

YASKAWA

YASKAWA Report

2017

Contents

YASKAWA Report 2017

—— Period Under Review ——
From March 21, 2016 to March 20, 2017

Editorial Policy

This report has been compiled with the intent to communicate broadly the future potential of Yaskawa for its shareholders, investors, and a wide readership, and care has been taken to prompt understanding of the company from various perspectives in a balanced manner.

For the FY2017 issue, the reports on strategies and activities to realize mid- to long-term growth at the Yaskawa Group are enhanced. As for the Company's ESG initiatives, the message from the director in charge of CSR covers our policies and activities.

Note on Numerical Values and Graphs

All numerical values are rounded down, as applicable.

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.

About YASKAWA

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Vision

Leading the world over 100 years Constantly supporting the “times to come”

Since its founding in 1915, Yaskawa Electric has set motors and their applications as its business domain, and continued to support the cutting-edge industries of the times with its products and technologies.

From “motor manufacturer” to “automation provider,”
we gave birth to the now universally accepted concept of mechatronics*,
and now we evolved to “total solution provider.”

We continue to offer a new value to society by solving such issues as dwindling birth rate and an aging population, environment and energy issues as well as sophistication of industries through fusion of core technology advancement and open innovation.

*: Yaskawa Electric led the world in putting forward the term "mechatronics" in the late 1960s.
This concept evolved when we combined our customers' machinery
with Yaskawa's electronic products to create superior quality and function.

Yaskawa Group Principle of Management

At Yaskawa our mission is to leverage the pursuit of our business to contribute to the advancement of society and the well-being of humankind.

We will realize our mission by executing these core tenets:

1. To emphasize the importance of quality of products and constantly develop and improve technologies in which we can take pride throughout the world.
2. To improve the efficiency of operation and secure profits necessary for the survival and continued growth of the company.
3. To endeavor to keep a market-oriented attitude, to meet the needs of the market and do our utmost to serve our customers in the best way possible.

Mid- to Long-Term Business Plans

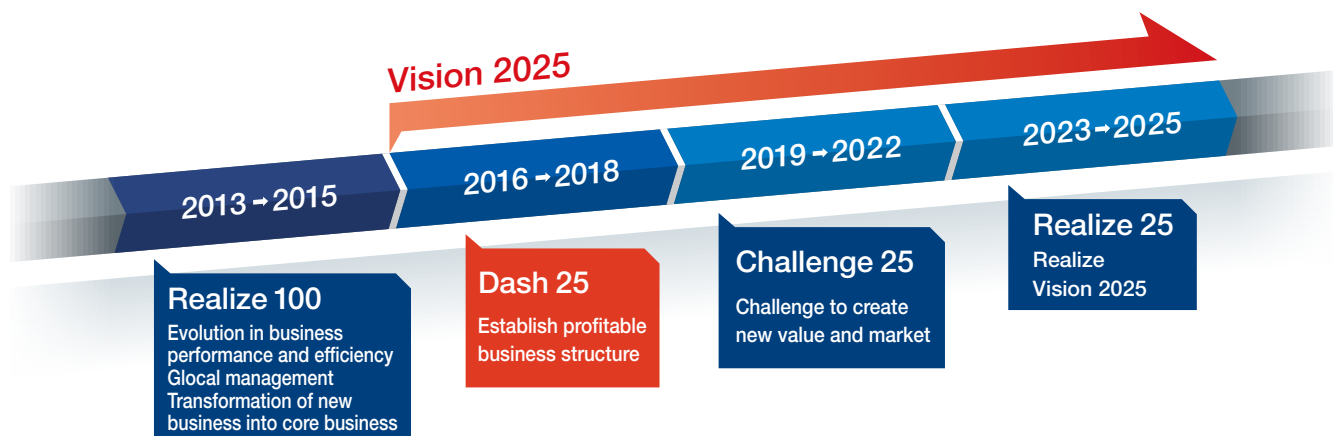
Long-Term Business Plan Vision 2025

Vision 2025 describes the growth strategy for the first ten years in looking ahead into the next 100 years of the Yaskawa Group. With serious environmental issues triggered by increase in energy consumption, as well as rapid advancement in ICT initiating a radical change in manufacturing as an assumed management environment, we aim at offering a new value to society through fusion of core technology advancement and open innovation.

Numerical targets for 2025

Net Sales	Double FY2015 level (411.3 billion JPY) or more
Operating Income(Ratio)	100.0 billion JPY (10% or more)
Dividend Payout Ratio	Above 30% (Gradual increase to 30% by 2020)
ROE	13% or more

Positioning of Mid-Term Business Plans

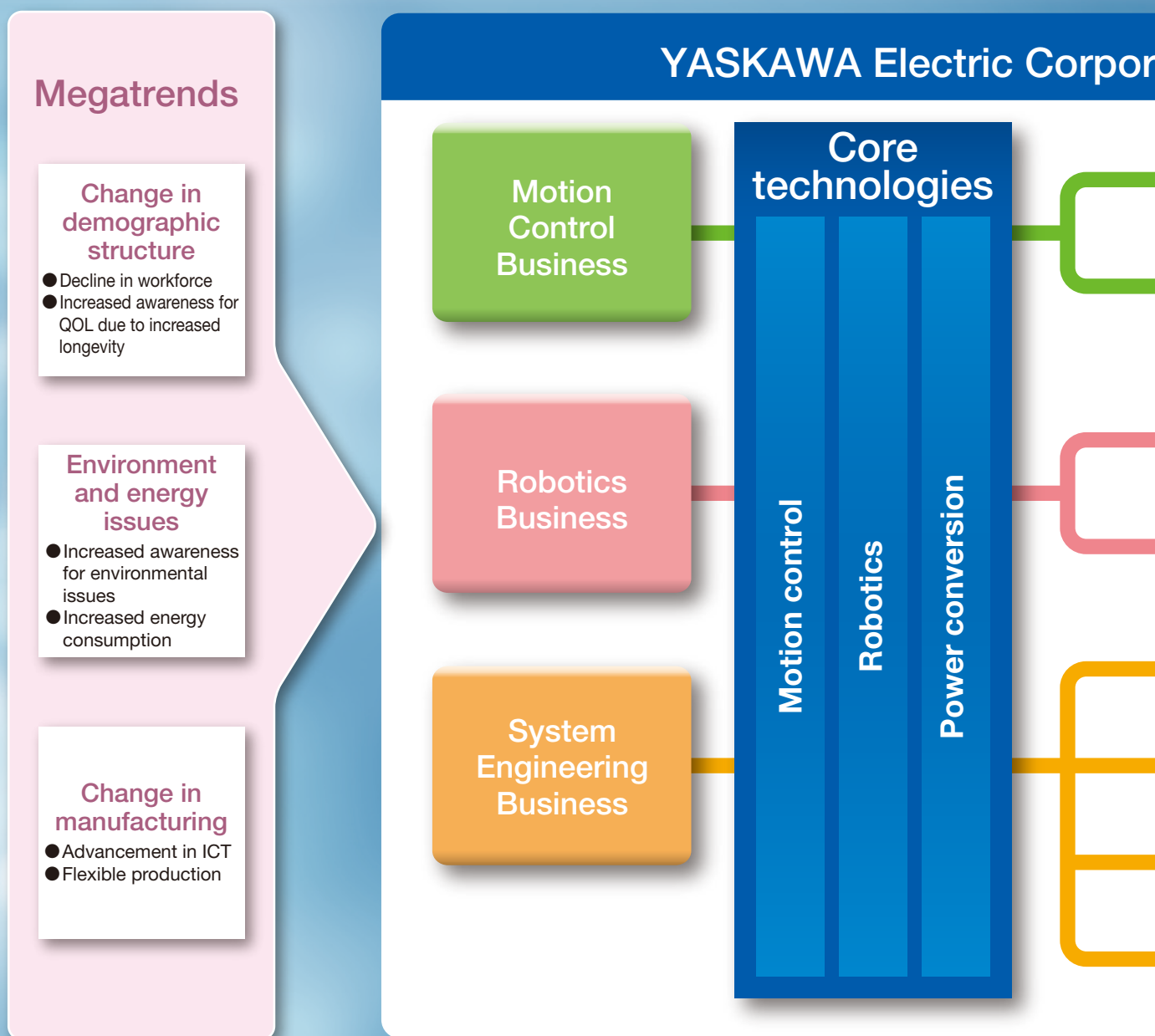


Outline of Dash 25

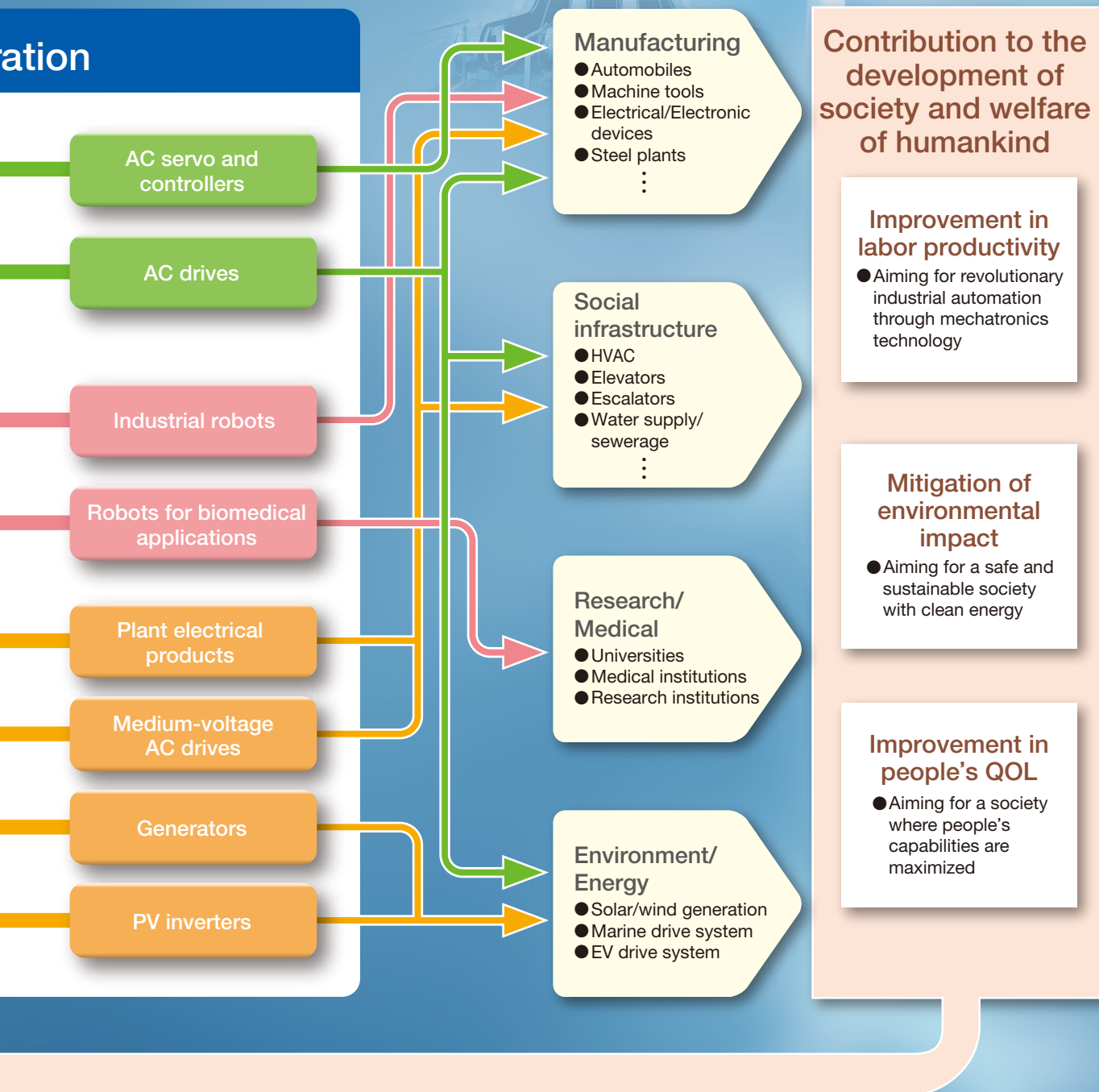
We created Dash25 mid-term business plan which started in FY2016 as a kick-start and first step for realizing our long-term business plan Vision 2025. Our numerical targets are 450 billion yen in net sales, 40 billion yen out of which earned by new businesses and an operating in-

come ratio of 10 percent in FY2018, the final year for this plan. We aim to achieve them with the three basic policies of "maximizing results of Realize 100," "building foundation for realizing Vision 2025" and "growing Clean Power as core business."

Business Model



Yaskawa has nurtured core technologies such as motion control, robotics, power conversion through many years of research and development. It has been leveraging these technologies and offering products and services through three key business segments and contribute to the development of society and welfare of humankind by being utilized for manufacturing and daily living everywhere in the world.



Our History and Core Competence

Founding

1915

1950

1970

1990

Motor manufacturer

Automation provider

- 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
- Aiming to realize "unmanned factory", automated with support of machines

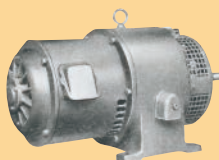
- Proposed the concept of "Mechatronics"
- Aggressively devoted management resources into the rapidly growing mechatronics market; unveiling new products back-to-back
- Changed the company name from YASKAWA Electric Manufacturing Co., Ltd. to YASKAWA Electric Corporation on the occasion of 75th anniversary

System Engineering



1917

Three-phase induction motor
Yaskawa's first commercial product



1953

The first VS motor 5HP
Variable speed motor



Electric product for steel plants

The founding years

The promoter who invested in human resource development

Keiichiro Yasukawa, the promoter of Yaskawa, was born in 1849 in Fukuoka. Following the Meiji Restoration, Keiichiro absorbed new knowledge and philosophies from the West, with which he engaged himself in mining, later expanding his business to spinning, steel, railway and banking.

In 1909, 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.



Keiichiro Yasukawa,
promoter

The founder who worked on the leading-edge technology

At the beginning of the Taisho period (1912-1926), electric motors were starting to advance into all industrial segments as replacements for steam engine. 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,"

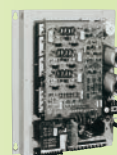
Daigoro founded our predecessor, Yaskawa Electric Manufacturing Co. The company started its business by manufacturing electric mining products, most of which were imported at that time. The domestic electric products were both scarce and technologically several steps behind the imported products, therefore this was a move that went ahead of the time.



Daigoro Yasukawa,
founder

1974
VS-616T

World's first
transistor AC drive



1988

VS-616GILN
World's first IGBT
low-noise AC drive



1984

VS-616HII
World's first digital
control AC drive



1958

Minertia motor
DC servomotor

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.



1992

Σ -1
World's smallest and lightest
Frequency response 250Hz

A product that became the basis for industrial robots available today. Yaskawa became the first in Japan to develop and commercialize an all-electric robot.



1969

Registered trademark of
"Mechatronics"
in 1972

1977

MOTOMAN-L10
Japan's first all-electric
articulated robot

1987

First vacuum robot
for transfer of
semiconductor wafers



Since its establishment in 1915, Yaskawa Electric has defined its area of business as electric motors and their applications, and continued to make challenges in the latest technology of the times. It also led the world in putting forward the term "mechatronics" in the late 1960s. This concept evolved when we combined our customers' machinery (mechanism) with Yaskawa's products (electronics) to create superior quality and function. Yaskawa has contributed to the development of in-

dustrial and society with its epoch-making products and technology and a discerning eye for world's-firsts. It will continue to inherit that stance and apply **motion control, robotics, and power conversion, which are its core technologies and competence**, in contributing to resolve issues of a global scale such as declining birthrates and an aging society and challenges with regard to energy and the environment.

100th anniversary of foundation

2010

2016

Mechatronics promoter

- Offering solutions that match changes in society and industry
- Creation of new business by developing applications of mechatronics technology

Total solution provider

- Kick off initiatives to realize Yaskawa Industrie 4.0



Electric product for plants of paper, film and textile



Water and sewerage system

Environment/Energy

AC Drives

1995
VS-616G5
World's first general-purpose vector control AC drive



2005
Varispeed AC
World's first matrix converter



2008
A1000
General purpose, high performance AC drive



2010
PV1000
PV inverter for photovoltaic generation



2011
Enwin series
electric products for large-scale wind turbines



2014
U1000
Matrix converter



2016
GA700
New series of AC drive



AC Servo motors

1997
Σ-II
World's first serial encoder applied Frequency response 400Hz



2002
Σ-III
Frequency response 600Hz



2007
Σ-V
Frequency response 1.6kHz



2013
Σ-7
World's best response performance Frequency response 3.1kHz



2017
World's first GaN power semiconductor-equipped servo motor with built-in amplifier



Humatronics

2013
MOTOMAN-BMDA3
Biomedical applications



LR2
Rehabilitation device for lower extremities

2017
MOTOMAN-HC10
Collaborative robot



Industrial Robots

1998
MOTOMAN-UP6
World's first multiple robot cooperative control



ReWalk
Walk-assist device



2005
MOTOMAN-DA20
World's first dual-arm industrial robot for volume production



2008
MOTOMAN-VA1400
World's first seven-axis robot



2016
MOTOMAN-GP8
New model of small robot



2017
MotoMINI
The **smallest and lightest in industry**

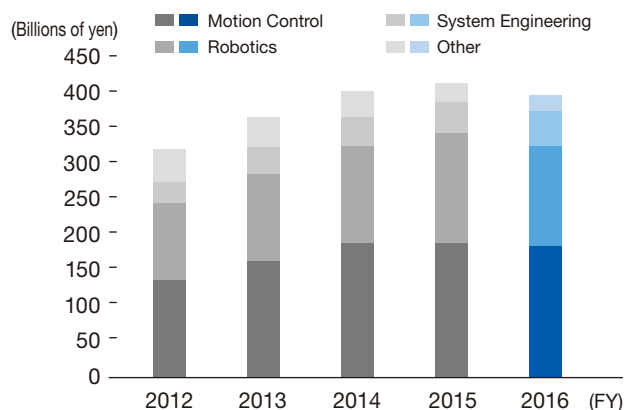
1995
MOTOMAN-SK16
In-house AC servo motor embedded



Financial and Non-Financial Highlights

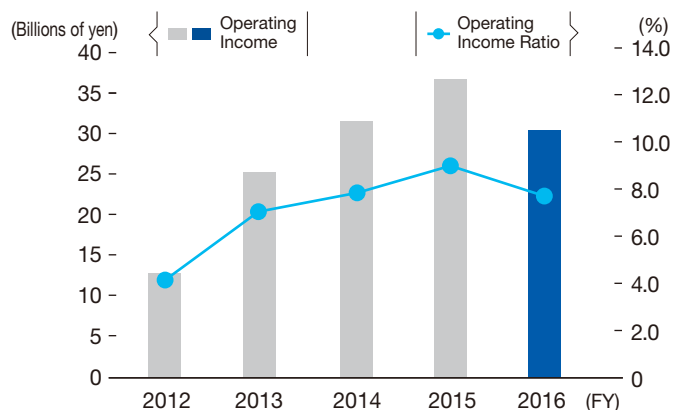
Net sales (Breakdown by business segment)

394.8 billions of yen



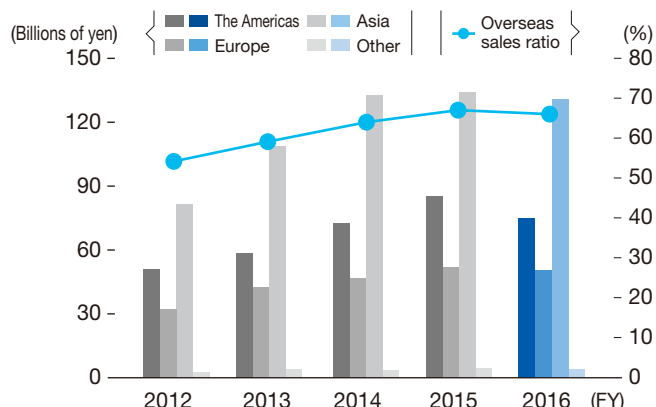
Operating income and operating income ratio

Operating income **30.4** billions of yen



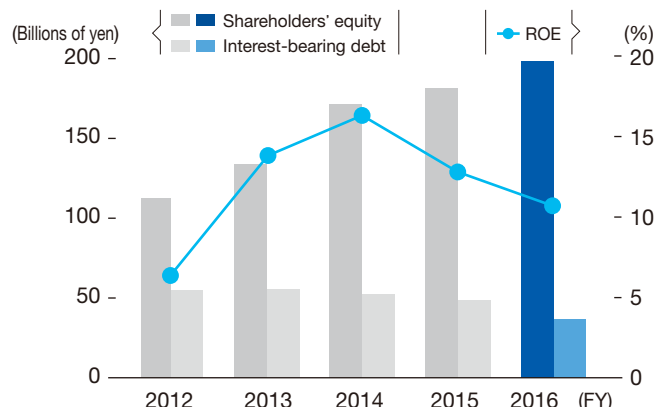
Overseas sales and overseas sales ratio

Overseas sales ratio **66%**



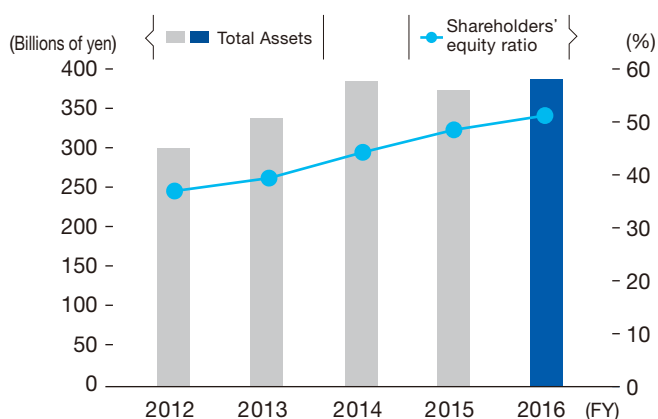
Shareholders' equity, interest-bearing debt and ROE : Return on equity

ROE **10.7%**



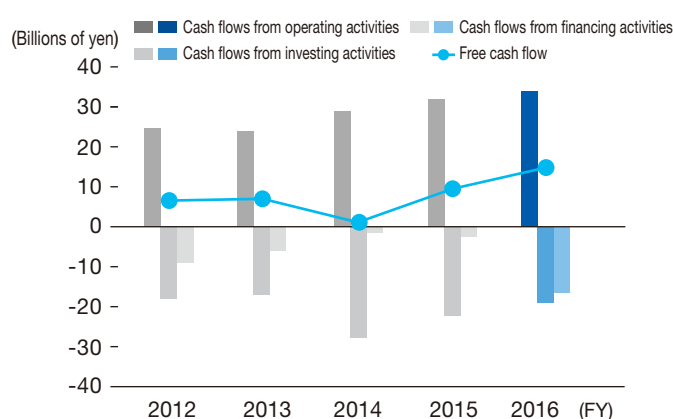
Total assets and shareholders' equity ratio

Total assets **387.5** billions of yen



Cash flows and free cash flow

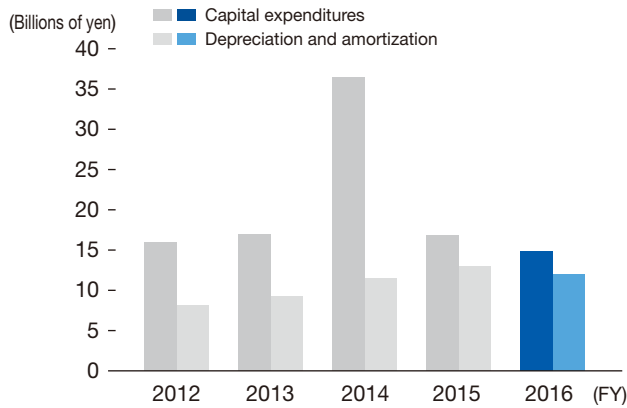
Free cash flow **14.8** billions of yen



Note : Figures under 100 million yen are rounded off unless otherwise stated.

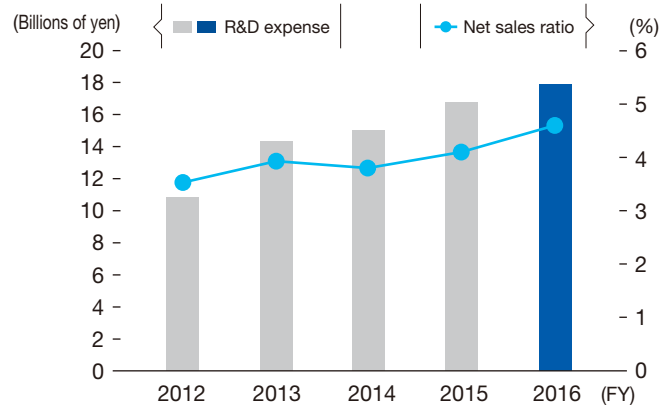
Capital expenditures and depreciation and amortization

Capital expenditures **14.9** billions of yen



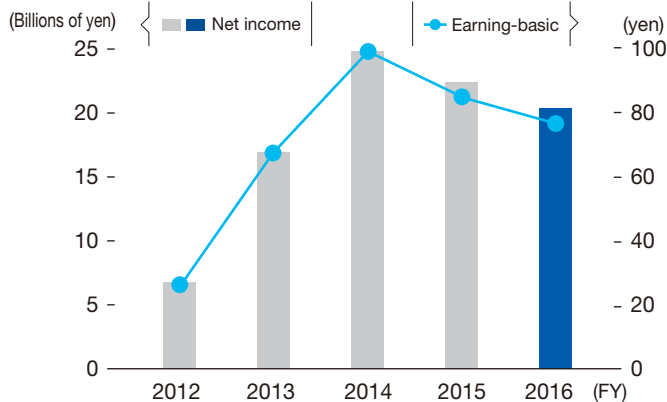
R&D expense and net sales ratio

R&D expense **17.9** billions of yen



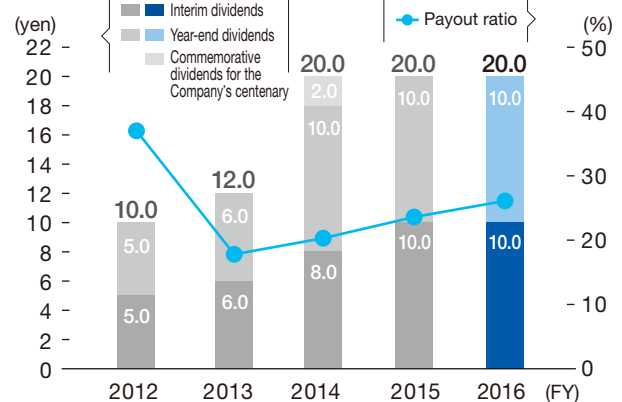
Profit attributable to owners of parent and earnings per share – basic

Earnings per share **76.6** yen



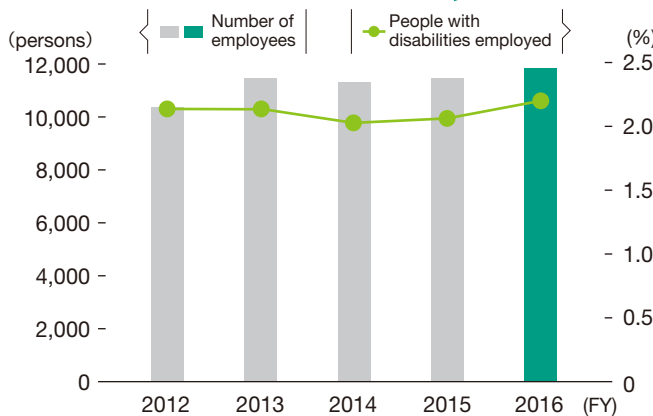
Dividend per share and payout ratio

Payout ratio **26.1%**

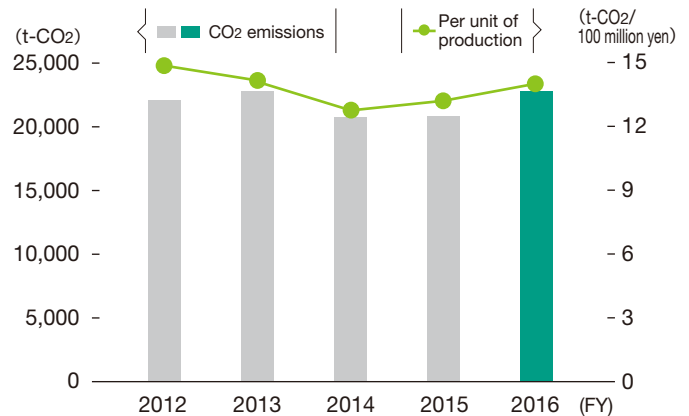


Number of employees and people with disabilities employed

Number of employees **11,810** persons



CO2 emissions from production and sales activities and CO2 per basic unit of production output



Interview with
the President

A full-page portrait of H. Ogasawara, the Representative Director and President of Yaskawa. He is a middle-aged man with dark hair and glasses, wearing a dark pinstripe suit, a white shirt, and a red patterned tie. He is seated on a black leather couch with his hands clasped in his lap, smiling at the camera. The background is a dark, textured wall.

H. Ogasawara

Representative Director
President

Realizing Sustainable Growth as a “Technology-oriented Company” that Always Strives to be the Best in the World

Q Please tell us about your impressions on your FY2016 results.

In FY2016, we posted 394.8 billion yen in net sales (down 16.4 billion yen compared to FY2015), 30.4 billion yen in operating profit (down 6.3 billion yen), and achieved an operating profit ratio of 7.7 percent. While we had decreases in sales and profits when you look at these results alone, business activity in itself was strong based on local currencies in different parts of the globe, which comprises about 70 percent of our net sales, and our consolidated results, excluding the effects of fluctuations in exchange rates, showed growth in sales and profit. In particular, as the Chinese manufacturing industry gained strength and rapidly expanded its production of goods like smartphones, demand increased for machinery and equipment and we had a tendency throughout the year of rising demand for servos which are used for these devices.

Impact of the exchange rates on FY2016 results

	FY2015	FY2016	Change	Impact of the exchange rate	Change excluding impact of the exchange rate
Net sales	411.2	394.8	-16.3	-33.3	+16.9
Operating income	36.7	30.4	-6.3	-10.1	+3.8

(Unit: billion JPY)

Q Expectations for your company's growth are rising in the stock market. What sort of impressions do you have?

I have a sense that expectations for the solutions offered by our company like servos and robots are increasing for themes like automation, labor-saving, and improved productivity on the back of manpower shortages and surging labor costs in China. Particularly in China, they're promoting the development of the robotics industry and improvements in productivity with a subsidy policy for both robotics manufacturers and companies that are introducing robots. By offering AC servos, the major part of robots, to robotics manufacturers and selling robots to companies that are pushing forward their implementation of robots, our company is supporting the development of the manufacturing industry in China.

Also, throughout the world, the manufacturing industry is rapidly changing as it looks toward Industrie 4.0 and IoT amid advancements, which leads to further attention being directed at our robotics and mechatronics products, the mainstay products of our Group, and it's serving as a huge tailwind for our business.

I believe that it's due to these backdrops that our company has obtained high praise from the market. It isn't as if we waver between hope and despair on short-term falls and rises in our stock price but we would like to continue to answer to everyone's expectations so we continue to be valued.

Q | How do you foresee FY2017?

As to market trends in FY2017, we expect that capital investment in electronic devices like smartphones, household appliances, and other such products will continue to be strong in China during the first half of the year. With this trend spreading not only among local machine manufacturers but also to Japanese and European manufacturers who export to China, we anticipate that our business environment will be strong globally. As for its continuation into the second half of the year, there are various views and the situation is unclear. I feel that in order to achieve our plans for the year in a steady way, what will be the key is the extent of the results that we can achieve during the first half when the market has momentum.

On the other hand, it's also an important issue for us to strengthen our initiatives in areas that aren't affected by rapid changes in the markets for electronic devices and

household appliances in China and to stabilize our business in looking toward the second half. For example, in markets related to automobiles, where we have a strength in providing solutions, we can anticipate continuous demand in each of the regions—Japan, China, Europe, and the United States. Other than that, we also intend to expand our business in the field of environment and energy, where we're working on leveraging renewable energy, which is a global trend, and promoting energy saving, and also in the area of food processing, which has significant room for automation in the time to come, and to tie these in to the achievement of our plans for the full business year.

Q | Tell us about your moves for the global trend of innovation in manufacturing and the initiatives at your company.

Leveraging IoT and AI and looking toward realizing Industrie 4.0, the way of manufacturing is changing throughout the



world. Machinery and equipment that we used to differentiate from the perspectives of performance and quality have been going through a data-oriented evolution these last few years where they might be able to obtain data on operation conditions or receive commands automatically. In the manufacturing industry, concern about in-house equipment becoming obsolete and the need for improved productivity is boosting the desire to invest in new equipment and machinery.

Our company is no exception, and **we will create a state-of-the-art AC servo factory in looking toward realizing a Yaskawa Industrie 4.0 and tie the use of data in with improved productivity as a manufacturer. We're also planning to leverage the expertise for the next generation of manufacturing that we prove at this plant for our suggestions to our customers and for developing new products.**

Q

A year has passed since you became president. Please share your impressions and tell us about your business strategy for the time to come.

Since assuming the role of president last year, I've continued to send the message that "data (figures) is a common language of the world" to the global Yaskawa Group. It's because data is the result of what we've done in the past and I believe that it's important for management to set our objectives on how we're going to make that data change and use it as a common language to consider and implement our measures.

A year has gone by since I took on the role of president and while conversations through data have gradually been penetrating within the group, an issue has become evident that it's taking time to obtain data and process it as information with meaning. In other words, there were delays in formulating our plans and we were losing our sense of speed in implementing our measures. In response to our awareness of this issue, we made a change in our organization in FY2017 and sought to improve our mobility. To be specific, we integrated our business planning department and our accounting department, and consolidated the different environment- and energy-related divisions that we had had for each product in our system engineering division. **By improving the usability and reliability of our data and pushing forward global sharing as a common language, we'll change our inefficient corporate structure and tie that in to revitalizing the organization and speedy decision-making.**

Q

Tell us about your plans for realizing your mid-term plan Dash 25 and your intentions in looking beyond that.

The conditions of the present business environment for our group is relatively favorable and I believe that we've come to a point where our achievement of Dash 25 won't be difficult if we can follow through with our current measures. However, there are ups and downs in conditions and the business environment tends to change. Our targets in our mid-term plan are 450 billion yen in net sales and a profit ratio of 10 percent, and **we're actually aiming for figures that exceed our objectives so we can cope in the event that external factors may be incurred.** In considering our next mid-term period, it's necessary for us to acquire the strength to overcome the next drop in the economy that may come next. **It's now when the economy is on an upswing and our management is stable that we have the opportunity to implement bold reforms, and we'll take initiative with a sense of speed.**

Q

Please offer a word to your stakeholders.

What our company aims to be is a "technology-oriented company" that always strives to be the best in the world. **It's the choice and focus of our company and our business model to concentrate on businesses where we can aim to be world number one and also be chosen by our customers and suppliers as a partner to aim to be number one in the world.** We'll hold fast to this stance and continue to contribute to society through our business to improve our corporate value and realize sustainable growth.

I would like to take this opportunity to ask all of our stakeholders for the continued support and patronage to our company.



A Challenge to Create Value for the Chinese Market



Home-use air conditioner plant at the Midea Group

In its mid-term business plan Dash 25 (FY2016-FY2018), the first step for realizing its Vision 2025, the company's long-term business plan (over a ten-year period between 2016 and 2025), the Yaskawa Group is aiming to establish profitable business structure. One of the most important challenges for achieving its targeted 450 billion yen in net sales and operating income ratio of 10 percent in FY2018 is business expansion in the growing Chinese market. The Yaskawa Group is making efforts to further boost the competitiveness of

its operations in China for each of its business divisions and has established a growth strategy for China from the perspectives of its capability in development, manufacturing, and sales as outlined below.

To follow is a feature with on-site reports on the various activities in which Yaskawa engages with its customers (the underlined focal points for its China strategy indicated below) in its AC servo & controller business and robotics business.

Focal Points for China Strategy in Dash 25

	Motion Control Segment		Robotics Segment
	AC Servo & Controller Business	Drives Business	
Development	Strengthening local development capability at Shenyang plant	Enhancing lineup for new Zero series products	Strengthening local development capability at Changzhou plant
Manufacturing	Doubling local manufacturing capacity through establishment of third Shenyang plant (Building a structure for monthly production of 200,000 units for motors and amplifiers)	Start of local production for new Zero series products	More than doubling local manufacturing capacity through establishment of third Changzhou plant (Building a structure for monthly production of 1,500 units)
Sales	<u>Focus on markets with high potential of growth, particularly in general electronic devices such as smart-phones</u>	Success in markets such as those for elevators and cranes through introductions of new products that are optimized for specific applications	<u>Cultivation of general non-auto markets through alliances with leading local companies</u>

Challenges for automation for the mass production of large varieties of household appliances

In the robotics business in China, the Yaskawa group is focusing on cultivating general non-automotive markets through alliances with leading local companies. It established Guangdong Yaskawa-Midea Industrial Robotics System Ltd., a joint venture with the Midea Group, one of its alliance partners, in September 2015 and is working on automating production lines with a focus on household appliances.

The Midea Group boasts top levels of global market share as a manufacturer of large household appliances and is aggressively collaborating with foreign companies as it aims to become world number one in the area of smart household appliances. It has also set up Guangdong Midea-Yaskawa Service Robotics Ltd. with Yaskawa and is making efforts in research and development, production, and sales of rehabilitation and nursing care robots in rapidly aging China.



Outdoor units for air conditioners in the assembly line



Huang Zhibo, facility investment engineer at the Midea Group

The Midea Group is working on automating its plant production lines for its air conditioners and kitchen appliances using robots. As of July 2017, about 250 robots are being used at manufacturing lines for its home-use air conditioner segment. "The introduction of robots has stabilized the quality of our products and enhanced our reliability. While using robots to do work that entails high levels of risks realized workplace safety, we have also been able to improve our production efficiency by controlling takt time*" says Huang Zhibo, facility investment engineer at the Midea Group. As to a future outlook, he said "We expect Guangdong Yaskawa-Midea Industrial Robotics System to supply application platforms for automating processes. We have been automating each process individually to date, however, will push forward automation aiming for total optimization for the future. We will make efforts to create a state-of-the-art smart plant that aims to realize 'a plant that is linked with our customers' where they can order products directly to the plant and production is done automatically."

* Takt time: Time needed to make a product

The Midea Group not only manufactures products under its brand but also conducts a broad range of work as an OEM*¹ and is faced with the need to cope with mass production of a large variety of products. Shigeru Gohara, president at Guangdong Yaskawa-Midea Industrial Robotics System, spoke about the biggest challenges of automation for the manufacturing of household appliances-



The palletizing process ahead of shipment

es, saying it's "a balance between the difficulty of tooling change in multiproduct lines within a short cycle time*² that goes with mass production, and ROI for equipment to make that possible."

Guangdong Yaskawa-Midea Industrial Robotics System, which began full-fledged activity in March 2016, has been making challenges to take on various types of jobs as a system integrator for robots. "As the future direction, we will make standard packages for systems using our robots focusing on 'the area of assembly, handling, distribution, and welding' to maximize our results by building a mechanism where we can offer promptly what our customers need," he said.

* 1 OEM: Abbreviation for original equipment manufacturer. Manufacturing products to be sold under the brand of the contractee

* 2 Cycle time: Time of operation at a certain process in the production line



Shigeru Gohara of Guangdong Yaskawa-Midea Industrial Robotics System and its robot system for remote control assembly

Huang Zhoulu

Project leader at Guangdong Yaskawa-Midea Industrial Robotics System

I'm primarily responsible for applications for household appliances and working on developing an automated assembly line for remote control devices and parts for microwave ovens. Automation for the mass production of large varieties of household appliances involves a high level of difficulty but I always bear in mind that we should achieve customer satisfactions in solving their problems and contributing to their growth and competitiveness.



Robot system for loading containers

Quickly Capturing Signs of Change in the Market and Promptly Deploying Sales Strategies that Match the Chinese Market



The Yaskawa Group's AC servo & controller business in China has been growing rapidly in recent years in line with the development of the country's manufacturing sector. Particularly amid a trend to consolidate the production of smartphones in China, demand for AC servos is rapidly expanding as key components for the manufacturing devices for semiconductors and electronic parts, which are the core parts of smartphones, and for embedding in assembly and testing devices.

Demand for communication devices such as smartphones are spreading not only for semiconductors and electronic parts but also to the markets for machine tools, carving machines, and metal processing to further boost demand for Yaskawa products.

FY2017 marks ten years from the launch of the iPhone. Amid expectations for large-scale capital investment triggered by the launch of new models, Yaskawa has been making efforts to take advantage of the opportunity and has continued to approach equipment manufacturers where demand may be expected for AC servos. It has been strengthening the power of its brand for AC servos and expanding market share by fully leveraging its capability in development of products in China that meet local needs and the strength of its capacity in manufacturing products of high quality locally. Yaskawa's AC servos are currently estimated to have achieved top market share in China; however, Chinese manufacturers are also emerg-

ing and rapidly boosting their market share. Our strategy is to stay ahead of the game and to thoroughly capture the strong market with a sense of speed.

The markets that Yaskawa is focusing on as rapidly growing markets in China are those for smartphones, LEDs, lithium batteries and machine tools. Changes such as in the display, casing, charging methods and communication system (5th Generation) which are incurred by model changes in the smartphone market are leading to new demand for manufacturing equipment, and a shift from what used to be done by human hands to mechanical processes is resulting in rapid increases in demand for AC servos. China is also shifting to the use of LEDs for illumination on the backdrop of accelerated measures to deal with the environment and LED manufacturers are aggressively investing in the latest equipment in order to boost their production capacity and for efficiency. Strong demand for lithium batteries is expected to continue in markets of electronic devices like smartphones and PCs as well as of electric vehicles. Due to moves to strengthen domestic products based on national policy, the machines produced by Chinese manufacturers offer high performance which often use AC servos supplied by Yaskawa. These machine tools are also associated with the production of items such as smartphones and household appliances, which is tying into further increase in demand.

We provide support for the success of our customers in these markets which in turn is tying in to growth for our business in China.

In China, other than the various national policies such as China Manufacturing 2025 and directions for technical innovation, there are elements like increases in wages and the arrival of aging society with a falling birth rate that will lead to a maintained growth of the market for AC servos over the mid-to-long term. We will continue to quickly capture signs of change in the market and deploy sales strategies that match China in a speedy manner as we tie the growth of the Chinese market into further growth for the Yaskawa Group.

Strengthening the Market-Oriented Perspective and Accelerating the Realization of Our Long-Term Business Plan Vision 2025

To date, the sales structure at Yaskawa has been founded on a SBU^{*1} structure where sales divisions attached to each business division handles the sales of its products. It has produced results in the company's global expansion and in controlling its business in a cross-regional manner.

Yaskawa has three products that lead the world: AC servos, AC drives, and robots, and it has achieved growth to "be a company founded on technology." But in looking toward Industrie 4.0, IoT, and other such initiatives and as big changes occur in customer needs, areas which cannot be dealt with through the execution of business from conventional technical standpoints alone are expanding. For that reason, we feel that it will be critical that Yaskawa offers its products and services from the market-oriented perspective in the time to come.

In response to this challenge, the company adopted an IMM^{*2} system in FY2017 and began to bolster its sales capacities. The IMM system is a cross-sectional initiative which offers solutions that comprise Yaskawa products of different divisions from perspectives by industry or application regardless of sales procedures by business or product to date. The challenge initially got underway in the market for food products and ready-made meals, a new area for the company, and the semiconductor market where its market share growth has been lagging.

The sales and marketing activities should essentially play a role to collect customer needs, convey them within the company, and change the direction of business; however, to make this function in a better way, it is necessary to understand the directions of customer businesses which are behind their needs. It is then important to tie the information in to product development by sharing it internally and reflecting it in Yaskawa's business strategy. From its background of having developed to "be a company founded on technology", we feel that Yaskawa is faced with a major challenge in conducting sales from this market-oriented standpoint and will make efforts to boost our capability.

By introducing an IMM system in this way to boost the standards of our sales force and to further strengthen our sales capacity from the market-oriented standpoint, we will accelerate our growth as we aim to achieve our objectives outlined in Vision 2025, our long-term business plan.

* 1 SBU: Abbreviation for Strategic Business Unit; an organizational unit for the purpose of the strategic planning and execution of business plans. SBUs at the Yaskawa Group are by product category.

* 2 IMM: Abbreviation for Industry Marketing Management; initiatives to build cross-sectional marketing and sales structures across different divisions for specific markets to strengthen marketing and sales capacity for global markets.



Koichi Takamiya

Director
Corporate Senior Vice President
General Manager,
Corporate Marketing Div.

Initiatives for the Semiconductor Market

Yaskawa supplies its customers with wafer transport robots and AC servos for embedding in manufacturing devices and other such items for the semiconductor market.

Due to volatile changes in the semiconductor market until a few years ago in synchronicity with demand for personal computers, conditions had been extremely difficult for taking the reins for management. Because of that, the company had prioritized stable profit over strategies for expansion in the robotics business. However, significant changes have been occurring in market conditions in recent years with demand stabilizing at high levels in accordance with the expansion of applications such as smartphones, tablet terminals, and the electric vehicles (EV).

And amid vigorous investment in infrastructure such as data centers as we look toward the start of an era of IoT, stable demand is expected to continue in the time to come.

To respond to these demands, Yaskawa has introduced an IMM system for the semiconductor market and begun sales activities that integrate sales functions of its different divisions. To share and understand the desires and challenges faced by customers and

market conditions, Yaskawa has started to hold face-to-face top management meetings with customers and is re-establishing its business objectives. It will initially rebuild its strategy based on interviews with existing customers primarily in Japan and the U.S. as it endeavors to accelerate full-fledged global deployment in its next mid-term business plan.



AC servo Σ -7 series



Wafer transport robot

Initiatives for the Food Product Market

In looking to supply automation solutions for the food product market where there is significant potential, Yaskawa began its initiatives in the Japanese market about two years ago. It is aiming to provide automation for both the upper and lower streams of food product processing procedures and is attempting to build a business model. It is making efforts for automation in the upper stream, which includes automation for the production of vegetables at plant factories; automation for the production of ready-made meals such as meal boxes and food dishes mid-stream where automation is lagging behind, and automation for processes through the delivery of products by robots for PPP^{*3} use for the lower stream.

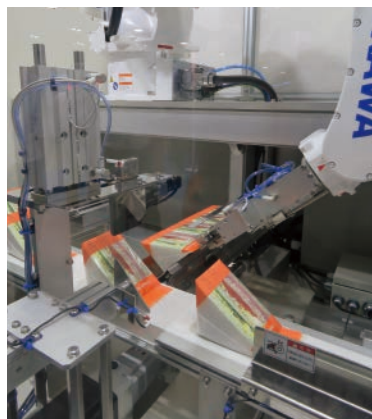
This fiscal year, Yaskawa will build specific systems for plant factories and develop solutions for the area of ready-made meals during the period of this mid-term business plan. It also plans to continue to interview existing customers on PPP robots and reflect the results in its lineup.

The traceability of production is an issue faced by the food industry at present and an effective automated system has not yet been developed. Yaskawa sees significant

business potential in this area if it is able to link its IoT technology in this field.

In these ways, Yaskawa is moving forward its offer of solutions that bring together its products and technologies while simultaneously eyeing developments for businesses with high added value which are linked to enterprise systems as it proceeds to cultivate new markets.

*3: Abbreviation for picking, packing, palletizing



Robot filling the food trays



Robot putting food in meal boxes

Segment Highlights

Business Overview

Products

MOTION CONTROL

- AC servo & controller business
- Drives business

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

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



AC servo
Σ-7series and
machine controller
MP3300



AC drive
GA700

ROBOTICS

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

The segment supplies vertical articulated robots as key products to contribute to the automation of welding, painting, assembly, transfer, etc., at production sites of automobile-related markets and various other fields.



Arc-welding robot
MOTOMAN-AR1730

Collaborative robot
MOTOMAN-HC10



Robot controller
YRC1000

SYSTEM ENGINEERING

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

The segment mainly targets the market of various large-scale plant facilities, such as steel plants and water treatment plants, as well as large-scale cranes for which stable operation is essential.

It also offers electric products for large-scale wind turbines, solar generation and marine application in environment & energy business.



Medium-voltage
AC drive
FSDrive-MV1000



Converter panel for
marine application
(A1000/D1000)



Generator and converter for
large-scale wind turbines

OTHER

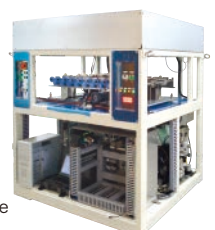
- IT-related services
- Other

The segment covers information-related businesses and businesses such as logistics services, etc.

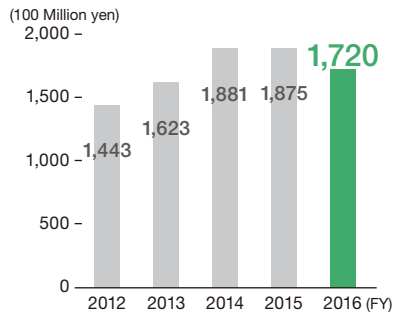
CDMA 1X packet
communications adapter
MMLink-1X



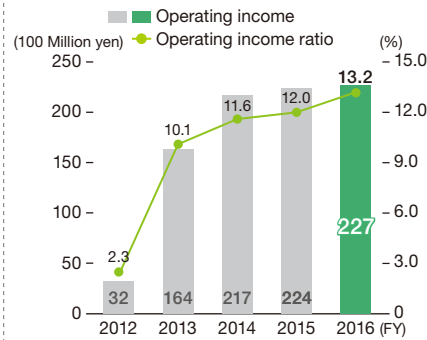
Laser beam machine
LIBWE



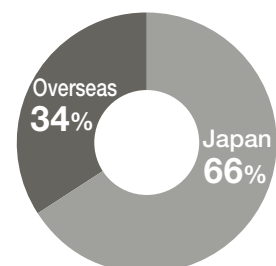
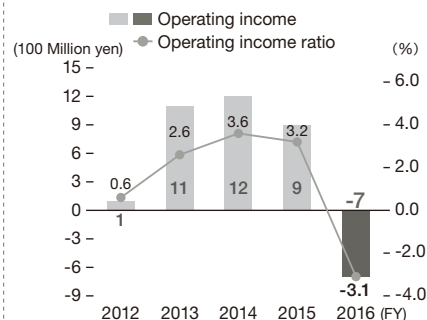
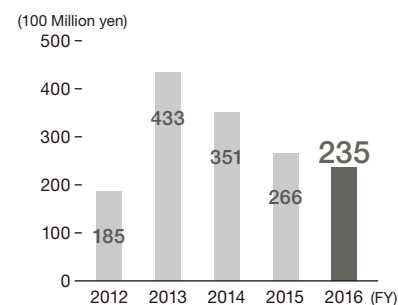
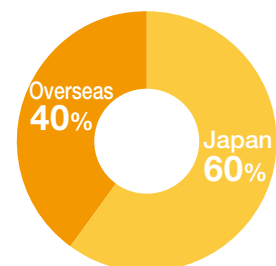
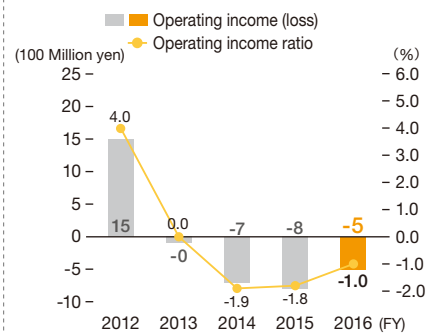
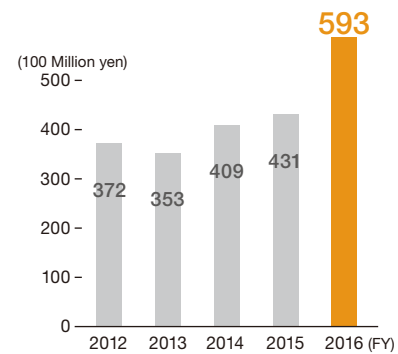
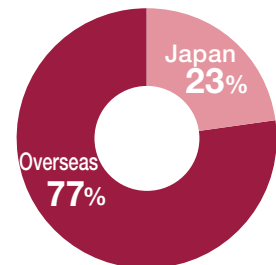
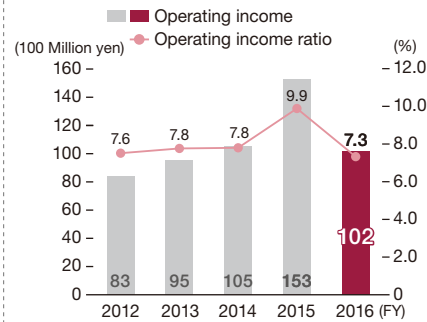
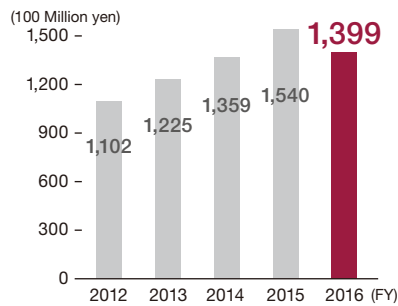
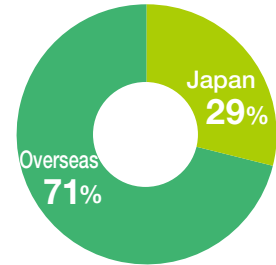
Net Sales*



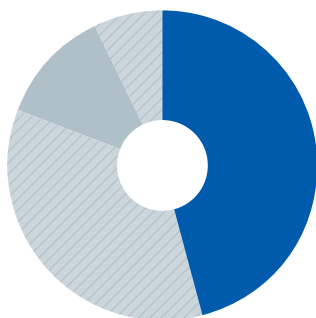
Operating Income (Loss)*



FY2016 Ratio of Net Sales in Japan and Overseas*



* · 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. Value and profit ratios of each segment for FY2016 reflect this change. The change is not applied to values and profit ratios for the period up until FY2015.
· 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. Value and profit ratios of each segment for FY2012 are based on figures before the change was implemented.



Percentage of
net sales*1

44%

*1: Total numerical value for the AC servo & controller business and the drives business of the Motion Control segment.

Enhancing machine performance as major components incorporated in production equipment

Net Sales*2

FY2016

172,025 million yen

FY2017 (Plan)

197,800 million yen

(200,900 million yen)*3

Operating Income*2

FY2016

22,772 million yen

FY2017 (Plan)

34,200 million yen

(34,700 million yen)*3

*2: Total numerical value for the AC servo & controller business and the drives business of the Motion Control segment. The sales and profits for the PV inverter business previously included in Motion Control are included in System Engineering.

*3: The Company changes its accounting period starting fiscal 2017 from March 20 to the last day of February. Forecast figures in parenthesis are based on an assumption that the accounting period remains unchanged for the purpose of apples-to-apples comparison with the results of FY2016.

Review of FY2016

In FY2016, the market environments were favorable for the AC servo business. FY2016 saw a change in demand trends, with orders that had conventionally peaked in the first quarter continuing to be received at high levels through the third quarter and peaking in the fourth quarter. The continued trend of high demand seen throughout the year had been to the backdrop of factors such as full-fledged investment in facilities related to the manufacturing of smartphones in China, the United States, and South Korea and increasing demand for semiconductors for use in IoT and for automobiles.

As one example, when we look at each part in the manufacturing of mobile devices such as smartphones, we see that Yaskawa's AC servos are used in the manufacturing

process at the majority of semiconductor and electronic component manufacturers. Machine equipment that process small items with high standards of precision are needed in the manufacturing of goods such as substrates, electronic components, liquid crystal panels, casing, and earphones, and these are areas where Yaskawa excels.

The technology for accurate processing is in demand for semiconductors, LEDs, and a broad range of areas in manufacturing.

The Σ -7 series, a mainstay line of Yaskawa's AC servos, offers both basic performance unrivalled by its competitors and usability, and it is extremely competitive because 90 percent of its production is automated. In China, where the cycle of equipment updates is rapid, sales of the Σ -7 series comprises 90 percent of the sales of Yaskawa's servo products, and the advantages of local manufacturing have been leveraged to greatly contribute to the increase of its market share and improved profit ratios.

Meanwhile, Yaskawa is coping with rapid increases in the number of orders received particularly in the latter half of the year with full production, and it is faced with the immediate need for expansions in its production capacity and increased productivity.

Outlook for FY2017 and Initiatives for Achieving Mid-Term Business Plan

The market environments are such that demand related to the manufacturing of smartphones is expected to continue at high levels, at least through the first half of the year, and investment in key markets such as semiconductors, liquid crystal panels, and LEDs are also anticipated to continue their bold trend. Amid such conditions, Yaskawa will expand its market share and increase profit by firmly capturing growth markets and by boosting the switchover rates to its mainstay Σ -7 series on a global scale.

And amid demand for improvements in productiv-



Akira Kumagae

Corporate Vice President
General Manager,
Motion Control Div.

ity through the introduction of IoT and other measures, Yaskawa will not only stop at offering components; it will serve as a partner for its customers in resolving their issues by proposing automated solutions through multi-axis servos, controller-integrated servos, motors with built-in amplifiers, and combinations of robotics and AC drives for further differentiation of our business.

As for the manufacturing front, Yaskawa is in the process of constructing a new factory in Japan, aiming to start operations in FY2018. The purpose of this new plant is to demonstrate "Yaskawa Industrie 4.0" and is aimed to realize a BTO (Build to Order) production system that operates autonomously based on data linked by IoT. It will make it possible to check instantly the execution status for orders by visualizing through data the tasks that have been handled manually in the production of variable quantities of various models from procurement, production, and shipping to link all processes in a smooth manner. The primary purpose of this initiative is improved customer satisfaction attained through the 100 percent achievement of conformance to delivery periods promised to customers. Yaskawa believes that as a result, it will be able to achieve work efficiency as well as improvements in cash flow through reduced goods in process. It will simultaneously build a third factory in Shenyang, China, due to start



Machine controller MP3000 series

operations in 2018, as it plans to double its production capacity compared to FY2016 in China to monthly production outputs at the 200,000-unit level by the end of FY2018.

Through the above initiatives, Yaskawa will transform work styles during its mid-term business plan through FY2018 and bring about overwhelming improvements in productivity.

A Strategy Aimed at Realizing Sustainable Growth

The world of manufacturing will continue to evolve more and more in the time to come. For example, demand forecasts leveraging AI will make it possible to project the types of goods that will sell in the future and obtain information on the types of areas in which investments will become active. The speed of change will become faster and faster, and it will be necessary to keep up with the changes. Amid such movements, Yaskawa will continue to pursue performance and quality for its servos and be the first to capture and implement in its products the various movements that come about in the world, such as the types of changes that occur in external environments—for example, the way in which the use of new materials will change devices— by aggressively leveraging AI for the process of manufacturing, as it continues to achieve sustainable growth.

Business Risks and Countermeasures

- (1) Shortcomings in the strength to offer solutions to meet expanding needs for automation of systems
 - ➔ Strengthening of cooperative initiatives of the Yaskawa Group
- (2) The rise of emerging forces such as Chinese manufacturers
 - ➔ Differentiation of business by providing solutions
- (3) Sluggish activity in key markets
 - ➔ Expansions in areas where servos are applicable

TOPICS

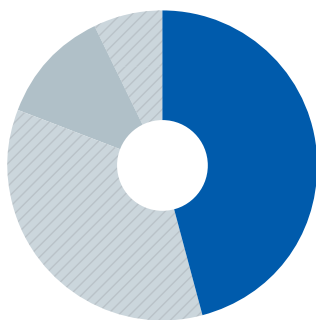
Resolving Social Issues through its Business

Σ -7 servo motors optimize magnetic circuits to improve motor efficiency and realize low heat generation. The dual axis servo pack Σ -7W uses regenerative energy between the axes to use the energy within devices in an efficient manner. The products and technology offered by Yaskawa's AC servo business division are used in a wide range of areas, from devices for manufactur-

ing semiconductors and liquid crystal displays, electronic component mounting devices, and machine tools to general industrial machinery. By offering such products, Yaskawa contributes to the environment-friendly manufacturing in industries which play a role in the development of an information society as represented by goods such as PCs, smartphones and 4K TVs.



AC servo Σ -7 series



Percentage of
net sales*1

44%

* 1: Total numerical value for the AC servo & controller business and the drives business of the Motion Control segment.

Contributing to energy-savings around the world through accurate motor control

Net Sales*2

FY2016

172,025 million yen

FY2017 (Plan)

197,800 million yen
(200,900 million yen)*3

Operating Income*2

FY2016

22,772 million yen

FY2017 (Plan)

34,200 million yen
(34,700 million yen)*3

* 2: Total numerical value for the AC servo & controller business and the drives business of the Motion Control segment. The sales and profits for the PV inverter business previously included in Motion Control are included in System Engineering.

* 3: The Company changes its accounting period starting fiscal 2017 from March 20 to the last day of February. Forecast figures in parenthesis are based on an assumption that the accounting period remains unchanged for the purpose of apples-to-apples comparison with the results of FY2016.

Review of FY2016

The market environment in FY2016 was on a mild recovery trend after struggling with sluggish public investment in China and stagnant investments in the oil and gas markets in the United States in FY2015. Amid such conditions, Yaskawa worked on increasing its orders targeting "growing markets" and "strong markets" in each region, such as HVAC* and agricultural use with a focus on pumps for irrigation equipment in the United States.

HVAC is the biggest global market for AC drives. Particularly in Japan, construction is underway for large buildings and other urban redevelopment ahead of the 2020 Tokyo

Olympics and increases in demand are expectable. Yaskawa has been able to obtain access to these redevelopment projects by leveraging the unique advantages of the matrix converter U1000 which allows measures for high harmonics and by matching communication standards for various automated buildings. The smaller sizes of the equipment, harmonic suppression, regenerative energy, and other comprehensive values for customers have been highly evaluated, and major growth has been enjoyed for U1000 with its orders quadrupling over the past fiscal year.

The GA700, the first in the new Zero Series lineup of AC drives, contains built-in sensors and other peripheral devices and offers new features like diagnoses of signs of abnormalities and links with cloud. It is for these reasons that instead of simply replacing conventional AC drives, Yaskawa suggests the new development of devices that leverage the new added values of the GA700 to its customers, which makes it possible to greatly reduce total costs as well as significantly reduce space for customer devices, reduce wiring, and reduce power. As switches will match the timing of new development, full performance results are expected to be produced after FY2017.

* Heating, Ventilation, and Air Conditioning: Systems and technology for heating, ventilation, and air conditioning for buildings.

Outlook for FY2017 and Initiatives for Achieving Mid-Term Business Plan

Yaskawa anticipates that global market conditions will improve in FY2017 due to steady investment in infrastructure and machinery exports in China and recovering oil prices. Particularly in Japan, it expects rising demand for steel material and cranes according to increased investment ahead of the Tokyo Olympics as well as energy saving regulations and harmonic regulations which will serve



Nobuaki Jinnouchi

Associate Director
General Manager,
Drives Div.

as tailwinds for its business.

Yaskawa will capture such a market environment as an opportunity and steer the rudder anew to maximize growth in each of the global areas. It will not stop at offering components in Japan but also serve as a partner for customers who resolves their issues with them, strengthening its supply of solutions that leverage the features of its new products to further boost differentiation.

For the Zero Series, it offers product lineups divided largely into two value lines: products for high performance transport and mobile applications such as cranes, elevators, and compressors, and products for simple hydro mechanical applications such as fans and pumps. Yaskawa will maximize orders by launching new products in these two value lines into global markets and offering optimum pricing for each market. It will also quickly deploy success cases for the GA700 which have been obtained through sales activities to date and at the same time accelerate sales by leveraging its global development structure to provide rapid responses to meet customer needs in each region.

As for the matrix converter U1000, as its harmonic sup-

pression features can make power generators smaller, the company will pursue and apply added value for its use in goods such as ships and crane vessels where generators are used.

Through these initiatives, Yaskawa will realize increases in sales and profit as it aims to achieve its mid-term business plan.

A Strategy Aimed at Realizing Sustainable Growth

The two major roles for AC drives are that they are motor-driven and energy-saving. And for automation and environmental steps, the global trend will be such that areas where AC drives are actively used will definitely continue to exist. For that purpose, Yaskawa will continue to make aggressive efforts for technological innovation through such measures as the use of next-generation semiconductors such as SiC and GaN^{*1} for its drives business as a core business that serves as a foundation that supports the Yaskawa Group while boosting its value in a sustainable manner, embracing the key concept to "offer optimum value for all customer uses" as it realizes continued growth.

Business Risks and Countermeasures

- (1) Foreign exchange risks from U.S. economic policy and BREXIT^{*2}
 - ➡ A balance through a five-global-point production
- (2) The rise of emerging forces such as Chinese manufacturers
 - ➡ Differentiation for business through the expanded provision of solutions

* 1: Semiconductor materials

SiC (Silicon Carbide), GaN (Gallium nitride)

* 2: The United Kingdom's departure from the EU



AC Drive GA700

TOPICS

Resolving Social Issues through its Business

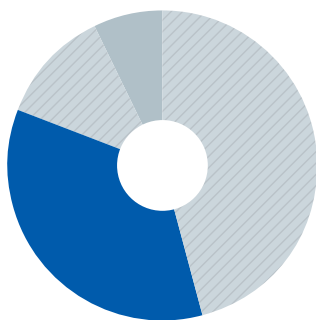
With the matrix converter U1000, it is easier to reuse regenerative energy that had conventionally been processed as heat in resistors. It is also used for many regenerative purposes including escalators where regenerative power occurs at all times and pump jacks (oil extraction machines) where operation and regeneration are always repeated. Its contribution for making machines,

facilities, and power sources smaller and more lightweight through harmonic suppression functions and less wiring will also reduce the energy required for transporting and setting up such items. Yaskawa's unique energy-saving solutions that enable the use of regenerative energy and harmonic suppression functions with a single unit also contributes in preventing global warming.



Matrix converter
U1000

Robotics



Percentage of
net sales
35%

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

Net Sales

FY2016

139,993 million
yen

FY2017 (Plan)

156,500
million yen
(160,000 million yen)*

Operating Income

FY2016

10,253 million
yen

FY2017 (Plan)

14,600
million yen
(15,300 million yen)*

*: The Company changes its accounting period starting fiscal 2017 from March 20 to the last day of February. Forecast figures in parenthesis are based on an assumption that the accounting period remains unchanged for the purpose of apples-to-apples comparison with the results of fiscal 2016.

Review of FY2016

In addition to active investment in auto-related markets with a focus on China, FY2016 saw an increasing trend in demand for automation in general markets such as food, pharmaceutical, and cosmetics markets in Japan and abroad, as well as in the logistics market. Furthermore, due to the fact that semiconductor device manufacturers had been aggressive in capital investment, transitions in market conditions had been favorable. Amid such conditions, Yaskawa, with its awareness of the issue that increased market share in existing markets such as automobiles and increased sales in markets where growth had been expected, e.g. electronic devices and household appliances, were

not moving as expected, has been taking steps to prepare for its achievement of the targeted 10 percent operating profit ratio in its mid-term business plan.

One of such initiatives is the release of the new YRC 1000 controller and the GP series of small robots. In particular anticipation of deployments for the manufacturing lines for electronic devices such as smartphones and household appliances, Yaskawa is making overwhelming improvements in speed, resistance to the environment, and path accuracy. The company has also boosted its strength in offering painting systems globally through its investment in Doolim Robotics of South Korea. And in order to improve its responses to customer needs in Europe, it has decided to set up a new manufacturing base for robots in Slovenia. By building a structure for its robotics business locally that is equipped with development, manufacturing, and sales, it will bolster its relationship with customers through strengthened offers of products and solutions and aim for stronger competitiveness.

As a result of these initiatives, Yaskawa posted a record number of product deliveries on one hand, while posting decreased sales and profit against FY2015 on the negative effects of the strong yen on the other.



Masahiro Ogawa

Corporate Vice President
General Manager,
Robotics Div.



MOTOMAN-GP series △
YRC1000 ▷



Outlook for FY2017 and Initiatives for Achieving Mid-Term Business Plan

As to the market environment, Yaskawa expects further increases in demand for automation in the areas of electronic devices such as smartphones and household appliances. It foresees particular demand for the use of robotics for polishing and assembly, which involve high levels of technical difficulty and have significant impact on the value of products, and for precision work such as inspection and diagnosis. Yaskawa will aim for increased sales in these growth markets with the small robots launched last fiscal year.

As for automobile-related markets which comprise a large exposure of application markets for Yaskawa's robotics business at 60 to 70 percent, the company will further boost its offer of system solutions for arc welding, a strength of Yaskawa. Advancements in the areas of lighter, more rigid, and lower fuel consumption in line with the environmental regulations for automobiles are technical areas chiefly for major parts manufacturers called Tier 1. Through its offer of arc welding solutions with high added value to Tier 1 manufacturers, Yaskawa has been working together with these companies to resolve technical challenges. There are variances between areas where the company has much experience and those where it does not. Yaskawa will aim to further differentiate this business by working on technological innovation with customers globally, for example by deploying services for Tier 1 in regions where it has yet to develop a track record.

In various other industries besides automobiles as well, Yaskawa will strengthen its approaches on customers who will become the end users of its robots, share objectives, and work together to promote automation as it aims for increases in application areas for its robots and boosted sales channels.

Through these initiatives, Yaskawa will continue to aim to further boost its market share while realizing growth that exceeds market growth rates in looking toward achieving its mid-term business plan. The number of robot deliveries is expected to continue to increase, and based on that volume, Yaskawa will

continue to tie that in to steady improvements in quality as well.

A Strategy Aimed at Realizing Sustainable Growth

Looking at things globally, while the mass production of goods tends to be becoming integrated in China, the manufacturing in the style of variable productions of multi-products appears to be remaining in advanced countries. Yaskawa will continue to contribute to automation for mass production as well as look for breakthrough technology for variable productions of multi-products where full automations are difficult. The key for that is the robot that works with humans. As the process of making things will be different in the manufacturing of variable productions of multi-products, to maintain productivity, robots are required to have high rates of flexibility to be able to move freely to locations where their skills are required. It is the foundation of Industrie 4.0 to advance digitalization at sites of where things are made and including the use of IoT and AI, and Yaskawa will continue to offer value to the world by realizing evolution at the production sites based on this concept.

Business Risks and Countermeasures

- (1) Intensifying market competition in China
 - ➡ Further strengthening of solutions and vigorous launches of small robots for general markets
- (2) Impact of tariffs, etc. on export environment
 - ➡ Strengthening of global manufacturing structure with a focus on local production

TOPICS

Resolving Social Issues through its Business

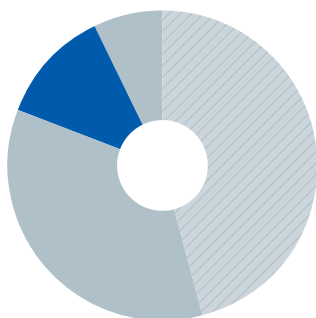
The MOTOMAN-HC10 robot that works with people can work alongside a person without the need to encircle it with a safety fence. Yaskawa will improve productivity at the sites of variable productions of multi-products where automation have been difficult due to the need to make changes in the layouts for the production process depending on production volume. Offering designs that give attention to safety, it has eliminated the possibility of people's hands and fingers getting caught. The

robot is also equipped with auto-stop features that take effect if and when external forces that exceed the restrictions set in advance are detected, allowing people and robots to work together in the same environment with safety. The robot is applicable for sites where the introduction of robots had previously been difficult and the company will thus contribute in resolving the issue of shortages of labor due to reasons such as declining birthrates and an aging population.



MOTOMAN-HC10

System Engineering



Percentage of
net sales
15%

**Supporting prosperous life
and society**

Net Sales*¹

FY2016

59,354 million
yen

FY2017 (Plan)

54,400
million yen
(62,800 million yen)*²

Operating Income (loss)*¹

FY2016

-591 million
yen

FY2017 (Plan)

-1,100
million yen
(-600 million yen)*²

* 1: The sales and profits for the PV inverter business previously included in Motion Control are included in System Engineering.

* 2: The Company changes its accounting period starting fiscal 2017 from March 20 to the last day of February. Forecast figures in parenthesis are based on an assumption that the accounting period remains unchanged for the purpose of apples-to-apples comparison with the results of fiscal 2016.

Review of FY2016

For steel plant systems, the company precisely captured needs for updating facilities, offered new technologies with high added value to its customers, and performed efficiently, which led to improved profitability. In the area of water and sewer systems, it also offered differentiation through proposals featuring AI and realized cost reductions.

Amid decreases in purchase prices for renewable energy in Europe, Yaskawa achieved continuous orders for mass production from its biggest customer MHI Vestas Offshore Wind A/S with highly competitive products that offer both reductions in costs and high quality in the area of large-scale wind turbines.

In September 2016, it acquired the development and manufacturing division for marine drive products of Wärtsilä Norway and boosted its product lineup for marine applications. Recognized for the performance to date of the Wärtsilä Norway, it received an order for the electric system for the first workboat in Japan for the construction of offshore wind turbines equipped with a large-scale crane.

Outlook for FY2017 and Initiatives for Achieving Mid-Term Business Plan

Crude steel production by Japanese steelmakers is expected to hover steadily in FY2017 on the back of factors such as recovery in the area of automobiles. Steady transitions are expected for investments in water and sewer at unchanged levels from a year earlier. Amid such conditions, Yaskawa will precisely capture demand for updates in these existing businesses while aiming to secure stable revenue and strive for certain participation in new projects that will tie in to the next mid-term business plans.

As for the market for wind turbines, there are regions in Europe which are seeing grid parity below the power generation costs for fossil fuels and while there is impact from decreasing purchase prices for renewable energy, the development of new offshore wind turbines is expected to move forward with a focus on Europe. To meet needs for larger capacity in line with the bigger sizes of wind turbines, Yaskawa will also launch strategic products with the latest technologies to lead to orders for mass production.

As for the shipping business, it is said that updates will start for ships built a decade ago after 2020. And in view of the strengthening of emissions control for ships due to begin in 2020, switches are already underway for hybrid or electric propulsion ships, chiefly in China and Europe. Yaskawa will capture these market movements and initiate timely market-



Hiroyuki Ougi

Corporate Senior Vice President
General Manager,
System Engineering Div.

ing activities aimed for future business expansions.

In the area of solar-power generation*, while the situation is such that there is unclarity as to the impact that the new U.S. administration will have on the market, Yaskawa is anticipating market expansion. It is amid such conditions that Yaskawa will enter a new product under development at Solectra Renewables, LLC. of the U.S. into the global market, chiefly the U.S. and Southeast Asia in FY2017. It will realize improvements in product quality and added value by switching products which are currently consigned for manufacture by OEM to internal production, along with new products for wind turbines.

Through these initiatives, the globalization of the system engineering business is further accelerating. Yaskawa will continue to make aggressive efforts to tie in growth in the global market for environmental energy to the growth of its business.

* As of FY2017, the business related to PV inverters, which had been a part of the motion control segment until FY2016, has been transferred to the system engineering segment.

A Strategy Aimed at Realizing Sustainable Growth

To date, the environment and energy business, which includes solar-power generation, large-scale wind turbines, and marine drives, has been expanding globally based on M&As. Yaskawa will tackle the standardization of core technologies in motors, generators, and converters, which will be the key for continuing to supply state-of-the-art products of high quality in looking toward further expansions in this business. It is also anticipating increasing needs for power storage solutions for realizing stable supplies of electricity and will aim to develop and realize new solutions in its next mid-term business plan by providing development support to a European venture in which it has invested.

Business Risks and Countermeasures

- (1) Increasing demand for reduced prices for suppliers through lower purchasing prices for renewable energy in Europe
➡ Cost reductions through product renewals
- (2) Intensifying competition over the prices of PV inverters for solar-power generation
➡ Cost reductions through the launch of new products and differentiation through improved reliability



Generator and converter for large-scale wind turbines



Motor and converter for marine drive application

TOPICS Resolving Social Issues through its Business

The use of renewable energy such as wind power and solar power is gaining more and more attention on the back of concern over an economy that relies on limited and depleting resources such as fossil fuels and moves to regulate greenhouse gas emissions. Particularly with wind power generation, rapid expansions are being seen globally for implementation and the market is expected to show further growth in the future. Yaskawa entered the market in 2010

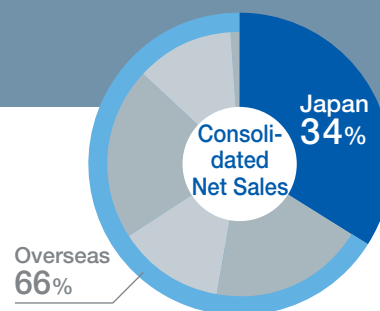
with its launch of converters for large-scale wind turbines and has steadily produced results with deliveries of generators and converters for eight-MW wind turbines, the largest in the world. It will continue to develop products to meet increasing needs for large-capacity equipment and support activities to spread the use of renewable energy in all parts of the globe to contribute to the development of a sustainable society.



The ways in which “evolving *glocal* management”, set forth in the mid-term business plan Dash 25, are manifested as measures and results in respective regions

* The construction of a system, which, in addition to management with a global mindset, can provide the best, locally-oriented accommodations anywhere in the world.

JAPAN



Review of FY2016

While the strong yen advanced in FY2016 compared to a year earlier, sentiments were generally favorable in overseas markets with a focus on China, which led to a bullish tone among Japanese companies that have strengths abroad once the impact of the foreign exchange rate had been disregarded. Under such market conditions, Yaskawa produced steady results from strong demand in automobile-related markets and precisely captured needs among steel and iron plants and water and sewer systems for updates in their facilities. While each division produced solid results, the domestic market for PV inverter continued to remain sluggish, resulting in stagnant sales in Japan. Meanwhile, on the back of a labor shortage due to dwindling birth rates and an aging society, increasing needs for automation had been evident in food processing and manufacturing, areas that Yaskawa sees as growth markets, and together with its customers, the company proceeded in accelerating its initiatives for automation.

Outlook

As Japan prepares to host the Tokyo Olympic and Paralympic Games in 2020, increasing needs for redevelopment in city areas and public investment are anticipated by its domestic market. Lead by the growth of export companies that have captured the needs of electronics markets which are expanding globally, the Japanese economy is expected to continue its gentle recovery. And amid moves to improve productivity as part of work style reform being pushed by the government, further investments are expected in automation and robotics, including the use of IoT and AI.

Amid such conditions, Yaskawa will launch new products in the areas of AC servos, AC drives, and robots, its leading divisions, to offer its customers solutions of high added value that will differentiate their equipment and production facilities from their competitors'. It will strengthen its initiatives with customers as it aims to become a solution provider with a broad range of offerings in the area of food products.

TOPICS

Regional contribution activities

Sponsoring Kitakyushu Marathon

The city of Kitakyushu, where Yaskawa headquarters are located, has been hosting the Kitakyushu Marathon since 2014 to mark the 50th anniversary of its establishment. Yaskawa has been supporting the event as a main sponsor for four consecutive years, with employees and their families taking part in volunteer activities, setting up booths around the venue, and boosting the excitement of the marathon, together with the local community.



Volunteer activities at a water station



Yaskawa booth at the venue

CHINA



Takeshi Ikuyama

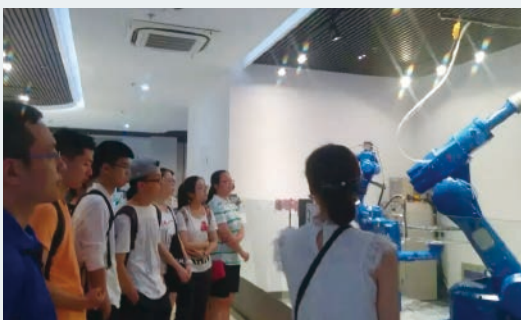
Corporate Vice President

TOPICS

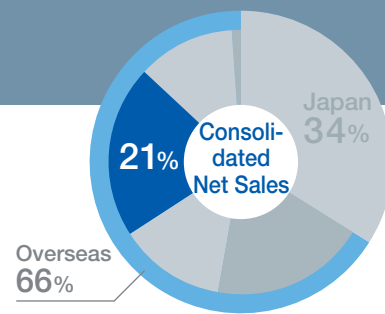
Regional contribution activities

Robot Center Receives Visitors from Educational Institutions

Since opening its Shanghai Robot Center in 2014, Yaskawa has been receiving visitors from many educational institutions including junior high schools, vocational schools, and universities. Photo shows students from Department of International Studies of Shanghai Southwest Weiyu Middle School on a visit where they appeared fascinated by the various movements of the robots and the demonstration products for AC servos and AC drives. The heated inspection tour continued at the adjacent After Service Center that offers follow-up services for the repair and maintenance of Yaskawa products.



Students on a tour at Shanghai Robot Center



Review of FY2016

While the average growth rate for China's GDP in FY2016 stood at 6.7 percent, slightly below that in the previous year, aggressive investments were seen in manufacturing facilities for the high-tech market including smartphones. Needs were also present for automation (labor saving) at the manufacturing scene led by government on the back of rising labor costs, a falling birth rate, and an aging population, resulting in a record results for Yaskawa Electric (China). In particular, significant growth was seen in sales for its AC servo & controller business for EMS* that process and assemble electronic parts on contract and for machine tools.

* EMS: Electronics Manufacturing Services; companies that design and manufacture electronic equipment without having their own brands.

Outlook

Strong demand continues to be anticipated in FY2017 following FY2016 with a focus on the AC servo & controller business. Yaskawa Electric (China) plans to respond to these rapidly increasing needs and significantly bolster manufacturing capacity at its AC servo plant in Shenyang. Introductions of robotics are moving forward in non-auto-related areas such as EMS and assembly processes for household appliances amid expectations of huge increases in demand. To take full advantage of this business opportunity, Yaskawa will boost production capacity at its robot factory in Changzhou as well as launch a new organization in collaboration with its AC servo & controller business to aim for an increase in market share.



AC servo factory in Shenyang

THE AMERICAS



Michael Stephen Knapek

Corporate Vice President

TOPICS

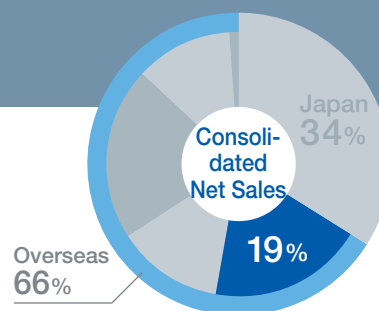
Regional contribution activities

Hosting of Students during National Robotics Week

In celebration of National Robotics Week, Yaskawa America invited about 400 students from high schools, universities, and career centers on a tour of its robotics operation. The students had the opportunity to see live robotics demonstrations and learn about future careers in automation.



A tour of the facility of Yaskawa America Inc.



Review of FY2016

FY2016 was a year when competition became fierce for Yaskawa's mainstay area of motion control on the back of stagnant investment activity in oil- and gas-related markets caused by sluggish oil prices, and slack growth in the machine tool market. Meanwhile, automobile-related markets with a focus on spot welding and handling applications were bullish, which led to steady growth for the robotics market. Amid such conditions, the company focused on expanding sales to the semiconductor and packaging markets for the AC servo business; HVAC, pumps, and food processing markets for the drives business; and the auto and logistics markets for the robotics business. As for its robotics business, Yaskawa made efforts to boost local development capacities by developing new applications and new products, which had conventionally taken place in Japan, in the United States.

Outlook

A recovery is anticipated for investment demand in the oil and gas markets in FY2017, and if the U.S. economy transitions favourably under the policies of the new administration, it will spread to economies in neighboring countries, boosting expectations for business growth in the Americas. While the sale of new cars faces a slump, capital investment, chiefly for auto parts manufacturers, will continue in line with model changes. Yaskawa will continue its efforts to improve sales and profits by strengthening its approaches on the key markets mentioned above and by boosting sales through distributors. It will also promote warehouse automation and other new application markets. Furthermore, it will quickly launch new collaborative robots with high expectations from major auto manufacturers, home appliance manufacturers and other customers in a wide range of areas, and accelerate the growth of this field.



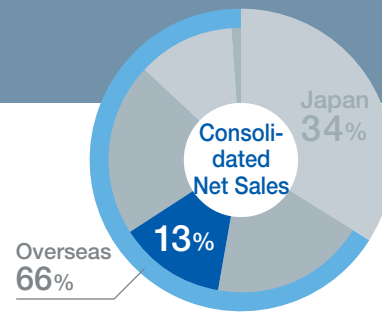
Collaborative Robot
MOTOMAN-HC10

EUROPE



Manfred Stern

Corporate Vice President



Review of FY2016

While uncertainty continued to prevail in Europe on the back of geopolitical risks and other such factors, machinery export trends to the United States and China were favorable with the low Euro. Based on this, business conditions were generally steady in Germany, France, Italy, and Nordic regions. Amid such conditions, Yaskawa boosted its sales to Tier 1 automotive companies and machine builders, armed with its new software MotoLogix, which enables control of robotics through PLCs, and its bundled solutions with PLCs from VIPA GmbH, a European subsidiary of Yaskawa. It also enhanced its market presence by laying out a growth strategy for the Yaskawa Group in Europe at an announcement of the construction of a new robotics factory in Europe.

Outlook

While the impact on the economy from negotiations ahead of BREXIT and the outcomes of elections in major EU nations will require close attention, Yaskawa foresees a continued favourable environment with a focus on the German economy. Amid such conditions, it will capture steady demand in Tier 1 automotive companies and in the general automation market, and tie it in to growth. Specifically, it will boost sales in focal application markets such as food products and packaging, elevators, and metal processing through its AC servos, AC drives, robotics, and the MICRO PLC, a new product offered by VIPA GmbH, and also strengthen its approach on growth markets like machine builders and logistics markets. Yaskawa will also take steps to shorten lead times through local production and cultivate new areas with its collaborative robots which receive high market expectations.



MICRO PLC

TOPICS

Regional contribution activities

Participation in The Baltic Sea Circle Rally, a Charity Event

Between June and July 2016, two engineers at Yaskawa Europe drove a distance of more than 7,500 km to Nordkapp (North Cape), the northernmost point of Europe, collecting funds for charity. The collected funds were used to support an organization that is dedicated to child welfare and the eradication of child poverty.



At Yaskawa Europe where the rally started

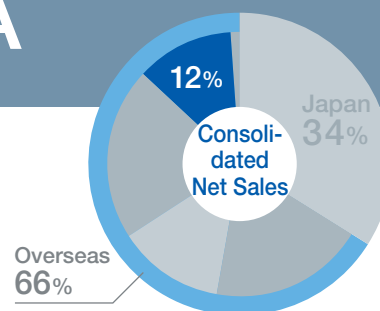


ASIA EXCEPT CHINA



Junichi Nakano

Corporate Vice President



Review of FY2016

While the business environment in the six leading ASEAN countries (Indonesia, Thailand, Malaysia, the Philippines, Vietnam, and Singapore) and South Korea varied for each country, sales based on local currencies were generally firm. Sales were particularly strong in South Korea on aggressive capital investments made in the areas of semiconductors and OLEDs*. Rapid growth was seen in Vietnam in accordance with investment in infrastructure and the advancement of plants by South Korean and Japanese manufacturers. As for Singapore, demand for infrastructure continued in line with the government-led relocation of harbor cranes. Meanwhile, while needs for automation at the manufacturing scene were on an increasing trend in Thailand, Indonesia, and India, investment related to automobiles, the main business in these countries, were sluggish.

* OLED: Meaning the same thing as organic electroluminescence, OLED is an application of the technology of light-emitting diodes and is thinner, lighter, and requires less electricity than LCDs. Expectations mount on the use of OLEDs for next-generation smartphones.

Outlook

Compared to the previous fiscal year, expectations are present in FY2017 for capital investment in auto-related markets in Thailand and India. Meanwhile, the markets, including auto-related markets, are anticipated to remain stagnant in Indonesia. Investments in infrastructure and the advancement of plants at foreign manufacturers are becoming accelerated in Vietnam and Yaskawa believes that robots and AC drives are likely to spread. High-tech industries, with a focus on South Korea, are expected to continue to be strong, and investment activities are becoming invigorated in areas outside auto such as the processing of food products, eyeing less manpower and energy conservation, where Yaskawa will aim for increased sales by boosting its offer of systems which combine robots and AC servos.

TOPICS

Regional contribution activities

Free seminar held at Thai Robot Center

Yaskawa Electric Thailand held a free seminar for nonprofit organizations to contribute to the development of human resources and the promotion of the next generation of the industry sector. More than 50 people from the Technology Promotion Association Thailand-Japan visited Yaskawa's Robot Center in March 2017 where they watched and experienced demonstrations and seminars on the latest robotics technology.

Seminar held at
Robot Center



Venture Investment

Creation of the Cutting Edge with Open Innovation

As part of a growth strategy to achieve its long-term business plan Vision 2025, Yaskawa began to conduct full-fledged venture investment activities. In recent years, open innovation has become more widespread in society, and many venture companies, both in Japan and abroad, have appeared on the scene with advanced technology and applications that offer potential

for commercialization in short periods. By making full-fledged investments in venture companies which have capacities for faster development to add to its own high level of technology, Yaskawa will aim to achieve "fusion of core technology advancement and open innovation" as outlined in its Vision 2025 and offer new values to society.

Our Policy


Yaskawa will form collaborative partnerships with startup companies worldwide in the field of IoT and AI, to bring synergistic effects in new business creation, and also to expand its main business area, originating from core technologies of robotics, motion control, and power conversion.

Total investment amount:
2 billion JPY

(Three years from FY2016 to FY2018)



● Portfolio (As of June 2017)

Field	Companies	Overview
Medical and nursing care	ReWalk Robotics Ltd. (Israel) 	The mission of ReWalk is to fundamentally change the quality of life for individuals with lower limb disability through the creation and development of market leading robotic technologies. This includes systems for individuals who are paralyzed, have had a stroke, suffer from multiple sclerosis, are elderly with a need for assistance and other appropriate uses.
Electric vehicles	GLM Co., Ltd. (Japan) 	Established in 2010, GLM Co., Ltd. is involved in developing, manufacturing, and selling EVs, based on an electric vehicle project by Kyoto University. In 2012, GLM Co., Ltd. became the first startup company in Japan to receive certification for an electric sports car.
Energy storage	Teraloop Oy (Finland) 	A Finnish startup company that is developing a highly scalable electrical energy storage system for high power and long duration storage. Its technology concept consists of an innovative fusion of electromagnetic technologies, flywheel storage, magnetic levitation and electric motors.
Next-generation semiconductor technology	FLOSFIA Inc. (Japan) 	FLOSFIA Inc. is a startup company spun off from Kyoto University that is developing power devices and film deposition solutions as basic technologies for mist CVD film deposition solutions. FLOSFIA Inc. focuses on the development, manufacturing, and sales of the world's first ultra-low-loss and low-cost power devices using gallium oxide, which is attracting attention as a breakthrough new material.
IoT	LOCIX Inc. (United States) 	LOCIX is developing products and solutions based on its location-aware, visual, and ultra-low power wireless sensor platform for commercial and consumer home applications. Locix has developed very easy to install, self-configuring wireless sensors for reliable and complete commercial building and consumer home coverage. Its innovative wireless communication technology enables visual data capture while substantially reducing power consumption compared to existing and emerging technologies. In addition, its location-aware technology enables the ability to precisely locate sensors, objects, and users in complex indoor environments.

Technology Development / Intellectual Property

Technology Development

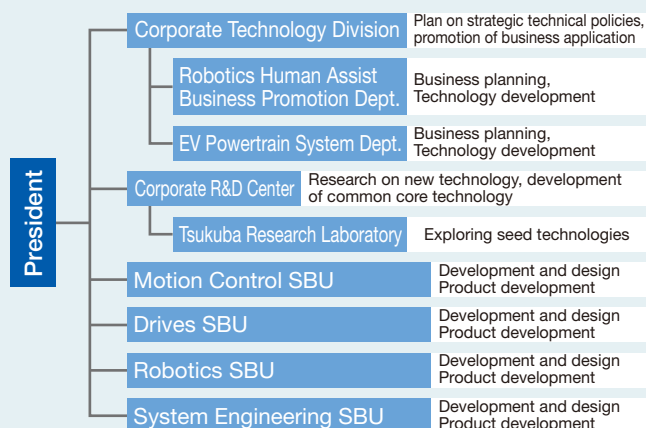
● Research and Development Policy

We are working to strengthen our ability to execute global businesses in such existing business fields as motion control and robotics and to turn success into further product development. In addition, we are pursuing research and development that will contribute to society well into the future, including the development of technologies and products in the energy creation/storage/application business domain, which is related to renewable energy systems, electrical drive systems for automobiles, etc., and in the Humatronics* business domain for creation of new markets in the medical and welfare sectors.

* Humatronics: Term coined to denote a cross of Human and Mechatronics.

● Research and Development Structure

It is made up of the Corporate Technology Division that plans strategic technical policies and promotes business application, the Corporate R&D Center that develops new technology, and design departments in charge of product development in the respective Strategic Business Units (SBUs).



● Results and Challenges of Realize 100

We established a quadrupole development system for AC servos and AC drives as well as created local development structures in China and India.

Furthermore, we enhanced our resource for development of ASICs (application specific integrated circuits), electrical products for large-scale wind turbines, PV inverters and other products by means of acquisition of VIPA, The Switch and Solectria Renewables.

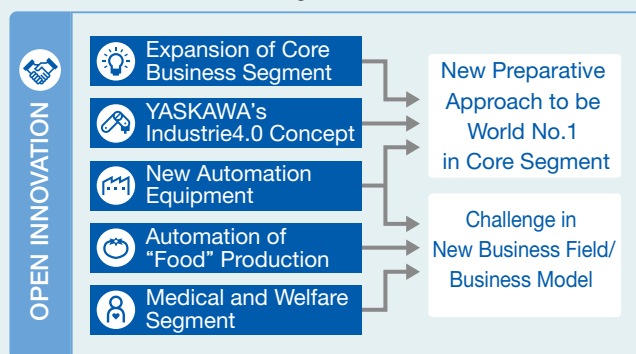
Under such conditions, we identified as issues the continued advancement of our ability to develop and to accelerate deployments of new businesses. There is a need to leverage AI technology, develop new products that are compatible with IoT, and accelerate initiatives for realizing Yaskawa Industrie 4.0.

● Policies under Dash 25

In the mid-term business plan Dash 25, the company will enhance the lineup for the AC servo Σ -7 series, advance its product deployment of "Zero series" AC drives and new types of robots, and expand the areas of its core businesses.

It will develop components and new automation equipment compatible with Build to Order (BTO) for motion control and robotics and accelerate the realization of Yaskawa Industrie 4.0.

▽ Build foundation for realizing Vision 2025



In its Clean Power business, Yaskawa will further continue to advance its development of products with consideration for the creation of energy, the use of energy, and the storage of energy.

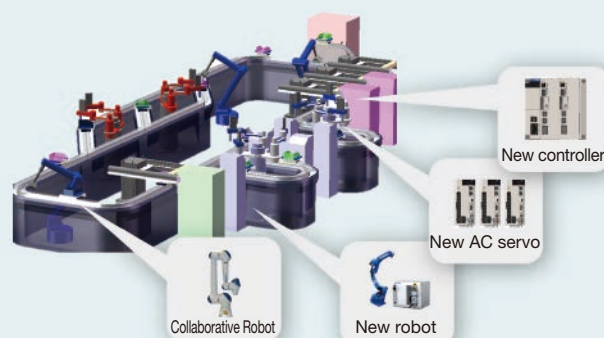
As for the medical and welfare domain, Yaskawa will apply mechatronics technology to leverage human capacities and develop products that will enable qualitative improvements for everyday living. And furthermore, it will realize safe, stable supplies in the automation of food production and also leverage its expertise to aim for boosted efficiency and productivity.

● R&D Results & Topics for FY2016

In aiming to conduct in-house validation of next-generation production systems, Yaskawa decided to set up a Solution Factory, a state-of-the-art, next-generation production plant in Iruma that will realize the company's concepts for IoT and AI. (Operations planned to start in June 2018.)

There are expectations of demand for big data and high-speed processing in Industrie 4.0, a focus of attention as a next-generation production system. Yaskawa is pushing forward the development of various components as it looks toward such future demands. The MP3110 machine con-

▽ Concept of advanced components and a next-generation production system

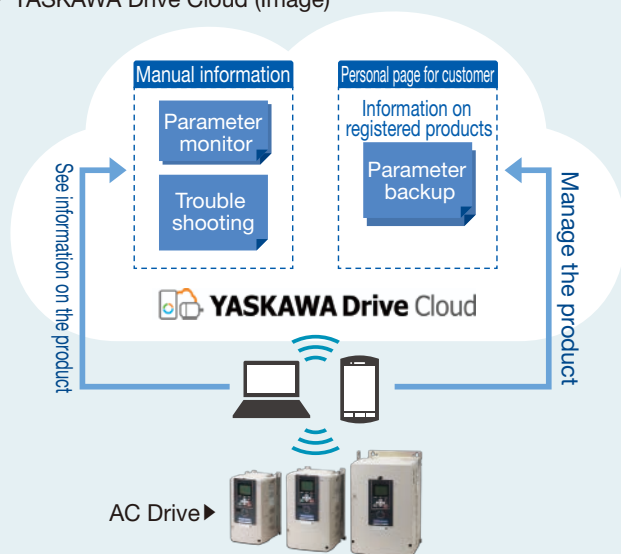


troller, which has become available during this period, is a product that offers excellent high-speed performance and is compatible with real-time operating systems.

The company expanded cloud services by releasing YASKAWA Drive Cloud for the GA700 AC drive series for industrial and general-purpose, in addition to the cloud services already released for AC servos, controllers and robots.

With cloud services, its parameters may be set and its status of operation checked remotely through a smartphone or a tablet using a wireless connection, and it has been enabled for quick access to information on product support, decreasing the downtime that occurs in the event of a problem.

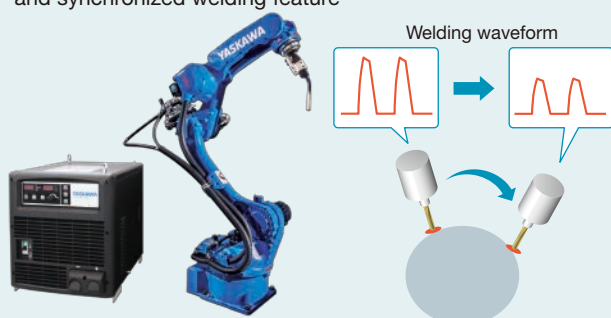
▽ YASKAWA Drive Cloud (Image)



As for robots, Yaskawa developed a new type of robot directed for existing areas where global demand will increase and also for new areas. It has commercialized small robots that are optimal for painting small products and six-axis vertical articulated robots for biomedical use that requires high standards of hygiene control.

The company has also realized a synchronized welding feature that will improve the quality and efficiency of thin plate welding by combining the power source for arc welding compatible with AI features and the new YRC1000 robot controller.

▽ Power source for welding that is compatible with AI features and synchronized welding feature



Intellectual Property

● Basic Concept of Intellectual Property

Yaskawa Electric respects third-party intellectual property while using its own intellectual property to actively protect its products, giving them an edge on the market.

● Positioning of Intellectual Property Activities in the Management

Our intellectual property activities are part of our business strategies as well as R&D strategies, and we are working globally on creation, protection and application of intellectual property.

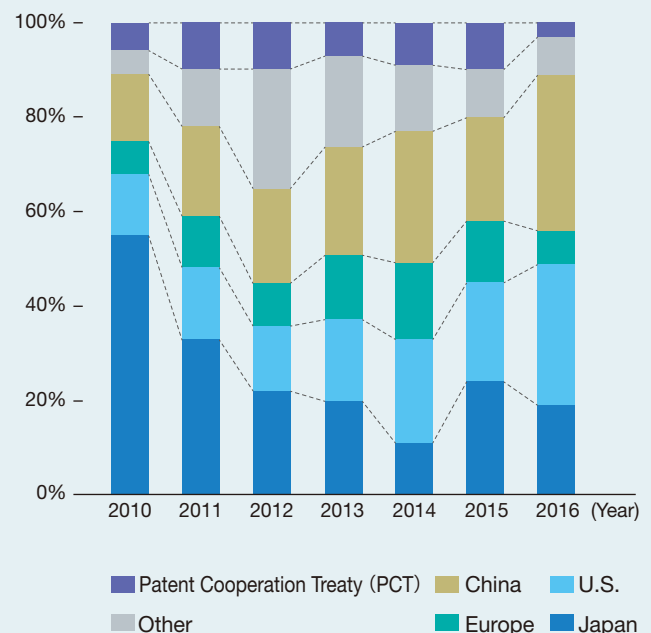
● Intellectual Property Activities

The intellectual property division, which provides company-wide supervision, and staff positioned within the R&D division and business divisions promote activities that are tied closely to each department.

● Status of Intellectual Property Rights

Each country promotes to secure intellectual properties as the graph below shows.

▽ Application ratio by country



Message from director in charge of
corporate social responsibility

For Realizing Sustainable Growth

Shuji Murakami

Representative Director
Corporate Executive Vice President

Implementing the Cycles of “Investing in People: Contributing to Society Through Business”

The Yaskawa Group was established by founder Daigoro Yasukawa based on the will of his father, Keiichiro Yasukawa, to “give back to the country by creating an industry”. Its principle of management is “to leverage the pursuit of its business to contribute to the advancement of society and the well-being of humankind”

Based on this principle, Yaskawa has been contributing to the development of society through its business in the area of industrial automation and also helping to reduce the burden on the global environment by promoting its energy saving and energy creation business initiatives that leverage highly efficient power conversion technology. It is also aiming to apply the mechatronics technology that it has nurtured through industrial automation to healthcare and welfare to improve people's quality of life and to contribute to the well-being of humankind.



Keiichiro had also been passionate about the development of human resources. Prior to the establishment of Yaskawa, he opened the Meiji College of Technology (presently Kyushu Institute of Technology), a vocational school for training engineers. The human resources that had been thus nurtured later went on to flourish at the Yaskawa Group, creating a large cycle of values to go around as they created new technologies and new business initiatives. The same may be said for the Yaskawa Group as it continues to develop, together with the community, for a hundred years since its establishment, repeating processes of “investing in the development of human resources and contributing to society”, not only for its own employees but also for educational and research organizations in the community.

Today, its head office in Kitakyushu City (company headquarters / robot factories), developed to mark its centennial anniversary in 2015, is called Robot Village. Many children and adults tour the YASKAWA Innovation Center and robot factory, where robots build robots, and experience up close the fun of manufacturing and the wonders of the technology. The facilities are also a part of local industrial tourism and included in the tour route in collaboration with the city of Kitakyushu in a bid to invigorate the local community. These are the types of ideas that have been carried on at Yaskawa. In each of the global regions where the Group has made advancements, it has also promoted collaborations that match the needs of each particular region with such activities as joint developments with local universities, accepting people, and offering them avenues to perform.

One example of this is Slovenia, where Yaskawa is preparing to establish a robot factory, aimed to begin operations in September 2018. Yaskawa has been manufacturing robotic systems in Slovenia for around 20 years, and it has secured excellent engineers through its various collaborations with the local government and educational institutions and has been expanding its business. It's these excellent relationships with the local community that have enabled Yaskawa to establish a robot factory in Europe, and as a result, it will be possible to further bolster its close ties with the region of Slovenia and customers in Europe.

In these ways, the global deployment of initiatives with their roots in local communities is a strength of the Yaskawa Group.



Vision 2025 and to realize sustainable growth in looking toward the next hundred years? Yaskawa believes that the keywords for that are diversity and open innovation, and it will effectively leverage these as an organization as it continues to build a structure and mechanism for further advancement.

For example, from the aspect of governance, Yaskawa has implemented aggressive initiatives to improve the mobility of board of directors' meetings, their objectivity and effectiveness, such as the introduction of an executive officer system in 2012 and its move to become a company with an audit and supervisory committee in 2015. It will take steps to improve the diversity of its board of directors to create a governance structure that is on the offensive, and move forward in creating a framework for facilitating more vigorous efforts to take on challenges such as those for new business areas while hedging risks.

As an organization, it will respect diverse values, facilitate an environment that is worthwhile for all employees to work in, nurture a culture that recognizes challenges being made, and strengthen the development of people who take on challenges. Yaskawa also intends to realize the high levels of growth that it is targeting by broadening its collaboration with external parties and expanding the potential for open innovation by investing in ventures attempting to start new initiatives and doing business with them as it has done to date in industry-academia-government collaborations with educational and research institutions and local governments.

Yaskawa will continue to leverage its strength as a Group and “contribute to the advancement of society and the well-being of humankind through the pursuit of its business”, as its principle of management states, to push forward its evolution so it may continue to be a company that meets the expectations of all of its stakeholders.

Tying in “Diversity” and “Open Innovation” to Sustainable Growth

As we turn our attention to the business environment of the future, it is possible to consider that in addition to conventional approaches, it will be necessary to make further advancements.

How to become a company that can continue to create innovation in order to achieve the objectives identified in

Governance at Yaskawa Electric

Yaskawa's three outside directors who serve on the Audit and Supervisory Committee have offered comments on the status of corporate governance of the Yaskawa Group. Yoshiki Akita and Kazumasa Tatsumi spoke about the management of the Group, offering their assessments for FY2016, expectations for FY2017, and what they consider to be the challenges. Junichi Sakane, who joined the board in June 2017, gave his comments on his aspirations in his involvement with the management of the Yaskawa Group.



Kazumasa Tatsumi

Yoshiki Akita

Junichi Sakane

Yoshiki Akita

Outside Director
Member of the Audit and Supervisory Committee

We're facing an opportunity to push the company itself to a higher level.

Status of Outside Director

Status of Concurrent Positions Representative Director & Chairman, Layers Consulting Co., Ltd.
Outside Director, Bell-Park Co., Ltd.

Reason for Appointment He has been judged to be able to make use of his abundant expertise, experience and knowledge that he has gained as a certified public accountant and as a representative director of a consulting firm to supervise the management of Yaskawa Electric from an objective standpoint.

Assessment of Yaskawa's Management in FY2016

I feel that under President Ogasawara, who is now in his second year as head of the company, the company has kicked off a steady start in realizing its mid-term business plan Dash 25 and the steering of the business is going very smoothly. I can also see that new leadership is evident for responding flexibly to business conditions that are rapidly changing. It's also possible to gain a sense of the spirit of challenge in the company's strategies for expansion as seen in its full-fledged launch of new businesses and M&As, leading to great expectations for further leaps in the future. I think it's wonderful that media exposure is also superb, IR activities have paid off, and stock prices are doing well.

Points Perceived as Business Issues

I feel that Yaskawa Electric may be too modest when it comes to self-evaluation.

I think the company is at a point where it should not only win over the competition in existing areas but also generate new demand with its innovative products to make further contributions to society. Its financial constitution is sound, and I feel that instead of being constrained by conservative ideas, it should take more risks in looking toward growth. Let us have a higher awareness of our stock prices, come up with more aggressive strategies that are on the offensive by strengthening cooperation between departments as well as comprehensively managing product inventory, and boost our corporate value.

Expectations for the Management of Business in FY2017

Now that a good tide is here, it's necessary to ride tides that are even higher.

In other words, I feel that times when orders for core business areas are good are opportunities to push the company up a level higher as a whole. To realize Yaskawa's new long-term business plan Vision 2025 and for the company to become an existence that stands out among the competition, it needs to further accelerate its kick-start. I look forward to seeing outstanding growth at Yaskawa as it changes from the mild and conservative company that it's been to date to a company that's a little sharp.

Kazumasa Tatsumi

Outside Director
Member of the Audit and Supervisory Committee

Transition to monitoring model is proceeding smoothly.

Status of Outside Director

Status of Concurrent Positions Attorney and President, Kazumasa Tatsumi Law Office
Outside Auditor, IZUTSUYA CO., LTD.

Reason for Appointment Although he has never been involved in corporate management by other means but becoming an outside director, he has been judged to be able to make use of his abundant expertise, experience and knowledge that he has gained as an attorney to supervise the management of Yaskawa Electric from an objective standpoint.

Assessment of Yaskawa's Management in FY2016

Having marked the centenary of its establishment, the company went through FY2016 as a year to give plenty of consideration to strengthening the next hundred years at its new office location. Yaskawa Electric established the Audit and Supervisory Committee in June 2015, creating a framework for corporate governance ahead of other companies. The Board of Directors thus strengthened its supervisory function over Yaskawa's administration of business, which led to a smooth transition to a monitoring model. As a result, I feel that Yaskawa has been one of the few companies in Japan which have moved to an audit and supervisory committee system which have shown firm results from

the boosted efforts for governance.

Points Perceived as Business Issues

I believe that out of the bolstering of its strength to develop, manufacture, and sell that Yaskawa Electric is pushing forward, it is this power to develop that will affect long-term management. In other words, I feel that its most important challenge is the extent to which it is able to continue to boost motivation among its development staff and fortify its strength to develop. As of FY2016, Yaskawa has become a structure under President Ogasawara and is extending further efforts to develop new products. Let us continue to push forward the creation of a framework and staff development that support the bolstering of its power to develop toward the future.

Expectations for the Management of Business in FY2017

The rise of overseas manufacturers in the electronics industry in recent years has forced major domestic manufacturers to fight a tough battle in their deployments in global markets. Amid such major changes in the environment, what will be crucial is the way in which they will survive the next several years. Expectations rest with Yaskawa Electric to open up the next era with its world-number-one motor control and robotics technology, which are its strength areas. I hope that more than ever, Yaskawa will tackle business with the spirit to move the world with concentrated efforts at its Kitakyushu headquarters and as a beginning, I look forward to the company realizing its mid-term business plan, Dash 25.

Junichi Sakane

Outside Director
Member of the Audit and Supervisory Committee

I will extend efforts to always assess management from a fair perspective.

Status of Outside Director

Status of Concurrent Positions Managing Corporate Officer; In charge of Ceramics Business Division; In charge of Research & Development Division; Delegated General Manager, Technology Management Division; Delegated General Manager, Risk Management Division; KROSAKI HARIMA CORPORATION

Reason for Appointment He has been judged to be able to make use of his abundant expertise, experience and knowledge as an expert in management that he has gained in his career as an executive officer of a business corporation to supervise the management of Yaskawa Electric from an objective standpoint.

Aspirations on Appointment

The environment that surrounds a company is constantly changing. Particularly in recent years, factors such as the start of a new administration in the U.S. and the issue of the departure of the U.K. from the EU have boosted uncertainty in economic outlooks and greater changes are predicted than ever before. To precisely capture such changes and to respond in a prompt manner, it is important that efforts are made to boost the quality of governance. I feel that new perspectives are born, particularly when different cultures and values intersect, and the ability to respond to change becomes fortified.

From that standpoint, I intend to cumulate my humble experience and values with the culture at Yaskawa Electric to perform my duties to make it possible to strengthen its governance. I feel myself tensing when I consider the heavy responsibility that rests with the position of director and member of the Audit and Supervisory Committee, and will extend efforts

to always assess the management of the business from a fair perspective. I have been with Nippon Steel & Sumitomo Metal Corporation for approximately 25 years and Krosaki Harima for a decade, during which time I have accumulated a broad range of experiences in manufacturing, facilities, research and development, and management. I have also served as director for two joint venture companies with overseas companies during my time with Krosaki Harima and have constantly continued to work in the field of technology and intend to fulfill my role as member of the Audit and Supervisory Committee at Yaskawa with a focus on the technical aspects. While the word auditing generates an image that tends to have an element of being defensive in looking inward, I would like to perform my duty as a committee member who is on the offensive and will further accelerate Yaskawa's growth and contribute in improving its corporate value.

CORPORATE GOVERNANCE

We recognize the importance of corporate ethics based on compliance with laws and regulations, etc., and consider the increasing of shareholder value through expediting of managerial decision making in accordance with changing social and economic environments and improvement of soundness of management to be an important theme. To make these possible, the Yaskawa Group will develop good relations with each of its stakeholders—its customers, its suppliers,

the community, and its employees—and make renewed efforts to bolster the strength of its organizations including its current shareholder meetings, board of directors' meetings, audit and other committees, and accounting auditors as it fortifies corporate governance.

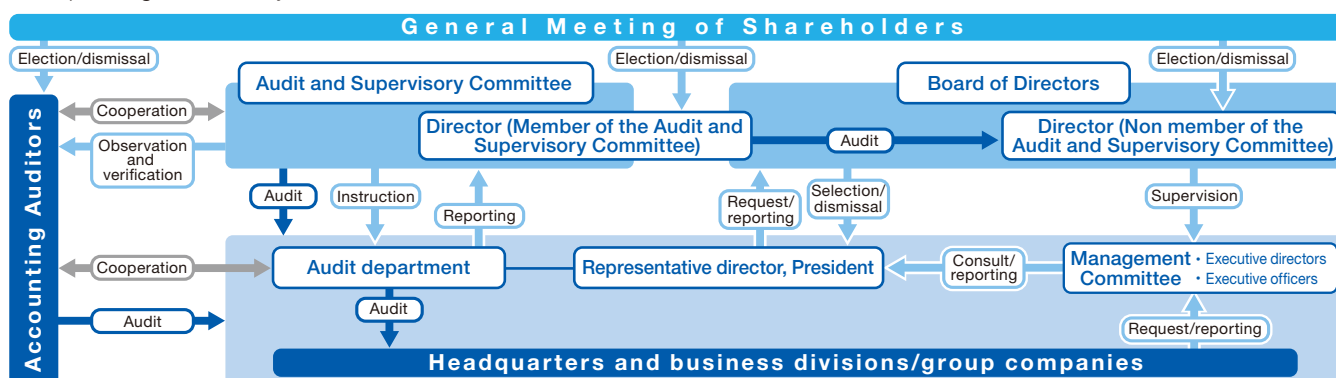
Yaskawa will also attempt to offer information to its shareholders and investors in a prompt and accurate manner and improve the transparency of its management by releasing a broad array of information.

Overview

Yaskawa has in place a board of directors' meeting which includes external directors who monitor the activities of each of its directors and executive officers. To further strengthen corporate governance and the supervisory functions of the Board of Directors with respect to the management and improve soundness and efficiency of management, Yaskawa has in place a system with the Audit and Supervisory

Committee in FY2015. It has also adopted an executive officer system in order to enhance the speed at which business is performed. It has the Management Committee that consists of internal directors and executive officers who deliberate on any board's resolution matters that require advance deliberation and important decision-making matters regarding the execution of business operations.

▽Corporate governance system



Management System

► Board of Directors

Yaskawa's Board of Directors consists of a total of 11 directors with eight internal directors and three outside directors.

The Board of Directors makes decisions on important matters related to business and matters required by laws and regulations as well as directs the continuous monitoring of the execution of business. To make clear their administrative responsibilities and to respond in an agile manner to volatile changes in the business environment, directors serve for a period of one year. 12 Board of Directors' meetings were held during FY2016.

We have appointed Yoshiaki Akita, Kazumasa Tatsumi and Junichi Sakane as outside directors, and expect them to contribute to ensuring legal compliance and appropriateness by observing the company from the standpoint of investors, customers and the general public. During deliberations at the meetings of the Board of Directors, outside directors after having fully grasped the current circumstances of the company based on information that is addressed or reported by internal control divisions, internal audit divisions,

head office divisions and the Accounting Auditor, provide recommendations, etc., using their respective knowledge, thus serving as an appropriate supervisory function.

► Management Committee

The Yaskawa Electric's Management Committee is comprised of executive directors, executive officers, etc., who deliberate on important decision-making matters regarding the execution of business operations. The Management Committee is held once a month in principle and extraordinarily as needed in the formation of a flexible and agile business execution system.

► Audit and Supervisory Committee

The Audit and Supervisory Committee is comprised of five directors (three of whom are outside directors) who are members of the Audit and Supervisory Committee. 15 audit and supervisory committee meetings were held in FY2016.

In performing audits, the Audit and Supervisory Committee ascertains the current circumstances of this company sufficiently based on information reported from internal

control divisions, internal audit divisions, and head office divisions, and the internal directors conduct inspections while carrying out their duties appropriately. Further, duties are performed in collaboration with the Accounting Auditor and the duties of the Accounting Auditor are monitored and verified. The company has also selected and is under contract with Ernst & Young ShinNihon LLC as its accounting auditor in monitoring and validating the status of its audits.

►Nomination Advisory Committee and Remuneration Advisory Committee

For directors, we have established a Nomination Advisory Committee that serves as an advisory body for the president. This is to ensure transparency and fairness in the process of nominating candidates for directors and selecting Representative Directors and executive directors, and to ensure that outside directors who are members of the Audit and Supervisory Committee are given sufficient information to form opinions about the nomination of officers, etc., and that opportunities to discuss such issues are provided. When raising a matter at the board of directors such as that pertaining to the designation of an officer, it obtains a report from the committee and ensures that the details are fully reflected.

For remuneration of directors (excluding those who are members of the Audit and Supervisory Committee) and executive officers, we have established a Remuneration Advisory Committee that serves as an advisory body for the president for the purpose of ensuring justification and transparency, and to ensure that outside directors who are members of the Audit and Supervisory Committee are given sufficient information to form opinions about the remuneration for discussion. The committee discusses remuneration for executives based on calculations made through regulations, etc. for officer remuneration in response to inquiries from the president and other

matters pertaining to officer remuneration from the standpoint of justification and answers to the president.

►Officer Compensation

The annual compensation limit for directors (excluding director members of the Audit and Supervisory Committee) is the total (excluding employee wages) of the fixed annual amount up to 430 million yen and the profit-linked amount of not more than 1.0% of the consolidated net income for the fiscal year prior to that of the General Meeting of Shareholders at which the director was appointed or reappointed. The annual compensation limit for director members of the Audit and Supervisory Committee is not more than 100 million yen. The amounts of compensation, etc., of the directors and auditors for FY2016 are as follows.

▽Compensation, etc., paid to directors and auditors

Directors (excluding members of the Audit and Supervisory Committee)	7	389 million yen
Directors (members of the Audit and Supervisory Committee)	5	75 million yen
Total (outside officers)	12(3)	464 million yen (28 million yen)

*Includes one director who retired from his post at the conclusion of the 100th General Meeting of Shareholders held in June 2016.

In addition to the above, as of FY2017 the company is planning to introduce a "Board Benefit Trust" system for its stock-based compensation plan. This is a system for introducing share-based compensation for directors (excluding director members of the Audit and Supervisory Committee) that is linked with the achievement level of the company's mid-term business plan and share-based compensation that is not linked with company performance for director members of the Audit and Supervisory Committee.

Internal Control System

In order for the Board of Directors and Management Committee and other bodies to carry out appropriate and effective administration of business operations through internal control systems, the Company maintain the articles of incorporation, information disclosure policy, risk management systems, division of duties, operational authority and group company management. Regarding their basic policy, the Board of Directors issues resolutions, and they are revised as needed.

Also, with regard to norms for corporate activities,

compliance and enlightenment of these norms are being promoted within the company and group companies including subsidiaries, with the development and promotion of a compliance system through the "Group Principle of Management" and the "Guidance on Yaskawa Corporate Activity Standards." In addition, we have established the "Basic Regulations for Group Compliance" in order to maintain the compliance system, and have also established a whistle-blowing system "Compliance Hot Line" for this company and each group company and business partners.

Risk Management

In developing its risk management system, Yaskawa has a Compliance Committee for the purpose of promoting company-wide adherence and enlightenment of the "Yaskawa Corporate Activity Standards" and the strengthening of compliance structure.

The company also has established a Risk Management Committee for the purpose of drafting and promoting policies pertaining to risk management, following up on the risk management structure, and offering enlightenment on people's awareness. "Basic Regulations for Risk Management" clearly set out the basic policies for day-to-day preparedness and emergencies of a risk incident.

It also consults with and receives advice from the company attorney when legal decisions are needed.

Compliance System

Based on the "Guidance on Yaskawa Group Code of Conduct" as rules for corporate actions, we shall engage in structuring a system for promoting compliance and implementing compliance measures. In addition to conducting training sessions provided according to job rank, it conducted compliance training with external speakers in FY2016 for company directors and executives at group companies in Japan as well as conduct questionnaires on compliance with employees at Yaskawa and its group companies in Japan and hold compliance meetings at each workplace. The Yaskawa Group is taking initiative to strengthen its information security and has deployed its Rules for the Management of Information Security at group companies in Japan.

Directors and Corporate Vice Presidents

As of June 15, 2017

Directors (excluding director members of the Audit and Supervisory Committee)



Junji Tsuda

Representative Director
Chairman of the Board

March 1976 Joined the Company
June 2005 Director
June 2009 Executive Managing Director
March 2010 Representative Director,
President
June 2013 Representative Director, Chair-
man of the Board and President
March 2016 Representative Director, Chair-
man of the Board (incumbent)

Hiroshi Ogasawara

Representative Director
President

March 1979 Joined the Company
June 2006 Director
June 2013 Director, Corporate Senior Vice
President
March 2015 Representative Director, Corpo-
rate Executive Vice President
March 2016 Representative Director,
President (incumbent)

Shuji Murakami

Representative Director
Corporate Executive Vice President

March 1982 Joined the Company
June 2008 Director
March 2012 Director, Corporate Vice Presi-
dent
March 2014 Director, Corporate Senior Vice
President
March 2016 Representative Director, Corpo-
rate Executive Vice President
(incumbent)



Yoshikatsu Minami

Director
Corporate Senior Vice President

December 1983 Joined the Company
June 2008 Director
June 2012 Corporate Vice President
June 2015 Director, Corporate Senior Vice President (incumbent)



Koichi Takamiya

Director
Corporate Senior Vice President

March 1983 Joined the Company
June 2010 Director
June 2012 Corporate Vice President
March 2016 Corporate Senior Vice President
June 2016 Director, Corporate Senior Vice President (incumbent)



Yuji Nakayama

Director
Corporate Vice President

March 1983 Joined the Company
June 2010 Director
June 2012 Corporate Vice President
June 2013 Director, Corporate Vice President (incumbent)

Director Members of the Audit and Supervisory Committee



Masahiko Oda

Director
Member of the Audit and Supervisory Committee



Konosuke Noda

Director
Member of the Audit and Supervisory Committee



Yoshiaki Akita

Outside Director
Member of the Audit and Supervisory Committee



Kazumasa Tatsumi

Outside Director
Member of the Audit and Supervisory Committee



Junichi Sakane

Outside Director
Member of the Audit and Supervisory Committee

Corporate Vice Presidents

Hiroyuki Ougi

Corporate Senior Vice President

Michihiko Zenke

Corporate Vice President

Masahiro Ogawa

Corporate Vice President

Takeshi Ikuyama

Corporate Vice President

Masanori Imahuku

Corporate Vice President

Akira Kumagae

Corporate Vice President

Manfred Stern

Corporate Vice President

Michael Stephen Knappek

Corporate Vice President

Yasuhiko Morikawa

Corporate Vice President

Junichi Nakano

Corporate Vice President

Environmental Management

We are promoting environmental management in order to pass on the earth's blessings to the next generation.

Message from Director in Charge of Environmental Promotion

Yaskawa promotes initiatives that are linked closely to its management as it aims to environmental load reduction globally and improve its corporate value.

Based on its eco vision, the Yaskawa Group promotes initiatives from two perspectives— green processes and green products—as it aims to realize a sustainable society.

Green processes include its initiatives for environmental load reduction in its manufacturing and sales activities based on efforts to save energy and resources and its bid to control harmful substances. Yaskawa sets targets for its various policies based on international frameworks to prevent global warming and the conservation of biodiversity, and promotes measures including enlightenment activities among employees, investments in highly efficient facilities and the promotion of recycling activities.

As for green products, it contributes in the control of CO₂ emissions on a global scale by supporting energy saving by its customers through its offer of highly efficient products which use applications of power conversion, which is a core technology of the company. As one example, AC drives, one of Yaskawa's key products, save energy by enabling optimum control over the rotation of the motors. The company's environmental promotion department leads measures to reduce the impact on the environment compared to conventional models in the development of new products in each of its business divisions and establishes items that have met its unique standards as green prod-

ucts. We do not only offer the basic performance of the highest standards in industry for all of our products, which includes robots and AC servos, but also added value for superb environmental functions. It may be said that the more vigorously its products are used in the world, the more impact is made on reduction of environmental loads.

In these ways, Yaskawa's initiatives for the environment are consistent with its management principle to "leverage the pursuit of our business to contribute to the advancement of society and the well-being of humankind" and characterized by their close link to the management of the company. We will continue to embrace our communication with our stakeholders and to tie in our environmental initiatives to corporate value.

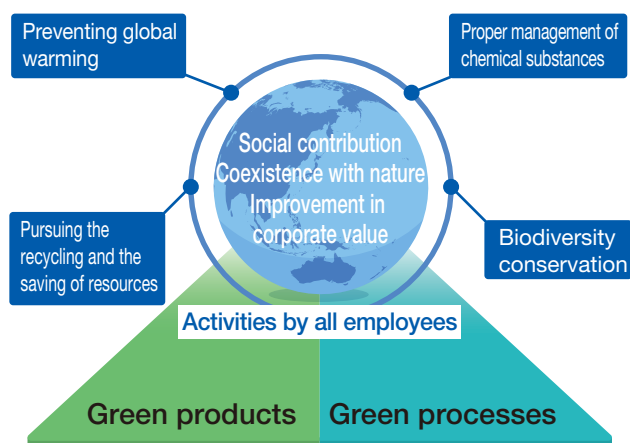
* See P. 48 "Green Product Initiatives" for details



Yoshikatsu Minami

Director
Corporate Senior Vice President

● YASKAWA ECO VISION



● FY2025 Targets

Green products

- Reduction of environmental loads through products CO₂ emission control by 69 million tons*¹
- Installation of the in-house environmental products and displaying them
- Improvement in recyclability of product components
- Application of green procurement to all products

Green processes

- Reduction of GHG emission by 10%*² Reduction by 15% by 2030
- Reduction of waste by 1% every year*³
- Appropriate management of use and waste of water
- Thorough management of harmful substances in production

* 1: Cumulative total after FY2016 * 2: Comparison to FY2015

* 3: Per unit of sales

Contributions to the Environment by the Yaskawa Group

The Yaskawa Group contributes in creating a sustainable society through its overall business activities.

In FY2016, the use of Yaskawa products in various parts of the world led to a reduction of 1.23 million tons of CO₂ emissions.

As a result of the construction of a new plant and the impact of the intense heat waves during the summer, CO₂ emissions produced through its business activities stood at 37,900 tons, an increase of 1,500 tons over the previous year.

* 1: Estimate of reductions in CO₂ emissions for which Yaskawa products delivered in FY2016 have contributed when used for a period of a year

* 2: Total amount of CO₂ emissions in FY2016 for Yaskawa Electric and its major consolidated companies in Japan and abroad (13 companies in Japan, seven companies abroad)



Contributions for the Environment

1.23 million tons of CO₂

CO₂ emissions controlled through Yaskawa products*1



Burden on the environment

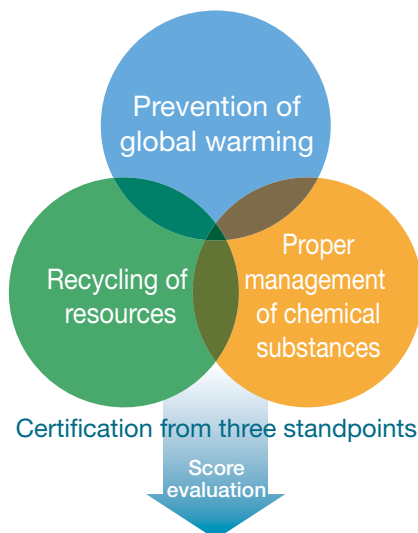
37,900 tons of CO₂

CO₂ emissions produced through business activities*2

Green Product Initiatives

To enable dramatic improvements in energy-saving and productivity for its customers and to reduce the burden on the environment on a global scale, Yaskawa has in place a system to certify green products.

Yaskawa makes score evaluations of the contribution level of its products on the environment from three standpoints to prevent global warming, saving resources and recycling, and appropriate management of chemical substances, based on which it certifies items that meet the required standards as Green Products and those that demonstrate the highest level of environmental functionality as Super Green Products.



**8 Series certified
as Super
Green Products***

**4 Series certified
as Green
Products***

* Number of certifications up to FY2016



Yaskawa's concept is to offer green products that provide excellent energy conversion rates to customers worldwide in its bid to realize a sustainable society. Products which have been certified as a green product contain a logo for identification in brochures and Yaskawa websites.

Green Process Initiatives

Yaskawa is pushing forward initiatives for optimal facility operations linked with a visualized system for energy that is already in place at each of its facilities while introducing LED lighting, switches to the latest air conditioners, and other such steps to invest in energy conservation.

It is also passionate about providing training for its staff who are responsible for energy conservation, one example for which is the hosting of practical onsite seminars for cleaning air conditioning heat exchangers.



Air conditioning heat exchangers are cleaned



In-house seminar on energy conservation



Social Contribution Activities

To continue our company's evolution as a corporate citizen working together with society, we are pushing forward with revitalizing local communities and providing support to the young people, who will play an active role in the future.

Nurturing the Next Generation through Activities at YASKAWA Innovation Center

The YASKAWA Innovation Center is an integral facility at Robot Village which opened on June 1, 2015 to mark the centennial anniversary of foundation of the company. The facility has experience-based exhibits that offer contact with the company's robots to convey the fun and wonders of manufacturing, receiving more than 60,000 visitors from Japan and abroad. Workshops were held during the summer holidays for elementary and junior high schools using everyday products that are sold at DIY stores, teaching kids how to make handmade versions of motors, an integral part of Yaskawa, showing them the mechanisms of motors with hopes to generate their interest in "making things." We felt a steady response for our initiatives when we saw the serious looks on the faces of participants and their excitement over the movements of their handmade motors, which is sure to lead on to more new initiatives.



Workshop for handmade motor

At Robot Village, we also held a Japanese version of "Girls' Day," a campaign being held in Germany to promote career moves into the area of technology for girls. We contributed in promoting understanding among participants of work that involved technology, offering tours at YASKAWA Innovation Center and Robot Village to junior high school girls and having them experience programming for industrial robots and performance tests using simulators under the guidance of our female technical employees. Yaskawa will continue to take initiative to leverage its Robot Village and other facilities for the development of children, who will be the future leaders in technology of the next generation.



Girls' day event

Supporting Robot Competition for Students

Since 2005, Yaskawa Electric has co-sponsored the annual Technical College Students' Robot Contest, popularly known as the Kosen RoboCon, in which engineers-to-be from around Japan compete in contests focusing on robot production ideas and technology as well as robot performance. 2017 marks RoboCon's 30th anniversary.

As a company in the robotics business, we support this educational opportunity in order to encourage many young students to get involved in manufacturing and in hopes of fostering the next generation of talent.



Cooperation Activities between Industry and Academia with Educational Institutions and Universities

Through collaborations with various educational institutions, Yaskawa offers the necessary funding and human resources to give lectures and conducts joint research activities. It conducts such activities not only with the Kitakyushu region where its head office is located but also with many universities and educational institutions, both at home and abroad.

Yaskawa conducts endowed lectures at the Kyushu Institute of Technology, where the school that became its basis had been opened by Keiichiro Yasukawa, the father of the company's founder, and has had deep historical ties with Yaskawa with the purpose of human resources development. It is also pushing forward collaborations in

research activities in Slovenia, looking toward bolstered ties as a manufacturing base for its robots.

Through these activities, it is possible to initiate direct communication on our specific activities and the need for technical development. They are a way for Yaskawa to give back to society through its involvement in nurturing technicians who will be active members of society in the future. Exchanges with researchers and engineers at educational institutions such as universities, technical colleges, and companies will lead to expectations of mutual understanding through technology, academia, and manufacturing and lead to mutual development in the future.



Endowed lecture at Kyushu Institute of Technology



R&D activity at Kyushu Institute of Technology



Research institute in Slovenia, collaborative research partner

Social Contribution Activities in Kitakyushu

In August 2016, a summer holiday festival for parents and children was held at YASKAWA Innovation Center.

The event was a first attempt to hold a gathering planned by a local organization at YASKAWA Innovation Center.

It had been a match between the company's desire to revitalize Kurosaki, which has served as a home that has nurtured Yaskawa Electric, and its wishes to communicate to children the pleasure of making things that made this collaboration possible.

A synergistic effect was created by a large number of workshops including those for making glass kaleidoscopes, small leather items, stained glass and ceramics, as well as calligraphy classes that were held, along with the chance to experience the latest robots. Many children took part in the event and were offered a chance to experience the joys of "making things." Yaskawa also took part in numerous other community events during FY2016 and has been an active member of the community.



Workshop at summer holiday festival



Human Resource Utilization

In order to bring out the full potential of our diverse human resources and variety of talents, we engage in various diversity promoting activities. Also, through realizing work-life balance, etc., we are furnishing pleasant working environments while valuing the individuality of the employees.

Promotion of Diversity

As part of its long-term business plan Vision 2025, Yaskawa is performing various activities under the theme of promoting diversity (human resources diversity) to create a corporate culture that can bring out the strengths of the diverse human resources.

• Basic Policy for Diversity Promotion

We established the Diversity Management Division led by the president in September 2014 to deploy diversity promotion measures with the following three missions.

Missions of the Diversity Management Division

1. To construct a corporate constitution strong against environmental changes by adopting and fostering human resources with diverse values and ways of thinking.
2. To incorporate diverse opinions and viewpoints to create a corporate culture where innovation arises as a matter of course.
3. To realize a satisfying working environment by eliminating all factors of discrimination and respecting the individuality of employees.

• Status of Engagement in FY2016

Yaskawa is promoting vigorous challenges through initiatives such as its "K30 promotion activities" (increasing the business efficiency by 30%) and supporting performance by diverse human resources. Amid these efforts, projects are being produced across conventional frameworks of work and spanning different departments and divisions to also serve as an avenue for the development of human resources. In outlining visions of how venues for women to thrive should exist, we also conducted internal study activities on matters such as where our positions exist that are likely for women to thrive and whether there are duties that are oriented for males and females. Based on the results, we are attempting to achieve an action plan based on the act on promotion of women's participation and advancement in the workplace. We are making efforts to bring reform to our corporate culture as we aim to become a company where people can balance their personal lives and their work while striving to further their careers.

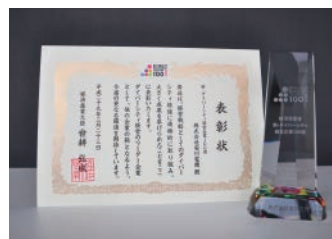
We are also continuing to hold girls' days for junior high school students and accepting high school students (super science high schools) for hands-on learning experiences with the intention of prompting their interest in work in the field of science and technology.

• Status of Progress on Action Plan based on the act on promotion of women's participation and advancement in the workplace

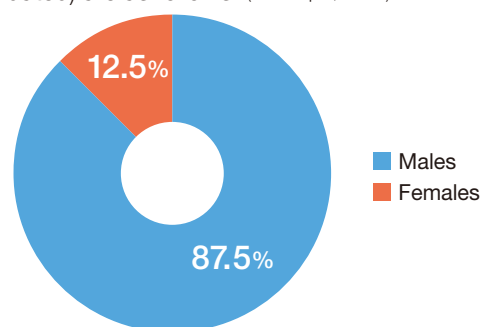
A year since the establishment of our action plan, we are producing steady results on the areas of work for women and their increased hiring. There are slight increases in the ratio of female managers and we intend to continue to focus our attention on supporting their careers.

• Results for FY2016

Yaskawa won the New Diversity Management Selection 100 Project in FY2016 hosted by the Ministry of Economy, Trade and Industry.



Full-time employee gender data of Yaskawa Electric (unconsolidated) are as follows. (as of April, 2017)



	The number of full-time employee	Avg. Age*	Avg. Number of Years in Employment*
Females	350	40.3	16.6
Males	2,443	41.7	17.7
Total	2,793	41.5	17.5

*: Excluding executives, consignments and senior staff

	Managerial position	Assistant manager	Total
Females	5(0.8%)	20(2.6%)	25
Males	587(99.2%)	744(97.4%)	1,331
Total	592	764	1,356

Realizing a Satisfying Working Environment

● Concept for Initiatives for Work-Life Management

In line with changes in economic conditions and the way that society exists, it is indispensable for the mid- to long-term development of our company that each and every one of our diverse employees performs to the maximum of their abilities. For that purpose as well, we are making changes to a productive and lively way to work as well as manage the balance between work and our personal lives as we aim to realize a workplace environment where people can work with security.

Envisioned image

- ✓ Mid- to long-term growth of the company
- ✓ Enrichment in the personal lives of employees

- Promoting and maintaining health
- A corporate culture that is accepting of diverse values and lifestyles
- The use of pastimes (Self-enlightenment, social contributions)



- Human resources development
- Support and evaluation of people who make challenges and fulfill their objectives
- Aggressive appointments and promotions for employees with passion
- Reform awareness and actions
- Improvements in labor productivity per hour
- Lively ways to work

● Improvements to the Support System for Childcare and Nursing Care

As of FY2017, Yaskawa has introduced a system in which employees are able to obtain accrued vacation days by the hour, work at home, or take leave when their spouses are relocated overseas. The company has increased the options for work methods and supports a balance between childcare, nursing care and work.

● Initiatives for ES Questionnaires

As of FY2016, an ES (employee satisfaction) surveys have been conducted each month. Through the questionnaire, the company is seeking to measure employee understanding of the company's initiatives and their penetration level as well as resolve issues faced by employees as it aims to nurture a corporate culture where all employees and management are united as one in proceeding toward the achievement of its Vision 2025 and its mid-term business plan.

Human Resources Development

The basic policy of the company is to offer venues for employees to make challenges and to develop through communication to encourage growing and fostering to nurture individuals who have the passion to contribute to global business.

● Interactive Gatherings with the Management

Yaskawa is making company-wide efforts to promote a unique style of individual development with emphasis on direct dialogue (interactive gatherings) with management. The company president took the reins for promoting the development of Yaskawa employees and is making efforts to improve human resources development while expanding the circle of communication with employees and embracing the motto to develop individuals who will take on the future of Yaskawa Electric as it evolves. Through interactive dialogue, the company is improving the motivation among participants and strengthening the development of people who make challenges.



Passion of President Ogasawara

Nurturing individuals who can change any situation into an opportunity and perform to his or her fullest abilities!

Creating a Yaskawa Electric that is true to its style of evolving while continuing to contribute to customer value!

Making a Yaskawa Group that is rich with diversity and is able to hold dialogue with society!

● Early-Stage Development of Young Resources

Yaskawa Electric is pushing forward its human resources development envisioning as its desired image of a young employee (less than five years with the company) a person who thinks logically and communicates appropriately to the other party.

Specifically, it is strengthening the abilities to think, to communicate, and to express through the following training:

- QC Training
- Logical Writing Training
- Presentation Training

It is also implementing measures that will tie in to the development of employees who are providing the training under its concept to encourage growing and fostering.

- Brother-sister system
- Career plan presentation events
- Reporting on assigned reading

Through these measures, Yaskawa is conducting initiatives so each individual will be able to perform to their full-est ability in business situations.

Financial and Non-Financial Data

(Millions of yen)			(Fiscal year)	2007	2008	2009	2010	2011
Net sales				382,327	350,249	224,710	296,847	307,111
Operating income				36,487	20,806	-6,977	12,874	14,818
Operating income ratio				9.5%	5.9%	-3.1%	4.3%	4.8%
Ordinary income				35,212	20,024	-6,049	13,429	15,626
Ordinary income ratio				9.2%	5.7%	-2.7%	4.5%	5.1%
Profit attributable to owners of parent				20,242	6,892	-5,699	6,544	8,432
Net income ratio				5.3%	2.0%	-2.5%	2.2%	2.7%
Sales and Income by Business Segment ^{*1}	Motion Control	Net sales	177,899	160,848	104,814	156,450	149,410	
		Operating income	21,370	11,755	-3,169	8,980	5,824	
		Operating income ratio	12.0%	7.3%	-3.0%	5.7%	3.9%	
	Robotics	Net sales	123,550	114,124	57,084	83,843	101,065	
		Operating income	8,576	3,200	-8,327	1,673	7,014	
		Operating income ratio	6.9%	2.8%	-14.6%	2.0%	6.9%	
	System Engineering	Net sales	50,517	46,768	41,498	34,349	35,520	
		Operating income	3,940	4,637	5,476	2,061	1,917	
		Operating income ratio	7.8%	9.9%	13.2%	6.0%	5.4%	
Sales by Destination	Japan		190,822	169,086	116,197	144,754	143,019	
	The Americas		50,947	43,943	29,351	38,779	43,985	
	Europe		58,424	52,887	24,332	29,610	33,939	
	Asia except China		80,869	82,830	53,900	82,749	85,276	
	Other		1,265	1,503	930	955	890	
	Overseas sales ratio		50.1%	51.7%	48.3%	51.2%	53.4%	
Per Share Information (yen)	Earning - basic		81.46	27.38	-22.64	26.00	33.51	
	Earning - diluted		80.50	—	—	—	—	
	Dividends		10.0	13.0	3.0	6.0	10.0	
Shareholders' equity			100,862	97,068	88,459	93,220	100,109	
Shareholders' equity ratio			34.9%	39.0%	36.6%	35.2%	35.9%	
ROE: Return on equity			22.3%	7.0%	-6.1%	7.2%	8.7%	
Interest-bearing debt			33,829	32,894	42,235	41,439	58,612	
Debt-to-equity ratio (times)			0.3	0.3	0.5	0.4	0.6	
Inventories			57,902	54,705	46,200	58,066	63,800	
Inventory turnover (months)			1.8	1.9	2.5	2.3	2.5	
Capital expenditures			9,121	8,611	4,119	6,655	9,907	
Depreciation and amortization			7,676	8,028	7,840	7,057	7,606	
Research and development expenses			9,738	9,704	8,493	9,724	10,398	
Non-financial data								
No. of employees (persons)			8,347	8,463	8,176	8,085	8,246	
No. of employees rehired (persons) <small>No. of regular employees and temporary contracted workers aged 60 to 64</small>			65	106	164	199	239	
People with disabilities employed (%)			1.56%	1.62%	1.75%	1.85%	1.65%	
No. of non-Japanese employees in Japan (persons) <small>Regular employees and contract employees</small>			12	14	16	14	19	
Use of parental leave program <small>No. of females using the program/Use rate</small>			7/100%	3/100%	5/100%	2/100%	5/100%	
Parental leave program <small>No. of males using the program (persons)</small>			0	2	1	1	4	
Average days of paid leave taken per year <small>(No. of days/person)</small>			12.26	12.44	8.69	12.30	12.81	
CO ₂ emissions from production and sales activities (t.CO ₂)			26,168	23,952	19,053	23,688	22,086 ^{*2}	

*1: 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. Value and profit ratios of each segment for FY2016 reflect this change. The change is not applied to values and profit ratios for the period up until FY2015.

Starting FY2013, reportable segments changed to the following 3 segments: Motion Control, Robotics, and System Engineering. There have also been partial changes in the

2012	2013	2014	2015	2016	(Fiscal year)	(Millions of yen)		
310,383	363,570	400,153	411,260	394,883	Net sales			
13,070	25,702	31,532	36,730	30,409	Operating income			
4.2%	7.1%	7.9%	8.9%	7.7%	Operating income ratio			
14,053	27,084	33,884	35,833	31,963	Ordinary income			
4.5%	7.4%	8.5%	8.7%	8.1%	Ordinary income ratio			
6,800	16,964	24,819	22,365	20,397	Profit attributable to owners of parent			
2.2%	4.7%	6.2%	5.4%	5.2%	Net income ratio			
144,333	162,346	188,116	187,548	172,025	Net sales	Motion Control	Sales and Income by Business Segment ^{*1}	
3,248	16,444	21,748	22,413	22,772	Operating income			
2.3%	10.1%	11.6%	12.0%	13.2%	Operating income ratio			
110,223	122,543	135,956	154,068	139,993	Net sales	Robotics		
8,365	9,511	10,558	15,304	10,253	Operating income			
7.6%	7.8%	7.8%	9.9%	7.3%	Operating income ratio			
37,263	35,327	40,980	43,053	59,354	Net sales	System Engineering		
1,504	-5	-768	-760	-591	Operating income			
4.0%	-0.0%	-1.9%	-1.8%	-1.0%	Operating income ratio			
143,456	150,101	144,249	135,495	134,205	Japan	Sales by Destination		
51,113	58,481	72,616	85,088	74,691	The Americas			
32,047	42,499	46,921	52,011	50,736	Europe			
81,308	108,595	132,779	134,294	131,045	Asia except China			
2,456	3,892	3,590	4,370	4,205	Other			
53.8%	58.7%	64.0%	67.1%	66%	Overseas sales ratio			
27.03	67.42	98.45	84.71	76.60	Earning - basic	Per Share Information (yen)		
25.65	63.98	93.60	84.11	—	Earning - diluted			
10.0	12.00	20.00	20.00	20.00	Dividends			
112,218	134,076	171,388	181,281	198,513	Shareholders' equity			
37.1%	39.4%	44.1%	48.5%	51.2%	Shareholders' equity ratio			
6.4%	13.8%	16.3%	12.8%	10.7%	ROE: Return on equity			
54,684	55,528	52,430	48,426	36,765	Interest-bearing debt			
0.5	0.4	0.3	0.3	0.2	Debt-to-equity ratio (times)			
64,325	78,364	85,469	77,594	79,886	Inventories			
2.5	2.6	2.6	2.3	2.4	Inventory turnover (months)			
15,895	16,980	36,369	16,758	14,904	Capital expenditures			
8,114	9,214	11,534	13,063	12,076	Depreciation and amortization			
10,731	14,033	15,317	16,819	17,979	Research and development expenses			
					Non-financial data			
10,383	11,463	11,356	11,450	11,810	No. of employees (persons)			
246	236	213	229	220	No. of employees rehired (persons) <small>No. of regular employees and temporary contracted workers aged 60 to 64</small>			
2.15%	2.15%	2.04%	2.07%	2.20%	People with disabilities employed (%)			
18	20	20	22	27	No. of non-Japanese employees in Japan (persons) <small>Regular employees and contract employees</small>			
5/83%	7/100%	4/100%	4/100%	15/100%	Use of parental leave program <small>No. of females using the program/Use rate</small>			
1	1	3	3	4	Parental leave program <small>No. of males using the program (persons)</small>			
12.44	12.49	12.48	14.49	14.71	Average days of paid leave taken per year <small>(No. of days/person)</small>			
22,138 ^{*2}	22,770 ^{*2}	20,737 ^{*2}	20,811 ^{*2}	21,791 ^{*2}	CO ₂ emissions from production and sales activities (t.CO ₂)			

division of businesses within these segments. Value 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.

*2: Including sales bases from FY2011.

Corporate Information

As of March 20, 2017

Corporate Name	YASKAWA Electric Corporation
Founded	July 16, 1915
Employees	Consolidated: 11,810 Non-consolidated: 2,741
Head Office	2-1 Kurosakishiroishi, Yahatanishi-ku, Kitakyushu 806-0004, Japan Phone +81-93-645-8801 Fax. +81-93-645-8831
Tokyo Office	New Pier Takeshiba South Tower, 1-16-1 Kaigan, Minato-ku, Tokyo 105-6891, Japan Phone +81-3-5402-4511 Fax. +81-3-5402-4580

Sales Offices	Chubu Office	Phone +81-561-36-9310 Fax. +81-561-36-9311
	Osaka Office	Phone +81-6-6346-4500 Fax. +81-6-6346-4555
	Kyushu Office	Phone +81-92-714-5331 Fax. +81-92-714-5799
Plants	Yahata-nishi Plant, Yukuhashi Plant, Iruma Plant, Nakama Plant, China (Shenyang, Changzhou, Shanghai)	
Laboratories	Corporate Research & Development Center (Kokura Plant), Tsukuba Research Laboratory	

○ Group Companies

Japan

YASKAWA ELECTRIC ENGINEERING CORPORATION

Maintenance, test operation and adjustment of electric machines and facilities and technical training

YASKAWA CONTROLS CO., LTD.

Manufacturing and sales of electric machines, and parts

YASKAWA MOTOR CORPORATION

Design, manufacturing, sales and maintenance of motors, generators and motor applications

YASKAWA MECHATREC CORPORATION

Sales of electric machines and other machinery

YE DATA INC.

Information-related products and services (optomechatronics, information security and information multimedia)

YASKAWA LOGISTEC CORPORATION

General product distribution

YASKAWA OBVIOUS COMMUNICATIONS INC.

Public relations planning, advertisement and publications; producing catalogs and technical documents

Europe

YASKAWA EUROPE GmbH (Germany)

Manufacturing, sales, and after-sales service of AC drives, servo motors and controllers.
Sales and after-sales service of robots

YASKAWA NORDIC AB (Sweden)

Sales and after-sales service of robots

YASKAWA ELECTRIC UK LTD. (U.K.)

Manufacturing, sales, and after-sales service of AC drives and servo amplifiers

YASKAWA EUROPE TECHNOLOGY LTD. (Israel)

Development, manufacturing, sales, and after-sales service of servo motors and controllers. Sales and after-sales service of robots

Asia

YASKAWA ELECTRIC (CHINA) CO., LTD. (China)

Sales and after-sales service of AC drives, servo motors and controllers

YASKAWA ELECTRIC KOREA CORPORATION (Korea)

Sales and after-sales service of AC drives, servo motors, controllers and robots

YASKAWA ELECTRIC (SINGAPORE) PTE. LTD. (Singapore)

Sales and after-sales service of AC drives, servo motors, controllers and robots

SHANGHAI YASKAWA DRIVE CO., LTD. (China)

Manufacturing and sales of AC drives

YASKAWA ELECTRIC TAIWAN CORPORATION (Taiwan)

Sales and after-sales service of AC drives, servo motors, controllers and robots

YASKAWA ELECTRIC (SHENYANG) CO., LTD. (China)

Manufacturing, sales, and after-sales service of servo motors and controllers

YASKAWA SHOUGANG ROBOT CO., LTD. (China)

Sales and after-sales service of robots

YASKAWA ELECTRIC INDIA PVT. LTD. (India)

Manufacturing and sales of AC drives. Sales and after-sales service of robots

The Americas

YASKAWA AMERICA, INC. (U.S.A.)

Manufacturing, sales, and after-sales service of AC drives, servo motors and controllers. Sales and after-sales service of robots

YASKAWA ELETRICO DO BRASIL LTDA. (Brazil)

Sales and after-sales service of AC drives, servo motors and controllers

YASKAWA CANADA, INC. (Canada)

Sales and after-sales service of AC drives, servo motors, controllers and robots

YASKAWA MEXICO S.A. DE C.V. (Mexico)

Sales and after-sales service of robots



Stock Information

As of March 20, 2017

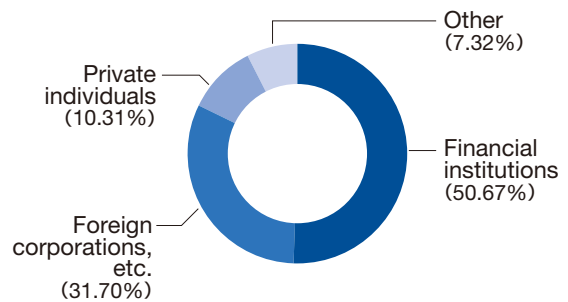
Number of Authorized Shares ····· 560,000 thousand
 Number of Shares Outstanding ····· 266,690 thousand
 Capital Stock ··········· 30,562 million yen
 Number of Shareholders ····· 27,569
 Securities Code ········· 6506(Japan)

○ Major Shareholders

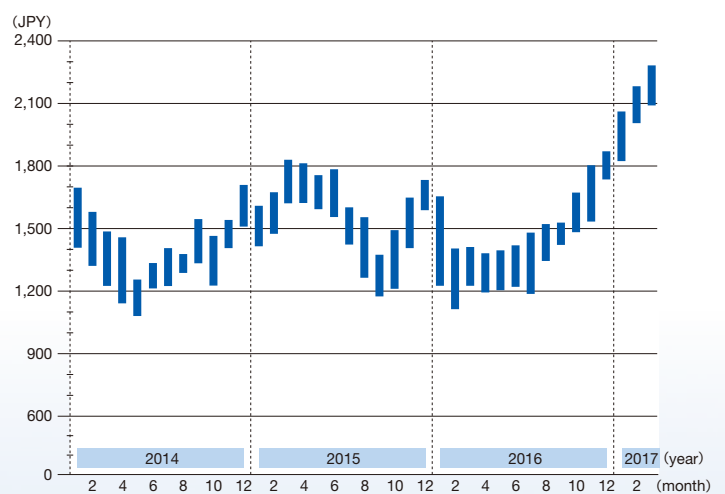
Major shareholders (Top 10 shareholders)	Number of shares (1,000s)	Share- holding ratio
Japan Trustee Services Bank, Ltd. (Trust Account)	23,920	8.97%
The Master Trust Bank of Japan, Ltd. (Trust Account)	23,572	8.84%
Mizuho Bank, Ltd. (MHBK)	8,100	3.04%
Japan Trustee Services Bank, Ltd. (Sumitomo Mitsui Trust Bank, Limited (Employee Retirement Benefit Trust Account))	7,970	2.99%
Meiji Yasuda Life Insurance Company	7,774	2.92%
THE BANK OF NEW YORK, NON-TREATY JASDEC ACCOUNT	6,485	2.43%
Japan Trustee Services Bank, Ltd. (Sumitomo Mitsui Trust Bank, Limited Re- trust Account, The Bank of Fukuoka, Ltd. Employee Retirement Benefit Trust Account)	6,375	2.39%
SAJAP	4,623	1.73%
Japan Trustee Services Bank, Ltd. (Trust Account 5)	4,258	1.60%
Trust & Custody Service Bank Ltd. (Securities Investment Trust Account)	4,228	1.59%

Note: Treasury stock is deducted in the calculation of the shareholding ratio.

○ Share Distribution by Shareholder Type



○ Company Share Price (From January 2014 to March 2017)



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

The Company's stock has been selected for the Nikkei Stock Average and the JPX-Nikkei Index 400.

YASKAWA

YASKAWA ELECTRIC CORPORATION

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