

MESSAGE FROM THE PRESIDENT

Representative Director
President

H. Ogasawara



Under the banner of i³-Mechatronics, we aim to maximize value creation by transforming the way technology, production, and sales are carried out, thereby achieving the goals of Vision 2025 and further growth in the years ahead.

Results of the previous mid-term business plan Dash 25

Based on the theme of "Establishing a highly profitable corporate structure" we implemented initiatives over the three years of Dash 25 from FY2016 to 2018. Although we achieved our sales target a year ahead of schedule under the mid-term business plan in 2004, we achieved our performance targets for the first time, including profitability, which is a big result for us. As we have not achieved our profit target for a long time, we have been aware of the high hurdle to achieving an operating profit ratio of 10%. However, the achievement of 12.3% in FY2017 has given us confidence, which I believe is significant. Although the rapid growth in FY2017 was partly due to the favorable market environment, we believe that our efforts to instill a profit-oriented mindset among managers since FY2016 have had a major impact. As the global shift of manufacturing industries to China became clearer, we began full-scale development of our AC servo business in China in 2012, supplying key components to local machinery manufacturers. Since then, the Chinese business has grown significantly, driven by the need for automation of production due to labor shortages and soaring labor costs, as well as the need for more sophisticated production to improve quality. As we have established a profitable business structure in China with a solid grasp of growing markets, this has spread to Japan, Europe and the United States, and we have established a structure that focuses on profits as a group.

Recognition of issues and reform for further evolution

It has become clear that the escalating trade friction between the United States and China has an immediate impact on corporate capital investment sentiment, making it easier for Our Group, which has been expanding into China, to be swayed by this market. At the same time, dramatic changes in the global management environment have become a norm, with technological advances such as AI and the Internet of Things forcing changes in the way businesses operate in the FA market. It is imperative that Our Group establish a system that can respond to these changes

without delay.

Under these circumstances, there are two major reforms that are currently underway. The first is to break down the walls of the business divisions. We have aimed to become the global No. 1 in the AC servo, drives, robotics, and system engineering businesses by polishing them and making them seem as if they were separate companies. However, as moves toward the realization of next-generation manufacturing accelerate and new needs for productivity improvement such as production efficiency improvement and quality maintenance increase rapidly, it is becoming difficult to achieve further growth only by selling products in individual businesses. In addition, as I have accumulated experience in various businesses, including the system engineering business, I have come to realize that the walls of the business divisions are one of the causes of inefficiency. For example, the components of AC servo and AC drives can be commonalized, but different components are used to achieve the same functions. With the establishment of the YASKAWA Technology Center (tentative name)* at its core, we are integrating the development functions of each business and product to improve the efficiency of technology development. In terms of production, we are working to strengthen cooperation between our business divisions and the production technology department of headquarters through the establishment of YASKAWA Solution Factory, and in terms of sales, we have reorganized our sales structure from business to market, strengthening horizontal ties in the areas of technology, production and sales while making incremental improvements. However, we still need to accelerate these efforts.

The second reform is the reorganization of subsidiaries and businesses. In the past, it was a small set of businesses in a narrow market, so when we pursued partial optimization, we were in a situation where it would lead to total optimization. However, as businesses grow globally and require solutions that integrate Our Group products and technologies, the legacy of partial optimization is increasingly a barrier to



overall optimization. For example, even if a business with a subsidiary is in the red, the existence of many companies within the Group makes problems difficult to be found and does not lead to improvement. We have spent 40 to 50 years building our current subsidiaries and business structures. Restructuring them will take a considerable amount of time and money, but we will continue to make steady progress.

* A research and development base for accelerating the use of open innovation, such as joint research among industry, academia, and the government, while establishing an integrated research and development system covering basic research, mass-production trial, and quality control. (Scheduled to open in 2020)

Three objectives of revision of Vision 2025

The problem with the previous Vision 2025 was that it was difficult for employees to gain a common understanding. Because we had three goals: sales, operating income, and operating income ratio, some people were trying hard to increase sales while others were trying to increase profits, making it difficult to keep the same vectors. One of the aims of the revision is to enable all employees to answer "Operating income of 100 billion yen" when asked about the content of the vision.

The second objective is to redefine our business domain as a B-to-B FA company. Previously, we defined clean power and humatronics as new businesses. However, we have positioned motion control, robotics and power conversion, which are Our Company's core competencies, at the center, and defined the value creation around these as "mechatronics applications." Together with the factory automation / optimization, these businesses form a business domain.

The third objective is to return to our management principle and continue our efforts to realize it.

Mid- and long-term business environment outlook and strategies

In the long term, looking beyond 2025, it is expected that food sustainability will become an issue due to the labor shortage caused by the declining birthrate and aging population, and the worsening climate change. Yaskawa's technologies are expected to contribute to the resolution of social issues in this field, and we have begun contributing to the secure and stable supply of food through initiatives such as the automated vegetable production system and food production automation.

At the same time, we will broaden our horizons to explore the possibility of utilizing core technologies and

continue to demonstrate these capabilities. By doing so, we will work to commercialize these technologies, and this will enable us to realize Our Group's management principle of "Contributing to the development of society and the welfare of humankind through the execution of business" and contribute to the achievement of the SDGs.

In order to contribute to the resolution of global social issues and continue to grow over the long term, I believe "selection and concentration" and "responding to change" are necessary. As a business-to-business manufacturer, we need to keep these two issues in mind and ensure that we continue to invest in technology, production and sales. In particular, we have invested in production on an unprecedented scale over the past few years. As a business-to-business manufacturer, I believe it is necessary to constantly introduce the latest machines and keep our production strong so that we can appeal to customers about our manufacturing sites. Our Group must continue to invest in human resources, including alliances, for the enhancement of sales, as a part that is directly linked to earnings, and in technology development, we continue to invest in new technologies, such as AI, software, and materials, in order to maintain our global No.1 position. I believe that successful implementation of these measures is essential for sustainable growth.

Short-term measures

I believe that we need to respond carefully to changes in the business environment over the three years of the current mid-term business plan in order to promote management from this long-term perspective. There is no doubt that market competition will intensify not only for Our Group but also for our customers. With the rise of protection policies, how the Japanese manufacturing industry will continue to exist will become an important issue. At present, the center of manufacturing has shifted to China, and in the global market, where U.S. companies are leading the evolution of IT, the way for Japanese manufacturers to survive is to simultaneously pursue the utilization of data in host systems such as IoT and AI and the improvement of productivity in manufacturing sites.

Against this backdrop, in FY2019, we will focus on the penetration of the i³-Mechatronics concept and the establishment of a new business model, as we steadily build a foundation for leading the industrial automation revolution.

Expectations of the employees

Our Group's mission is to consider and act on how to increase profits for customers and enable them to lead their businesses in their respective markets, based on the idea that profits are shared by customers. Under these circumstances, I hope that employees will aim to be recognized for their value from the outside, rather than from within their own departments. Our Group aims to realize further growth by providing an environment in which each and every employee grows from both the business and institutional perspectives and by improving the motivation for work.

Progress of "Making Data a Common Language"

When I assumed the position of president in 2016, I declared "Making Data a Common Language" as my policy statement, and I feel that this has been firmly entrenched in the organization. At present, we are in the stage of accelerating our efforts toward digital management. The aim is simply to "making numbers consistent to achieve overall optimization." We have already discussed the problems to be solved with respect to the walls of business divisions and subsidiaries. The partial optimization of data makes it difficult to compare specific sections across businesses and subsidiaries. What this means is that, for example, employees are now evaluated only in the department to which they belong, and are not evaluated in a balanced manner across the entire company, that is, according to the performance and results of the entire company. The only way to ensure a fair view of how each employee's accomplishments are linked to the performance of the entire company is to share common data, which leads to digital evaluations and changes in work styles. The essence of digital management is to ensure that the work of each employee leads to the profits of the entire company. Based on this concept, under the banner of i³-Mechatronics, we aim to maximize our creation of social value by transforming the way technology, production, and sales are carried out, thereby achieving the goals of Vision 2025 and further growth in the years ahead.

I would like to take this opportunity to ask our shareholders, investors and other stakeholders for the continued support and patronage to Yaskawa in the days to come.

Challenge to Create New Values and Markets

We began the second step in our long-term business plan, namely our mid-term business plan Challenge 25 (FY2019-FY2021), dividing the 10 year period into 3 mid-term plans. Based on the theme of "Challenge for Creating New Values and Markets," we will steadily implement measures to achieve the targets set out in Vision 2025.

Positioning of the New Mid-Term Business Plan Challenge 25

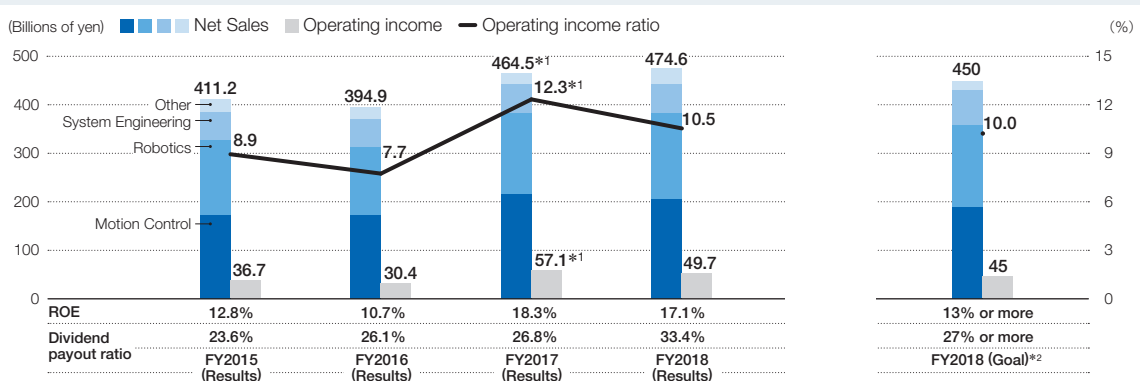


Review of Dash 25

Review of Dash 25

Under the previous mid-term business plan, Dash 25, we achieved our corporate performance and financial targets one year ahead of schedule, reflecting the expansion of capital investment in the smartphone-related market in China, the acceleration of automation in the general industry, and the rapid expansion of capital investment in the semiconductor market worldwide.

Financial and performance trends in the Dash 25 period



Dash 25 achievements and challenges

	Maximize Results of Realize 100	Build Foundation for Realizing Vision 2025	Grow Clean Power as Core Business
Results	<ul style="list-style-type: none"> Expanded lineup of core products and its sales Strengthened sales capabilities by integrating sales functions Expanded local production, particularly in China and EU 	<ul style="list-style-type: none"> Started new solution concept i³-Mechatronics Established FAMS Co. for fullfledged automation of food production Established AI Cube Inc., subsidiary for AI solutions 	<ul style="list-style-type: none"> Growth of sales and improved profitability for wind power generation equipment Launched new products for PV equipment Mass production of EV components at Chinese JV Restructuring of the global Clean Power business structure
Issue	Establishing a competitive advantage for products and services in the automation domain	Creating businesses based on i ³ -Mechatronics concept	Building a stable profitability structure for Clean Power business

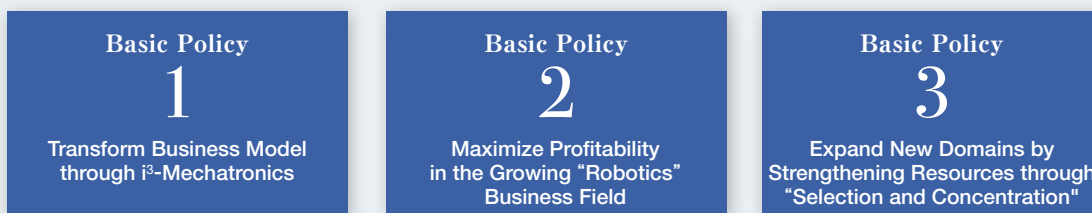
Develop measures for Challenge 25

Business Strategies in Challenge 25

As the 2nd step toward the realization of Vision 2025 under the new mid-term business plan Challenge 25 launched in FY2019, we will further accelerate the measures implemented under the Dash 25 and challenge new business models to create new values and markets. In the two business areas "Factory Automation / Optimization" and "Mechatronics Applications" defined in 2025 Vision, we will implement measures for further growth based on the following three basic policies in Challenge 25.



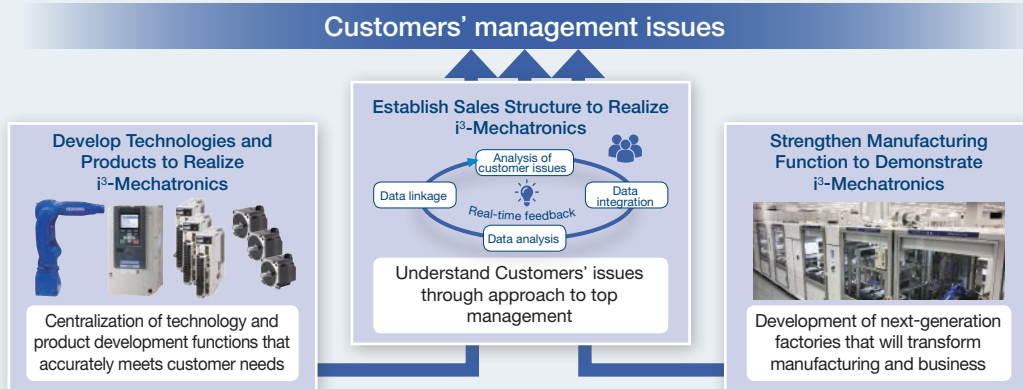
Basic policy of Challenge 25



Basic Policy 1 Transform Business Model through i³-Mechatronics

Yaskawa Group is further accelerating the transformation to a business model based on the unique solution concept i³-Mechatronics announced in 2017 and aims to enhance the functions of technology, production and sales in order to expand business domains and realize further management efficiency.

Contribute to solving customer's management issues through evolution of production, sales and technology



As for the **enhancement of technology and product development**, we will consolidate functions by establishing the YASKAWA Technology Center (tentative name) and strengthen our integrated efforts from the development of elemental technologies to trial manufacture for mass production. Based on the i³-Mechatronics we will develop and market technologies and products that meet customer needs in a timely manner. → Details are given in the [page 31-32 Message from the CTO](#). As for the **enhancement of production functions**, we will improve our own productivity and strengthen our ability to propose solutions to customers through the implementation of i³-Mechatronics at the AC servo plant YASKAWA Solution Factory, which started operation in FY2018. We also aim to improve productivity and profitability on a global scale by globally deploying the latest production technologies cultivated in this factory. → Details are given in the [page 27-28, Special Feature: A New AC Servo Factory, YASKAWA Solution Factory](#).

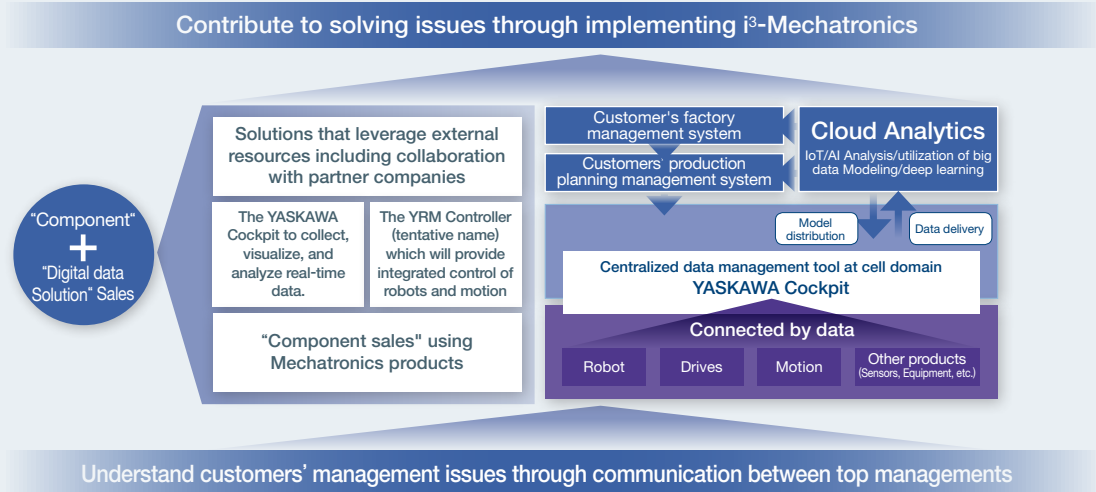


Completion image of YASKAWA Technology Center (tentative name)

In order to **establish sales structure**, we will work to evolve our sales scheme from a simple "product-selling" to a "selling product + digital data solution." Specifically, in FY2018 we launched a cross-business marketing and sales system, and we will continue to strengthen and further accelerate the penetration of top-level sales activities, in order to provide direct solutions to customers' management issues and to increase added value. In FY2018, we launched the "YASKAWA Cockpit" to collect, visualize, and analyze real-time data. In addition, we plan to launch the "YRM Controller (tentative name)" which will provide integrated control of robots and motion in the current mid-term business plan. With these two at the core, we strengthen our solutions for customers. → Details are introduced in the special feature "Realizing a New Industrial Automation Revolution with the Solution Concept i³-Mechatronics" on [page 11 of the YASKAWA Report 2018](#).

Establish sales structure to realize i³-Mechatronics

Establishment of a sales scheme that enables transformation to "Component + Digital Data Solution" sales



Basic Policy 2

Maximize Profitability in the Growing "Robotics" Business Field

We define the automation field including robots in various industries as the "Robotics" field, and expand our business in this field, which is expected to expand significantly in the future.

Specifically, we will accelerate our efforts to capture the Chinese and Asian markets centered on the "3C*" which are expected to expand significantly in the future. In the automobile-related market, where Our Group has competitive edge, we will strengthen our efforts with finished vehicle and parts manufacturers and expand our business by providing new solutions and robots. In the semiconductor production equipment market, which is expected to grow significantly in the future, we aim to expand earnings by strengthening our product lineup and improving productivity.

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

Basic Policy 3

Expand New Domains by Strengthening Resources through "Selection and Concentration"

Yaskawa Group will concentrate its resources on application fields where it can utilize its strengths of mechatronics technology to develop new fields and markets. In particular, we will focus on developing four areas.

01 Energy Saving

We will expand sales for applications where energy conservation performance is important by offering high added value through the combination of highly functional AC drives and other energy-saving equipment and high-efficiency motors.

02 Food & Agri

We will strengthen our efforts for automated solutions for the food production process by strengthening collaboration with key partners. We will expand sales of production automation solutions in the field of ready-to-eat foods by strengthening the lineup of robots that can flexibly handle a variety of tasks, as well as automatic vegetable production systems.

03 Clean Power

In the wind power business, we will focus on Europe and work to steadily increase earnings by continuing to increase orders from customers of leading wind turbine manufacturers. In the solar power business, we aim to improve earnings by reaping the benefits of the restructuring and by expanding sales of the new XGI series. In the field of electric vehicles, we aim to achieve stable profitability in joint ventures with leading Chinese partners.

04 Humatronics

In the robot rehabilitation market, we aim to create a new market by strengthening our sales scheme and expanding our lineup. In the biomedical market, we will further strengthen industry-academia-government collaboration to establish a genomics-analysis business that is expected to grow significantly.

Financial Targets of Challenge 25

In order to achieve operating income of 100 billion yen as set forth in our Vision 2025 at an early date, we will expand our business and further improve efficiency by implementing the i³-Mechatoronics. By focusing on improving operating income and the operating income ratio, we aim to achieve operating income of 70 billion yen as the most important financial target under the Challenge 25.



	FY2018 results	FY2021 targets
Net Sales	474.6 billion yen	540 billion yen
Operating Income and Operating Income Ratio	49.7 billion yen (10.5%)	70 billion yen (13.0%)
ROE	17.1%	15% or more
ROIC	17.2%	15% or more
Dividend Payout Ratio	33.4%	30%+α

Strengthening the Management Base to Achieve Sustainable Growth

Our Group will work to strengthen its management base to realize sustainable growth by maximizing the social value it creates through its business, corporate activities, dialogue, and co-creation. In particular, we will accelerate management efficiency through digital management and quality management. In order to realize digital management, we will centralize management data globally and promote thorough "visualization" of data through the use of IT. We also aim to establish a management style that enables us to anticipate the future and to conduct real-time management based on the visualized data. To put quality management into practice, we will focus on improving business quality and strengthening workplace capabilities through the application of TQM*.

In our corporate activities, we enhance our management foundation from the perspective of the environment (Environment), society (Society), and governance (Governance), or "ESG", and contribute to the sustainable development of society.

(The activities are introduced on page 37-50.)

* Total Quality Management: Application of consistent quality control objectives to management strategies throughout the organization



Creation of Social Value

Yaskawa Group has utilized its core competencies in motion control, robotics, and power conversion to solve a variety of social issues. We will continue to contribute to society through our business activities by providing value to our stakeholders from the aspects of energy conservation and reduction of environmental impact, the spread of renewable energy, and freedom from 3D jobs through automation, stable supply of food through plant factories, and contributions to the medical and welfare fields. This will lead to the realization of Yaskawa Group's management principle of contributing to the development of society and the welfare of humankind through the execution of business, and thereby contribute to the sustainable improvement of its corporate value.



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

Business Overview

MOTION CONTROL

- AC servo & controller business

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



AC servo Σ -7series and machine controller MP3300

MOTION CONTROL

- Drives business

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



Yaskawa AC drive new series



Matrix converter U1000



PM motor

ROBOTICS

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

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



Robot controller YRC1000



Collaborative robot MOTOMAN-HC10DT

SYSTEM ENGINEERING

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

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



Generator and converter for large-scale wind turbines

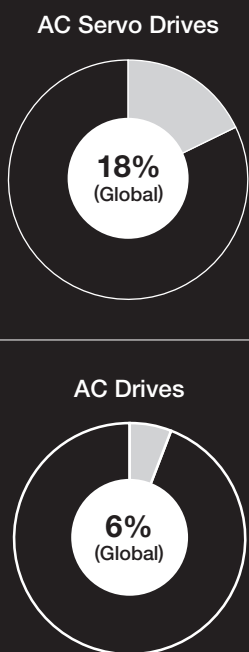


Medium-voltage matrix converter

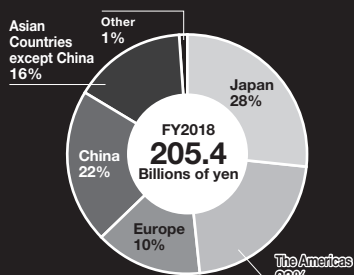


PV inverter

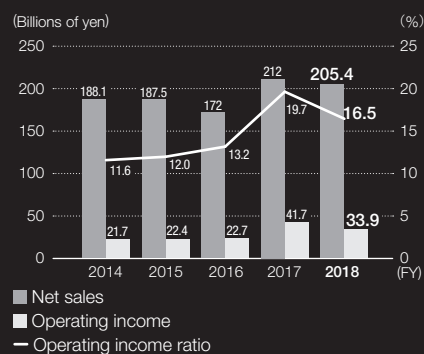
Market Share (Company estimate)



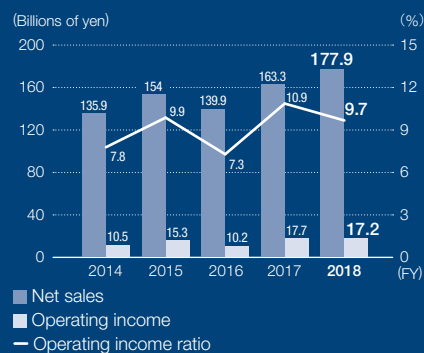
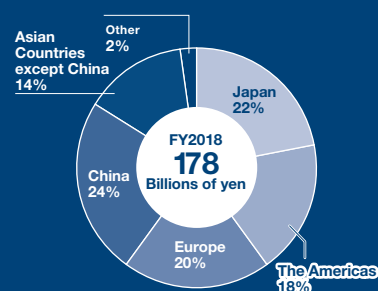
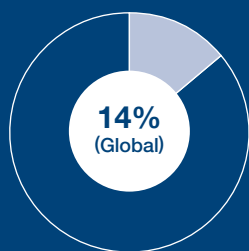
FY2018 Sales Breakdown by Region



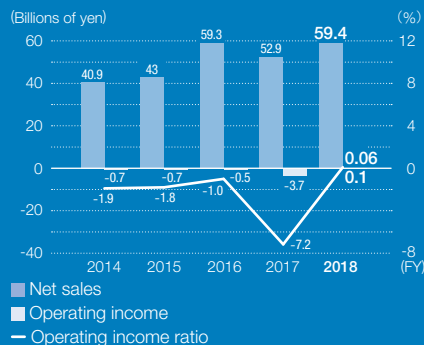
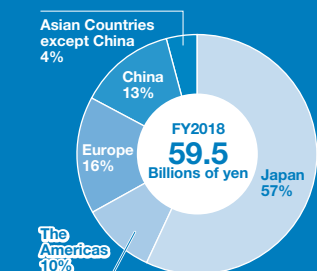
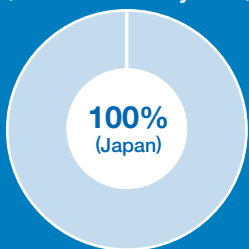
Net Sales, Operating Income, Operating Income Ratio



Industrial robot



Steel plant facilities (Blast furnace system)

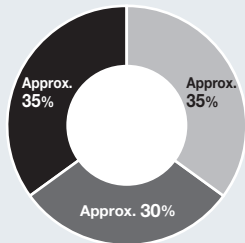


MOTION CONTROL

AC Servo & Controller Business



Sales Breakdown by Application (FY2018 Results)



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

Global Market Outlook for AC Servo (Company estimation)

Estimated market size in fiscal 2021

Approx. **850** billion yen

Average annual market growth for 2018 – 2021 (CAGR)

5.0%

Enhancing machine performance as major components incorporated in production equipment

SWOT Analysis of Business

Strength :Strengths of Our Business and Differentiation

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

Weaknesses :Challenges

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

Opportunities :Business Opportunities

- Advancement and labor-saving of industrial machinery
- Industry sophistication, including 5G, IoT, and self-driving

Threats :Business Risks

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

Challenge 25 (2019 – 2021) Goals

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

Results of Previous Mid-Term Business Plan Dash 25 (FY2016-FY2018) and Goals of Challenge 25 (FY2019-FY2021)

FY2016-FY2018	FY2019-FY2021	FY2022-FY2025
Dash 25 Achievements	Challenge 25 Initiatives and Targets	Realize 25
<Development capability> <ul style="list-style-type: none"> • Expanded robotics components* • Expanded product lineup of components for production automation * Products for robot applications (robot control modules, etc.) 	<Initiatives> <ol style="list-style-type: none"> 1 Expand sales in growing markets by implementation of i³-Mechatronics 2 Expand sales in growing markets including China and Asia 3 Enhance production efficiency 	<Policy> Consolidate global No.1 market share by maximizing the components' added value through i ³ -Mechatronics
<Production capability> <ul style="list-style-type: none"> • Improved efficiency by YASKAWA Solution Factory production method • Increased global production capacity 		
<Sales capability> <ul style="list-style-type: none"> • Boosted sales by capturing smartphone-related demand 	<Financial targets> * Motion Control Segment Net sales: 240.0 B.JPY Operating income: 43.4 B.JPY Operating income ratio: 18.1%	

Challenge 25 Initiatives

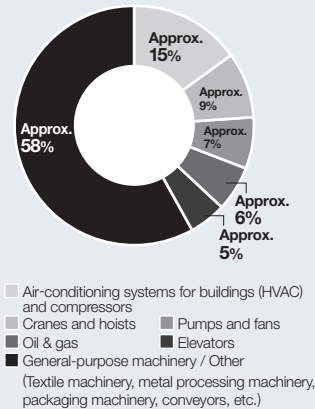
- 1 We position robotics, semiconductors, machine tools, electronic components, metal processing, and packaging as the six growth markets and expand sales by launching strategic products that realize i³-Mechatronics.
- 2 We increase sales in China and other Asian growth markets by thoroughly strengthening customization, providing high-value-added robotics products to robot manufacturers and EMS, and ensuring quality tailored to local market environments.
- 3 The latest production method developed in YASKAWA Solution Factory will be applied to all of our global production sites to maximize profits by increasing production efficiency.

MOTION CONTROL

Drives Business



Sales Breakdown by Application (FY2018 Results)



Global Market Outlook for AC Drive (Company estimate)

Estimated market size in fiscal 2021

Approx. **1.35** trillion yen

Average annual market growth for 2018 – 2021 (CAGR)

2.7%

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

SWOT Analysis of Business

Strength :Strengths of Our Business and Differentiation

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

Opportunities :Business Opportunities

- Expansion of infrastructure investment
- Continual expansion of energy conservation needs
- Acceleration of factory automation
- Rise of market in emerging countries

Weaknesses :Challenges

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

Threats :Business Risks

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

Challenge 25 (2019 – 2021) Goals

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

Results of Previous Mid-Term Business Plan Dash 25 (FY2016-FY2018) and Goals of Challenge 25 (FY2019-FY2021)

FY2016-FY2018	FY2019-FY2021	FY2022-FY2025
Dash25 Achievements <Development Capability> <ul style="list-style-type: none"> • Accumulated application specific technology and skills • Released new AC drive series <Production Capability> <ul style="list-style-type: none"> • Initiated production of new AC drive series at five global factories • Validated the viability of ASEAN supply chain <Sales Capability> <ul style="list-style-type: none"> • Actively developed connection with customers • Launched new AC drive series 	Challenge25 Initiatives and Targets <Initiatives> <ol style="list-style-type: none"> 1 Capture target markets through global enforcement of customer response capabilities 2 Capture automation market by predictive management technology 3 Capture energy-saving application through new value proposals <Financial target> * Motion Control segment Net Sales: 240.0 B.JPY Operating income:43.4 B.JPY Operating income ratio: 18.1%	Realize25 <Policy> Aim to achieve global share of 10% by increasing share in energy saving application

Challenge 25 Initiatives

- 1 We aim to increase earnings in key markets such as elevators, cranes, air conditioning fans, pumps, and general machinery by enhancing the performance of machines through the expansion of AC drive lineup for specific applications and by providing prompt service in each region.
- 2 By combining i³-Mechatronics with the AC drive's self-diagnosis function, we offer new value such as predictive control of machinery and extending the life of equipment.
- 3 We will develop the energy-saving market by proposing combinations with high-efficiency motors.

ROBOTICS



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

SWOT Analysis of Business

Strength :Strengths of Our Business and Differentiation

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

Weaknesses :Challenges

- Steady follow-up to demand growth resulting from rapid market expansion
- Strengthen engineering capabilities to expand solutions based on i³-Mechatronics
- Development of sales channels for collaborative robots

Opportunities :Business Opportunities

- Demand for automation of manual work due to labor shortages
- Enhancement of production through IoT
- Manufacturing innovation in the automobile industry

Threats :Business Risks

- Dramatic changes in tariff conditions associated with geopolitical risks
- Excessive expectations for market growth
- Rise of emerging manufacturers

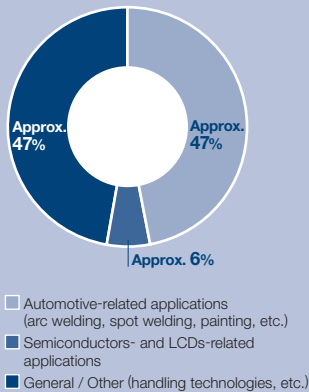
Challenge 25 (2019 – 2021) Goals

Achieving growth that exceeds the growth of the robot market

Results of Previous Mid-Term Business Plan Dash 25 (FY2016-FY2018) and Goals of Challenge 25 (FY2019-FY2021)

FY2016-FY2018	FY2019-FY2021	FY2022-FY2025
Dash 25 Achievements <p><Development capability></p> <ul style="list-style-type: none"> • Expanded new product lineup (53 models) ⇒ Improved product competitiveness ⇒ Cost reduction through switch over • Released lineup of collaborative robot • Commercialized YASKAWA Cockpit <p><Production capability></p> <ul style="list-style-type: none"> • Enhanced global production capacity and improved profitability (Expansion of Changzhou factory, and establishment of new Slovenia factory) <p><Sales capability></p> <ul style="list-style-type: none"> • Improved relationships with customers by top management sales activities • Focused sales and development of new technologies in automotive, general and semiconductor markets 	Challenge 25 Initiatives and Targets <p><Initiatives></p> <ol style="list-style-type: none"> 1 Expand orders in key markets (Automotive/General industries) 2 Expand product lineup and technological domain by strengthening development capabilities 3 Enhance production capacity and efficiency in response to volume increase <p><Financial target></p> <p>Sales: 210.0 B.JPY Operating income: 27.3 B.JPY Operating income ratio: 13.0%</p>	Realize 25 <p><Policy></p> <p>Aim to achieve global No.1 share through pursuing the development of solution based on i³-Mechatronics concept and contributing to expansion of manufacturing automation (as a result, expansion of Yaskawa's business)</p>

Sales Breakdown by Application (FY2018 Results)



Global Market Outlook for Industrial Robots (Company estimate)

Estimated market size in fiscal 2021

Approx. 1.6 trillion yen

Average annual market growth for 2018 – 2021 (CAGR)

15%

Challenge 25 Initiatives

- 1 In the automobile market, we aim to expand our business by strengthening our ability to provide solutions that respond to changes in production processes associated with environmental measures and the shift to EVs and to expand the scope of automation. In the general industrial market, we aim to expand our share by realizing the provision of digital data solutions based on the i³-Mechatronics concept.
- 2 We will strengthen technological development to create a digital twin* system in which the operating status of objects and facilities is constructed in a digital environment and analysis and simulation results based on various data are fed back to the real environment.
- 3 We will strategically improve production capacity at our three global bases (Japan, China and Slovenia) and implement system of Japan to further improve production efficiency.

* Software solutions that collect real-time information on the operating status and environment of real equipment and facilities in physical space, construct equipment and facilities in cyberspace, and conduct simulations using this digital information, enabling design improvements, instructions based on environment, and failure prediction.

SYSTEM ENGINEERING



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

SWOT Analysis of Business

Strength :Strengths of Our Business and Differentiation

- Yaskawa's power conversion technology and global sales network, as well as the strong technological capabilities and customer base of the acquired Solectoria*1 and the Switch*2
- 100% domestic share of systems for blast furnaces in steel plants
- Top-class share in Japan in the industrial electric business including film, textiles, and paper machinery
- Share higher than 50% in port crane market in Japan, China and Southeast Asia
- Achievements and system technology development capabilities gained in the social system sector

Weaknesses :Challenges

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

Threats :Business Risks

- Intensification of cost competition due to in-house production of parts by customers
- Modification of feed-in tariffs and grid interconnection regulations for renewable energy
- Decline in infrastructure investment in Japan

Opportunities :Business Opportunities

- Increase in demand for renewable energy and large-scale projects
- High demand for labor saving and efficiency improvement in steel plants and social systems
- Increase in the investment for production of new materials for EVs
- Full automation and remote operation of harbor cranes

*1: U.S. subsidiary that manufactures and sells PV inverters

*2: Finnish subsidiary that manufactures and sells generators and converters for large-scale wind turbines

Challenge 25 (2019 – 2021) Goals

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

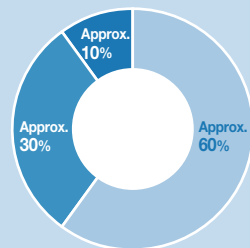
Results of Previous Mid-Term Business Plan Dash 25 (FY2016-FY2018) and Goals of Challenge 25 (FY2019-FY2021)

FY2016-FY2018	FY2019-FY2021	FY2022-FY2025
Dash 25 Achievements <p><Development capability></p> <ul style="list-style-type: none"> • Application of FA technology to industrial automation drive business • Introduced wind power generators for larger capacities • Started in-house production of wind power converters • Launched XGI1000, new product for PV inverter, developed jointly by Japan and the U.S. <p><Production capability></p> <ul style="list-style-type: none"> • Completed preparation for mass production of wind power generators • Integration of U.S. production sites <p><Sales capability></p> <ul style="list-style-type: none"> • Implemented high-value-added proposals for steel, industrial electric, cranes, and social systems • Large-scale orders obtained for wind power generators • Discontinued sales of unprofitable PV inverter products 	Challenge 25 Initiatives and Targets <p><Initiatives></p> <ol style="list-style-type: none"> 1 Expand large-scale wind power generation business, focusing on offshore projects in Europe 2 Expand sales of new products and restructure PV inverter business 3 Streamline the industrial automation drive business through business restructuring 4 Stable continuation of social systems business <p><Financial target></p> <p>* System Engineering segment</p> <p>Sales: 60.0 B.JPY</p> <p>Operating income: 1.8 B.JPY</p> <p>Operating income ratio: 3.0%</p>	Realize 25 <p><Policy></p> <p>Expand business area of renewable energy market into new regions (Asia, etc.) and fields (energy storage applications, etc.), based on business built up in Challenge 25</p>

Challenge 25 Initiatives

- 1 We will accelerate the creation of new global business opportunities, such as the acquisition of domestic offshore wind power projects, while expanding our business for leading wind turbine manufacturers mainly in Europe.
- 2 We will improve earnings by introducing new products and strengthening our sales strategy, as well as improve business efficiency through reorganization.
- 3 We will strengthen the foundations of steel, industrial electric, and crane systems businesses centered on Yaskawa Automation & Drives Corp.
- 4 We will use IoT and AI to increase added value and secure orders.

Sales Breakdown by Business (image)



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

Global Market Outlook (Company estimate)

Estimated market size in fiscal 2021

Generator and converter for offshore wind power generation :

Approx. **80 billion yen**

Three-Phase distributed PV inverter :

Approx. **400 billion yen**

Industrial automation drives (Yaskawa's served market):

Approx. **200 billion yen**

Average annual market growth for 2016 – 2040 (CAGR)

5.5 % wind power
9.3 % solar power

*: Ratio of wind and solar power generation: 12% (2016) → 35% (2040)