Directors Evaluation" (anonymous). We examine and implement measures to address issues identified in the results with the aim of further improving effectiveness.

【Main measures against identified issues】

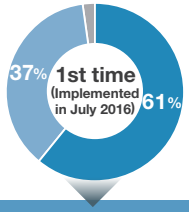
① Provide in-depth information on important issues, such as the points and risks of each proposal, and conduct meetings in a balanced manner.

② Promote active discussion by providing prior explanations of proposals to outside directors and by matching the level of understanding with internal directors

In FY2018, we held individual hearings with a third-party organization and plan to hold such hearings once every three years. For other years, we will conduct a questionnaire in anonymous form.

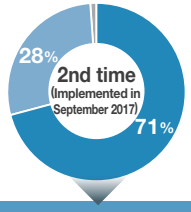
PDCA cycle utilizing effectiveness evaluation

Items necessary to enhance the effectiveness of the Board of Directors
Done Not done Immediate improvement required



Challenges
- Provision of information necessary for deliberation in advance
- Executive training opportunities
- Sufficient understanding of the background by participants

Initiatives
- Enhanced predistribution of explanatory materials
- Started of pre-check of "contents" for explanatory documents by the secretariat
- Started post-approval tracking

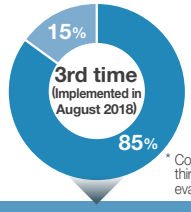


Achievements

Improvements were made on all items indicated as "Immediate improvement required" in the 1st assessment.

Challenges
- Balanced operations by proposal
- Providing necessary information in the document (Location of risks may not be clear)
- Progress reports and analysis of results of mid-term business plan, etc.

Initiatives
- "Operational Rules the Board of Directors" were newly established to clarify points to consider when preparing explanatory materials.
- Prepared for the adoption of "Medium- and Long-Term Incentives System"



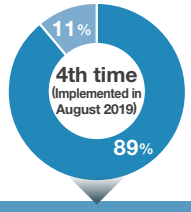
* Conducted third-party evaluation

Achievements

No extraction of "Immediate improvement required" items

Challenges
- Timing of sharing and content of board materials
- Definition of qualifications required for board members
- Providing opportunities for outside directors to understand Yaskawa's business

Initiatives
- Dissemination of "Operational Rules the Board of Directors" and points for preparation of materials to bases in Japan and overseas
- The skills and abilities expected of directors are provided as a matrix
- Planning and executing training for outside directors



Achievements

Improvements in two items: "opportunities for outside directors to correctly understand the status of each business division." and "monitoring of the progress of M & A investment".

Challenges
- Easy-to-understand management, including explanations for difficult technical terms

Initiatives

In FY2020, the Company plans to hold meetings focusing on governance from the perspectives of "offensive" and "defensive" and to discuss themes that are rarely discussed at the Board of Directors meetings.

Remuneration

Concept of remuneration

Yaskawa has designed its remuneration system for executives based on the following principles.

・Single-year remuneration
The purpose is to raise awareness to work together to constantly improve profits by distributing profits generated in the fiscal year concerned.
・Medium- and long-term remuneration
The purpose is to raise awareness of raising corporate value over the medium to long term and share profits with stakeholders.

Process for determining remuneration system

The Corporate Governance Enhancement Div. drafts plans for Yaskawa's remuneration system, which is deliberated by the Remuneration Advisory Committee and the Audit and Supervisory Committee before being resolved by the Board of Directors.

Remuneration paid to directors (excluding Audit and Supervisory Committee members)

① Basic compensation
The maximum amount of basic remuneration for directors shall be a fixed limit of 430 million yen or less. As we assume responsibility for enhancing corporate value, we pay a certain amount according to the performance evaluation and position of each director.

② Performance-linked remuneration
Based on the concept of single-year remuneration described above, the limit on performance-linked remuneration shall be 1.0% or less of the consolidated profit for the fiscal year prior to the general meeting of shareholders appointed or reappointed, in order to clarify the linkage with consolidated performance. The amount of remuneration for each director is calculated by taking into account the relative performance from the standard deviation based on the operating profit, growth rates of operating profit, and ROA of other companies in the same industry.

③ Stock remuneration
Based on the concept of mid- to long-term remuneration described above, the evaluation indices used as the calculation standards for stock remuneration in the mid-term business plan "Challenge 25" are as follows. Stock remuneration is calculated by multiplying the achievement factor, etc. according to the target value of each evaluation index.

Valuation indices and formulas for stock remuneration to directors (excluding Audit and Supervisory Committee members)

(i) Base amount by position (Three year total) × (ii) Cumulative operating profit target achievement (Total operating income during the mid-term business plan) × (iii) Achievement in the final year (Revenue and operating profit)
× (iv) Achievement of ROIC in the final year × (v) Comparison with TOPIX in TSR (Total for mid-term business plan period) × (vi) Achievement of CO_2 emissions reduction targets through Yaskawa products (Total for mid-term business plan period) = Stock remuneration provided

Target Values and Achievements

Valuation index	Target value			Achievement factor	Achievements
(ii) Operating profit cumulative value (= 0.X billion yen) target achievement (Total operating profit in the mid-term business plan period)	173.5 billion yen or more			(0.84/347)×–3.20	Calculated at the end of the mid-term business plan period
	Less than 173.5 billion yen			0～(0.44/362)×–1.47	
(iii) Achievement in the final year (Revenue and operating profit)	Revenue	Target value: 540 billion yen			
		Degree of achievement			
			120% or more	1.1×0.5	
			Less than 120%	(0.8～1.0)×0.5	
	Operating profit	Target value: 70 billion yen			
		Degree of achievement			
			120% or more	1.1×0.5	
			Less than 120%	(0.8～1.0)×0.5	
(iv) Achievement of ROIC in the final year	15% or more			1.00	
	Less than 15%			0.80～0.95	
(v) Comparison with TOPIX in TSR (Total for mid-term business plan period)	135% or more			1.1	
	Less than 135%			0.9～1.0	
(vi) Achievement of CO_2 emissions reduction targets through Yaskawa products (Total for mid-term business plan period)	41 million tons or more			1.10	
	Less than 41 million tons			0.80～1.05	

(i) Base amount by position

Based on the scale and responsibility of the areas in which the Directors are responsible and their contribution to the Group's management, the standard amount is determined according to their positions after deliberation by the Compensation Advisory Committee.

(ii) Cumulative operating profit target achievement (Total operating income during the mid-term business plan)

Valuation is made based on the cumulative total of operating profit in the mid-term business plan "Challenge 25" period. Specifically, evaluation starts with a certain coefficient when results exceed the cumulative total of operating profit made in the previous mid-term business plan "Dash 25". If the "Challenge 25" target is exceeded, the evaluation coefficient is set higher. By doing so, we aim to increase the motivation of directors to achieve their goals and to maintain their motivation to work actively even after achieving them.

(iii) Achievement in the final year (Revenue and operating profit)

Evaluation will be conducted according to the degree of achievement of revenue and operating profit in the final year of "Challenge 25" for the purpose of ensuring target achievement in the final year.

(iv) Achievement of ROIC in the final year

To motivate directors to improve capital efficiency and profitability, evaluations are conducted according to the degree of ROIC achievement.

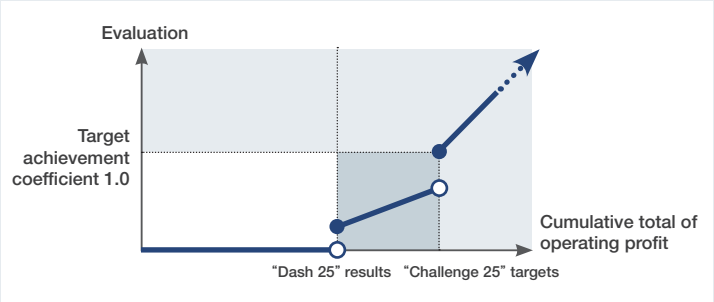
(v) Comparison with TOPIX in TSR

Evaluations are conducted according to the degree of achievement of TSR with the aim of motivating directors to increase corporate value from the shareholders' point of view.

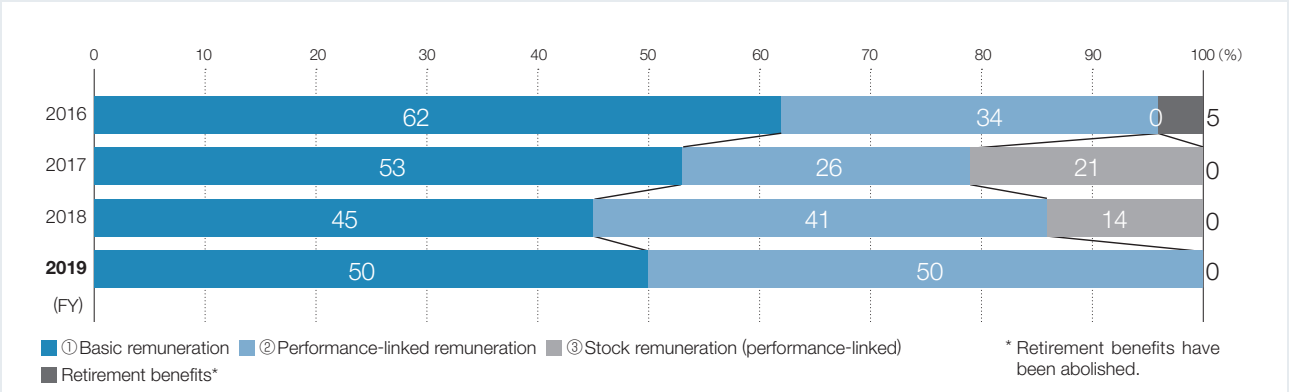
(vi) Achievement of CO_2 emissions reduction targets through Yaskawa products

In order to realize sustainable corporate activities and respond to social issues, Yaskawa evaluates the achievement of CO_2 emission reduction targets through its products.

Evaluation image of (ii)



Results of composition of remuneration for directors (excluding Audit and Supervisory Committee members)



Remuneration for Audit and Supervisory Committee members

① Basic remuneration

The limit on the basic remuneration for Audit and Supervisory Committee members shall be a fixed amount not exceeding 150 million yen.

② Stock remuneration

In light of the fact that the Audit and Supervisory Committee members are in charge of monitoring the execution of management in order to ensure the achievement of mid-term business plan's targets in addition to the function of supervising the execution of operations, remuneration will be paid when mid-term business plan's targets are achieved. In order to share the value of such remuneration with shareholders, stock-based remuneration is used. The number of shares to be paid to Audit and Supervisory Committee members is not linked to performance, but is linked solely to the value of the stock price. This eliminates the impact of such remuneration on the supervisory functions of Audit and Supervisory Committee members with respect to the execution of their duties.

Members of the Board of Directors

(As of June 4, 2020)

Junji Tsuda (March 15, 1951)

Representative Director, Chairman of the Board
Number of shares of the Company held: 593 hundred

March 1976	Joined the Company
June 2005	Director, General Manager, Drives Div., Motion Control Div.
June 2009	Managing Director, General Manager, Robotics Div.
March 2010	President (Representative Director)
March 2013	Representative Director, Chairman of the Board, President
March 2016	Representative Director, Chairman of the Board (incumbent)

[Significant concurrent position]
Chairman, board of directors, the University of Kitakyushu
Outside Director, TOTO LTD.

Hiroshi Ogasawara (September 19, 1955)

Representative Director, President
Number of shares of the Company held: 429 hundred

March 1979	Joined the Company
June 2006	Director
March 2007	Director, General Manager, Drives Div.
March 2011	Director, General Manager, Motion Control Div.
June 2013	Director, Corporate Senior Vice President
March 2014	Director, Corporate Senior Vice President, General Manager, Technology & Development Div.
March 2015	Representative Director, Corporate Executive Vice President, General Manager, Technology & Development Div.
March 2016	Representative Director, President, General Manager, Technology & Development Div.
March 2017	Representative Director, President, In charge of Human Resources Development, Manager, Diversity Management Div.
March 2018	Representative Director, President, In charge of Human Resources Development, Manager, ICT Strategy Div. (incumbent)

Shuji Murakami (April 21, 1959)

Representative Director, Corporate Executive Vice President
Number of shares of the Company held: 401 hundred

March 1982	Joined the Company
June 2008	Director, Manager, Corporate Planning Div.
June 2012	Director, Corporate Vice President
March 2014	Director, Corporate Senior Vice President
March 2016	Representative Director, Corporate Executive Vice President
March 2017	Representative Director, Corporate Executive Vice President, In charge of CSR & Compliance, In charge of Administration, General Manager, Corporate Planning Div.
March 2020	Representative Director, Corporate Executive Vice President, In charge of CSR, In charge of Administration, General Manager, Corporate Planning Div. (incumbent)

Yoshikatsu Minami (October 31, 1959)

Director, Corporate Senior Vice President
Number of shares of the Company held: 308 hundred

December 1983	Joined the Company
June 2008	Director
June 2012	Corporate Vice President, General Manager, Robotics Div.
June 2015	Director, Corporate Senior Vice President
March 2017	Director, Corporate Senior Vice President, In charge of ICT strategy, General Manager, Production Management & Operations Div., General Manager, Export Administration Div.
March 2018	Director, Corporate Senior Vice President, General Manager, Production Management & Operations Div., General Manager, Export Administration Div.
March 2020	Director, Corporate Senior Vice President, General Manager, Production Management & Operations Div., General Manager, Export & Import Administration Div. (incumbent)

Masahiro Ogawa (August 25, 1964)

Director, Corporate Vice President
Number of shares of the Company held: 107 hundred

March 1987	Joined the Company
December 2010	Chairman, YASKAWA AMERICA, Inc.
June 2012	Corporate Vice President
March 2016	Corporate Vice President, General Manager, Robotics Div.
April 2018	President & CEO, Robotic Biology Institute Inc. (incumbent)
March 2019	Corporate Vice President, General Manager, Robotics Div., General Manager, Control Technology Div., Robotics Div.
May 2019	Director
March 2020	Director, Corporate Senior Vice President, General Manager, Robotics Div., General Manager, Control Technology Div., Robotics Div. (incumbent)

[Significant concurrent position]
Chairman, YASKAWA SHOUGANG ROBOT CO., LTD.

Yuji Nakayama (May 17, 1960)

Director, Member of the Audit and Supervisory Committee (full-time)
Number of shares of the Company held: 276 hundred

March 1983	Joined the Company
June 2010	Director, General Manager, Accounting Div.
June 2012	Corporate Vice President
June 2013	Director, Corporate Vice President
March 2017	Director, Corporate Vice President, General Manager, Human Resources & General Affairs Div.
March 2019	Director, Corporate Vice President, In charge of Human Resources & General Affairs Div. and audit
May 2019	Director, Member of the Audit and Supervisory Committee (full-time, incumbent)

Koichi Tsukahata (September 22, 1960)

Director, Member of the Audit and Supervisory Committee (full-time)
Number of shares of the Company held: 85 hundred

March 1985	Joined the Company
March 2009	Motion Control Div., General Manager, Yahata Factory
June 2010	Deputy General Manager, Motion Control Div.
March 2013	Trustee, Director, President, YASKAWA ELECTRIC (SHENYANG) CO., LTD.
March 2018	Trustee, In charge of audit
May 2018	Director, Member of the Audit and Supervisory Committee (full-time, incumbent)

Independent

Yoshiki Akita (February 12, 1952)

Outside Director, Member of the Audit and Supervisory Committee
Number of shares of the Company held: 155 hundred

September 1984	Registered as a Certified Public Accountant
March 2006	Outside Director, Bell-Park Co., Ltd. (incumbent)
September 2007	Representative Director and Chairman and Executive Director, Layers Consulting Co., Ltd. (incumbent)
June 2012	Outside Director of the Company
June 2015	Outside Director, Member of the Audit and Supervisory Committee (incumbent)

[Significant concurrent position]
Representative Director and Chairman and Executive Director, Layers Consulting Co., Ltd
Outside Director, Bell-Park Co., Ltd.

Independent

Junko Sasaki (January 12, 1960)

Outside Director, Member of the Audit and Supervisory Committee
Number of shares of the Company held: 13 hundred

April 1983	Joined IBM Japan Ltd
January 2007	Executive Officer, APAC & Japan Technical Sales Support, IBM Japan Ltd
January 2011	Joined Microsoft Japan Co., Ltd. Executive, General Manager, Customer Service & Support
December 2016	Joined Sartorius Japan K.K. President & CEO
May 2018	Outside Director, Member of the Audit and Supervisory Committee of the Company (incumbent)
June 2019	External Director, Sumitomo Mitsui Trust Bank, Limited (incumbent)

[Significant concurrent position]
Outside Director, Sumitomo Mitsui Trust Bank, Limited

Independent

Hideo Tsukamoto (July 25, 1980)

Outside Director, Member of the Audit and Supervisory Committee
Number of shares of the Company held: 0

April 2003	Entered the Legal Training and Research Institute, Supreme Court of Japan
October 2004	Graduated from the Legal Training and Research Institute, Supreme Court of Japan (57th Term), Registered as an Attorney (member of Daini Tokyo Bar Association), Joined Anderson Mori Law Office (currently Anderson Mori & Tomotsune LPC)
November 2010	Worked at Civil Affairs Bureau, the Ministry of Justice (in charge of planning and formulation of Revised Companies Act)
January 2013	Partner, Anderson Mori & Tomotsune LPC (incumbent)
April 2014	Part-time lecturer, Faculty of Law, The University of Tokyo
January 2016	Expert Member, Case Study Committee, The Japan Audit & Supervisory Board Members Association (incumbent)
December 2017	Member (2nd term), Corporate Governance System (CGS) Workshop, the Ministry of Economy, Trade and Industry (incumbent)
June 2018	Outside Audit & Supervisory Board Member, JA MITSUI LEASING, LTD. (incumbent)
May 2019	Outside Director, Member of the Audit and Supervisory Committee of the Company (incumbent)
August 2019	Member of the Study Group on the Process of the General Meeting of Shareholders in the New Era of the Ministry of Economy, Trade and Industry (incumbent)

[Significant concurrent position]
Partner, Anderson Mori & Tomotsune LPC
Outside Audit & Supervisory Board Member, JA MITSUI LEASING, LTD.

Independent

Yuichiro Kato (October 20, 1969)

Outside Director, Member of the Audit and Supervisory Committee
Number of shares of the Company held: 0

April 1992	Joined Nichirei Corporation
April 1995	Joined DAIKO ADVERTISING INC.
April 2003	Associate professor of industrial strategy engineering, Graduate School of Engineering, Nagoya Institute of Technology, Visiting researcher, Business Knowledge Bureau, DAIKO ADVERTISING INC.
January 2015	Member, The Deming Prize Examination Committee, Union of Japanese Scientists and Engineers (incumbent)
October 2015	Representative Partner, Brand Design LLC (currently Brand Design Co., Ltd.) Specially-appointed professor, Industry-Academia-Government Collaboration Center, Nagoya Institute of Technology
April 2018	Professor, Vocational Ability Development Institute, Polytechnic University administrated by the Ministry of Health, Labour and Welfare Member, The Japan Quality Recognition Prize Examination Committee, Union of Japanese Scientists and Engineers (incumbent)
November 2018	Representative Director, Brand Design Co., Ltd. (incumbent)
June 2019	Professor, Project for Organization for Co-Creation Research and Social Contribution, Nagoya Institute of Technology (incumbent)
May 2020	Outside Director, Member of the Audit and Supervisory Committee of the Company (incumbent)

[Significant concurrent position]
Representative Director, Brand Design Co., Ltd.
Professor, Project for Organization for Co-Creation Research and Social Contribution, Nagoya Institute of Technology

10-Year Financial Data

		Japanese GAAP				
(Fiscal year)		2010	2011	2012	2013	2014
Net sales		296,847	307,111	310,383	363,570	400,153
Gross profit		77,032	79,571	82,108	108,139	126,890
Operating profit		12,874	14,818	13,070	25,702	31,532
Profit before income taxes		12,060	15,353	12,125	25,717	34,413
Profit attributable to owners of parent		6,544	8,432	6,800	16,964	24,819
Business Segment Information*1						
Motion Control	Net sales	156,450	149,410	144,333	162,346	188,116
	Operating profit	8,980	5,824	3,248	16,444	21,748
	Operating profit ratio (%)	5.7	3.9	2.3	10.1	11.6
Robotics	Net sales	83,843	101,065	110,223	122,543	135,956
	Operating profit	1,673	7,014	8,365	9,511	10,558
	Operating profit ratio (%)	2.0	6.9	7.6	7.8	7.8
System Engineering	Net sales	34,349	35,520	37,263	35,327	40,980
	Operating profit	2,061	1,917	1,504	−5	−768
	Operating profit ratio (%)	6.0	5.4	4.0	−0.0	−1.9
Sales by Destination*2						
Japan		144,754	143,019	143,456	150,101	144,246
The Americas		38,779	43,985	51,113	58,481	72,616
Europe		29,610	33,939	32,047	42,499	46,921
China		82,749	85,276	48,555	67,165	85,017
Asia except China				32,752	41,430	47,761
Other		955	890	2,456	3,892	3,590
Overseas sales ratio (%)		51.2	53.4	53.8	58.7	64.0
Cash Flow						
Cash flows from operating activities		2,489	6,391	24,640	23,972	29,023
Cash flows from investing activities		−6,741	−11,874	−18,058	−16,942	−27,874
Free cash flows		−4,252	−5,483	6,582	7,029	1,149
Cash flows from financing activities		−786	13,592	−9,053	−5,983	−1,471
Cash and cash equivalents at end of period		11,885	20,206	19,389	22,992	24,347
Per Share Information						
Earning (yen)		26.00	33.51	27.03	67.42	98.45
Dividends (yen)		6.00	10.00	10.00	12.00	20.00
End of the Fiscal Year						
Total assets		264,594	279,072	302,518	340,506	388,205
Interest-bearing debt		41,439	58,612	54,684	55,528	52,430
Shareholders' equity		93,220	100,109	112,218	134,076	171,388
Management and Financial Indicators						
Operating profit ratio (%)		4.3	4.8	4.2	7.1	7.9
ROE: Return on equity (%)		7.2	8.7	6.4	13.8	16.3
Shareholders' equity ratio (%)		35.2	35.9	37.1	39.4	44.1
Debt-to-equity ratio (times)		0.44	0.59	0.49	0.41	0.31
Dividend payout ratio (%)		23.1	29.8	37.0	17.8	20.3
Exchange rate						
U.S. dollar (yen)		86.1	79.3	81.9	99.6	108.2
Euro (yen)		113.3	109.6	105.7	132.7	139.7

*1 Starting FY2013, reportable segments changed to the following 3 segments: Motion Control, Robotics, and System Engineering. There have also been partial changes in the division of businesses within these segments. Figures and profit ratios of each segment for the period up until FY2012 are based on figures before the change was implemented. The figures for former Information Technologies segment and Other segment are omitted.
Revisions were made to the division of businesses segments starting FY2017. The PV inverter business, which was previously included in Motion Control, is included in System Engineering. Figures and profit ratios of each segment for FY2016 reflect this change. The change is not applied to figures and profit ratios for the period up until FY2015.

*2 For FY2010 and FY2011, figures for Japan, the Americas, Europe, Asia, and Other were disclosed.

*3 The Company changed its accounting period starting FY2017 from March 20 to the last day of February. As a transitional year for this change, FY2017 was from March 21, 2017 to February 28, 2018.

(millions of JPY)

Japanese GAAP			IFRS			
2015	2016	2017*3	2018	2019	(Fiscal year)	
411,260	394,883	448,523	474,638	410,957	Revenue	
134,147	124,018	154,174	156,353	124,496	Gross profit	
36,730	30,409	54,126	53,098	24,198	Operating profit	
35,202	29,910	53,556	55,051	24,642	Profit before tax	
22,365	20,397	39,749	42,524	15,572	Profit attributable to owners of parent	
					Business Segment Information*1	
187,548	172,025	212,095	213,260	177,893	Revenue	
22,413	22,772	41,729	34,697	19,227	Operating profit	Motion Control
12.0	13.2	19.7	16.3	10.8	Operating profit ratio (%)	
154,068	139,993	163,379	177,995	152,170	Revenue	
15,304	10,253	17,761	17,986	5,639	Operating profit	Robotics
9.9	7.3	10.9	10.1	3.7	Operating profit ratio (%)	
43,053	59,354	52,934	51,627	58,089	Revenue	
−760	−591	−3,794	−770	919	Operating profit	System Engineering
−1.8	−1.0	−7.2	−1.5	1.6	Operating profit ratio (%)	
					Revenue by region	
135,495	134,205	133,896	154,539	151,481	Japan	
85,088	74,691	83,078	84,908	73,906	The Americas	
52,011	50,736	60,879	70,436	61,275	EMEA	
81,938	81,246	103,313	103,404	79,974	China	
52,355	49,798	63,397	60,914	43,892	Asia except China	
4,370	4,205	3,957	435	428	Other	
67.1	66.0	70.1	67.4	63.1	Overseas revenue ratio (%)	
					Cash Flow	
31,954	33,752	46,054	34,347	21,480	Net cash provided by operating activities	
−22,421	−18,936	−18,852	−27,111	−20,645	Net cash used in investing activities	
9,533	14,816	27,202	7,236	835	Free cash flows	
−2,601	−16,453	−14,820	−10,268	491	Net cash provided by (used in) financing activities	
31,656	29,735	42,213	39,289	40,307	Cash and cash equivalents at end of period	
					Per Share Information	
84.71	76.60	149.35	161.00	59.42	Earnings per share (yen)	
20.00	20.00	40.00	52.00	52.00	Dividends per share (yen)	
					End of the Fiscal Year	
373,533	387,512	441,249	463,965	450,127	Total assets	
48,426	36,765	32,247	54,416	81,580	Interest-bearing debt	
181,281	198,513	235,865	243,967	228,362	Equity attributable to owners of parent	
					Management and Financial Indicators	
8.9	7.7	12.1	11.2	5.9	Operating profit ratio (%)	
12.8	10.7	18.3	17.9	6.6	ROE: Return on equity (%)	
48.5	51.2	53.5	52.6	50.7	Ratio of equity attributable to owners of parent to total assets (%)	
0.27	0.19	0.14	0.22	0.36	Debt-to-equity ratio (times)	
23.6	26.1	26.8	32.3	87.5	Dividend payout ratio (%)	
					Average Exchange Rate	
120.8	108.4	111.5	110.5	109.0	U.S. dollar (yen)	
133.0	119.2	128.8	128.9	121.4	Euro (yen)	

Disclosure Policy and IR Activities

Disclosure policy

■ Scope of reporting, etc.

Period covered	March 1, 2019 to February 29, 2020 (Certain contents include activities occurred in or after March 2020.)
Scope	YASKAWA Electric Corporation and consolidated subsidiaries Note: A part of non-financial information is provided of YASKAWA Electric Corporation.
Accounting standard	Unless otherwise stated, figures for FY2017 and earlier are stated in accordance with Japanese GAAP, and figures for FY2018 and after are stated in accordance with International Financial Reporting Standards (IFRS).

■ Editorial Policy

This report is prepared for a wide range of stakeholders, including shareholders and investors. This report is created with the aim of providing a well-balanced understanding of various aspects of the Group's business model and value creation, based on the theme of "communicating the future potential of Yaskawa".

This report is prepared with reference to the "International Integrated Reporting Framework" by the International Integrated Reporting Council (the IIRC) and "Guidance for Collaborative Value Creation" by Ministry of Economy, Trade and Industry with the aim of helping readers make a comprehensive assessment of Yaskawa's value.

Environment Social Governance
Guidance for Collaborative Value Creation

■ Note on Forecasts Mentioned in this Report

Future projections for performance and other matters contained in this report are based on the information that is available at the time of issue and on a certain level of requirements as seen rational, however, actual results may vary due to various factors. Some examples of such factors are economic conditions, both in Japan and outside the country, trends in demand for the company's products and services, and trends in foreign exchange and stock markets. Please also note that factors which may impact the company's results are not limited to the aforementioned.

Investor Relations Activities

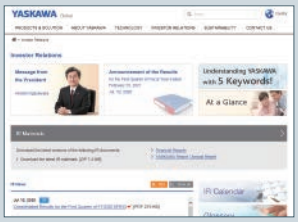
Yaskawa believes it is important to promote constructive dialogue with shareholders and investors in order to achieve sustainable growth and increase corporate value over the medium to long term.

In addition to enhancing information disclosure and opportunities for dialogue with our stakeholders, including institutional investors and analysts, we appropriately report to the management the opinions and requests of our stakeholders, and use them in discussions aimed at improving corporate value.

■ YASKAWA Global Website Information

A wide range of IR related information is available.

Please visit the following URL.



Investor Relations
https://www.yaskawa-global.com/ir

Sustainability
https://www.yaskawa-global.com/company/csr

■ External evaluation of IR activities (FY2019)

Overall IR Activities

• Institutional Investor

2019 All-Japan Executive Team Ranking

2nd place in "Engineering & Machinery" Sector
2nd place in Best CEO 3rd place in Best CFO 2nd place in Best IR Professional 2nd place in Best IR Program

IR Website

Daiwa Investor Relations Co., Ltd. 2019 "Internet IR Awards" Excellence Award
Nikko IR Co., Ltd. "Ranking of all listed companies' websites in FY2019" Excellent Sites (General award)
Morningstar Japan K.K. "Gomez IR Site Ranking 2019" Excellent company: Silver Prize

Corporate Information and Stock Information

Corporate Information (As of February 29, 2020)

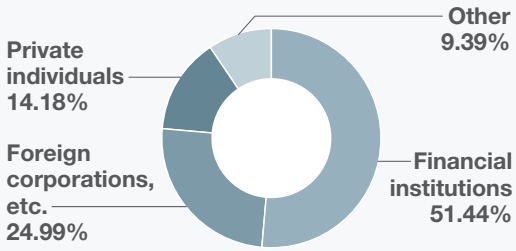
Corporate name	YASKAWA Electric Corporation
Head office	2-1 Kurosakishiroishi, Yahatanishi-ku, Kitakyushu 806-0004, Japan
Founded	July 16, 1915
Share capital	30,562 million yen
Employees	15,179 Consolidated (including temporary employees)
Number of consolidated subsidiaries	67 companies
Number of affiliates accounted for by the equity method	9 companies

Stock and Shareholder Information (As of February 29, 2020)

■ Stock Information

Stock exchange listings	Tokyo, Fukuoka
Securities code	6506 (Japan)
Share unit	100 shares
Business year	March 1 of each year to the last day of February of the following year
Record date for dividend payout	Last day of February and August 31 of each year
Number of shares outstanding	266,690 thousand
Number of shareholders	65,922

■ Share Distribution by Shareholder Type

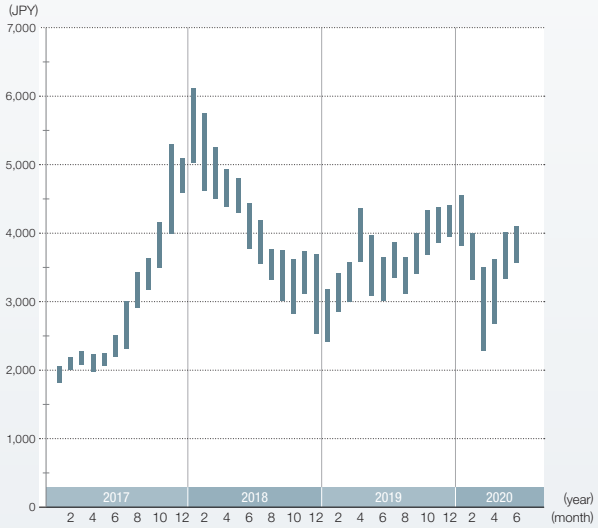


■ Major Shareholders

Major shareholders (Top 10 shareholders)	Number of shares (Thousands)	Shareholding ratio (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	31,783	12.10
Japan Trustee Services Bank, Ltd. (Trust Account)	22,756	8.67
Mizuho Bank, Ltd. (MHBK)	8,100	3.09
Meiji Yasuda Life Insurance Company	7,774	2.96
Japan Trustee Services Bank, Ltd. (Sumitomo Mitsui Trust Bank, Limited Employee Retirement Benefit Trust Account)	7,439	2.83
Japan Trustee Services Bank, Ltd. (Sumitomo Mitsui Trust Bank, Limited Retrust Account, The Bank of Fukuoka, Ltd. Employee Retirement Benefit Trust Account)	5,100	1.94
Japan Trustee Services Bank, Ltd. (Trust Account 5)	4,369	1.66
THE DAI-ICHI LIFE INSURANCE COMPANY, LTD.	4,199	1.60
STATE STREET BANK WEST CLIENTTREATY 505234	4,003	1.52
SSBTC CLIENT OMNIBUS ACCOUNT	3,911	1.49

Note: Treasury stock (4,121,213 shares) is deducted in the calculation of the shareholding ratio.

■ Company Share Price ((From January 2017 to June 2020)



Note: The prices displayed are the monthly high and low prices traded at Tokyo Stock Exchange.

YASKAWA

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