

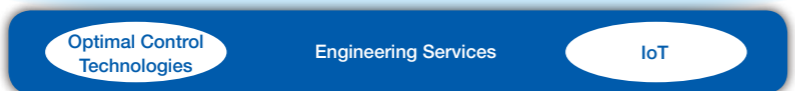
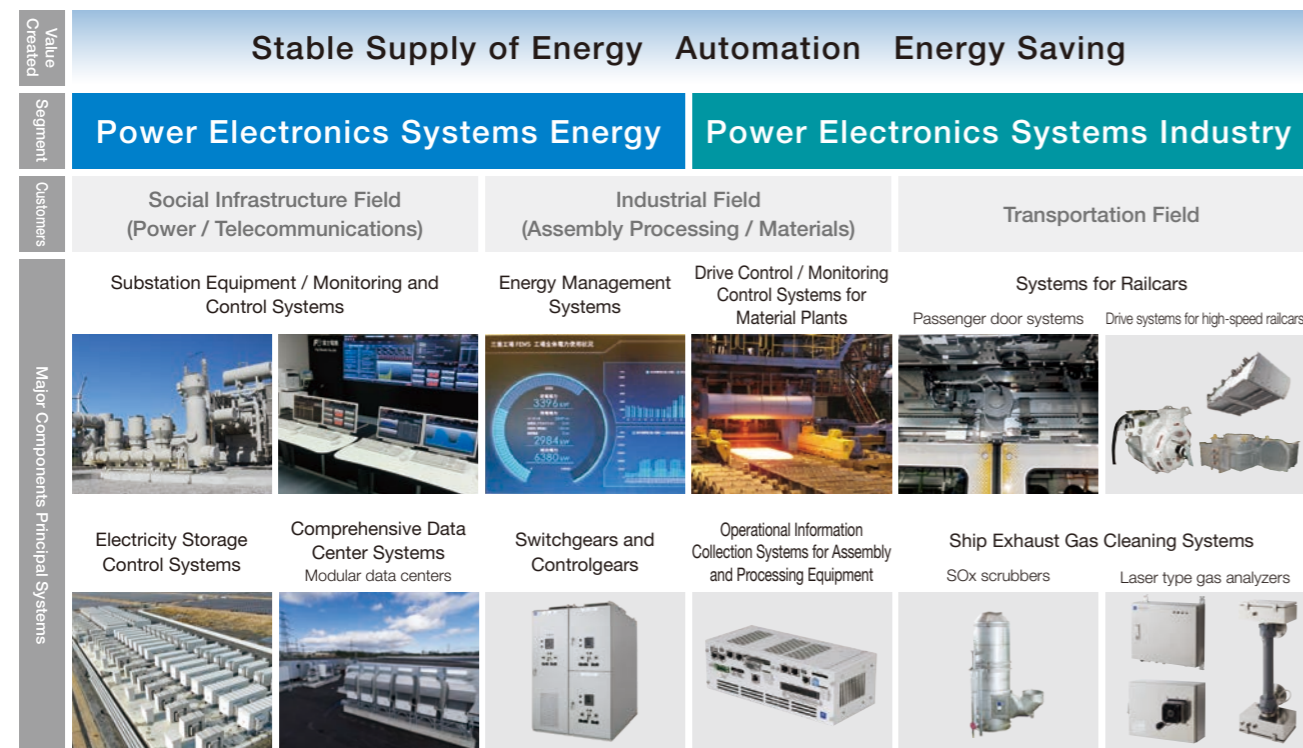
# Review of Segments

## Power Electronics Systems Energy / Industry

### Medium-Term Management Plan Policy

In these segments, our aim is to create competitive components and reinforce our system business by bringing together our engineering services, optimal control technologies, and IoT. At the same time, we will utilize local partners and sales channels developed through M&A to expand our overseas business. We will

also promote standardization and packaging of software and hardware for the social and industrial infrastructure fields and attract increased orders for our comprehensive electrical equipment business. In the transportation field, we will work to accelerate development of products that differentiate us from other companies.



### Overseas Business Expansion (Fiscal 2019 and 2020)

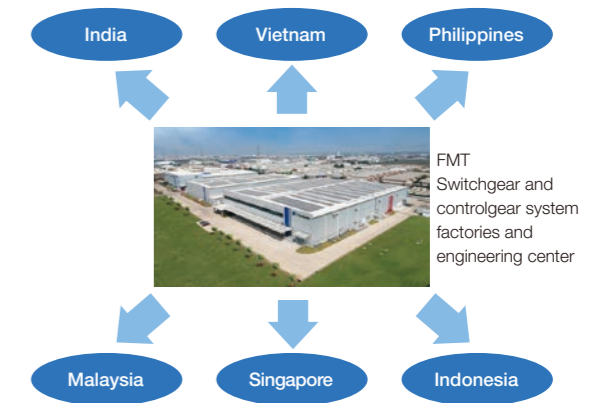
In Southeast Asia and India, we are expanding orders by utilizing our sales channels developed through M&A and engineering capabilities. By establishing a system factory and integrating local subsidiaries, we will expand our local design capabilities in addition to local production for local consumption to build an integrated manufacturing system. In China, we will deploy the sales channels of local partners

to provide drive control and monitoring control systems, as well as energy management systems, to material and beverage factories, allowing them to save energy by improving productivity and optimizing energy usage. In North America, we will collaborate with Fuji SEMEC Inc. to further strengthen our manufacturing and engineering systems and expand our rolling stock business.

### Southeast Asia

In 2019, we established a new switchgear and controlgear system factory and engineering center at Fuji Electric Manufacturing (Thailand) Co., Ltd. (FMT), which will serve as our core production site in Asia. By reinforcing our local engineering and manufacturing systems, we will build a system business that contributes to electric power supply stability and energy savings for data centers and the electricity and materials fields.

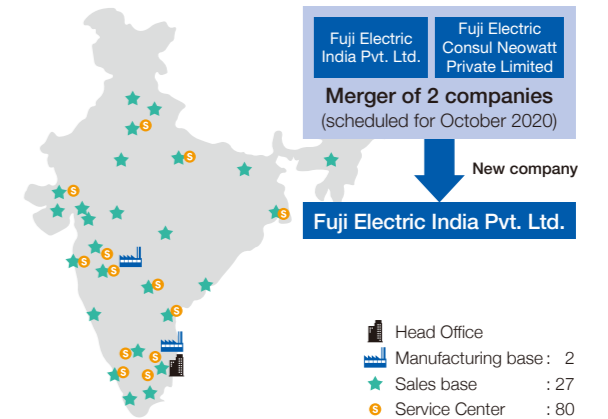
### FMT as Core Base in Asia Coordinates with All Other Bases



### India

Fuji Electric Consul Neowatt Private Limited (FCN), which became a consolidated subsidiary in 2019, and Fuji Electric India Private Limited will join forces to facilitate reorganization and expansion of our manufacturing, sales, and service bases in India. We will leverage the sales channels- and product-related strengths of both companies to grow our business and strengthen our service system, while also expanding localization of design and procurement to enhance product competitiveness.

### Strengthening the Business Structure in India (Reorganizing and Expanding Bases)



### China

In fiscal 2019, Dalian Fuji Bingshan Control Systems Co., Ltd. (DFBCS)—a joint venture with the Dalian Bingshan Group, a major Chinese refrigeration and air conditioning equipment manufacturer—introduced energy management systems (EMSs) to the Dalian Bingshan Group and our Wuxi Factory. Positioning this factory as our “model factory” in the Chinese market, we will focus on the beer and dairy industries as our top-priority targets. Here, we will demonstrate to customers the energy-saving benefits of EMSs and give concrete examples, while proposing various solution to facilitate EMS adoption and thus expand our system business.

### System Proposal Centered on an EMS in Collaboration with Local Partners



# Power Electronics Systems Energy

We will use our integrated proposal capabilities and abundant engineering experience, cultivated in Japan, to expand our overseas businesses in transmission and distribution systems and comprehensive electrical equipment.

Masashi Kawano  
Executive Officer  
Corporate General Manager,  
Power Electronics Systems Energy Business Group



## Business Areas

- Energy management  
Power distribution, Smart meters, Industrial substation, Railway substations, Industrial power supplies
- Power supply and facility systems  
Data centers, Uninterruptible power systems (UPS), Electrical facilities, Switchgears and control gears
- ED&C components  
Power distribution and control equipment

## Supplied to

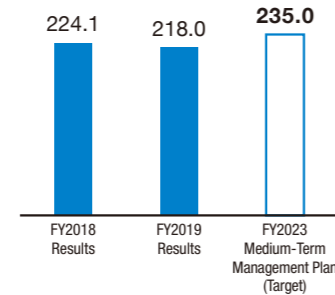
Power companies,  
Material plants (steel, chemical, etc.),  
Data centers, Machine manufacturers

## Strengths

- Package proposals from a wide range of products and systems, to maintenance services, contributing to stable power supply and power optimization
- Extensive delivery record and engineering experience in stable power supply and power optimization
- Energy-saving expertise developed at Fuji Electric's factories in Japan and overseas

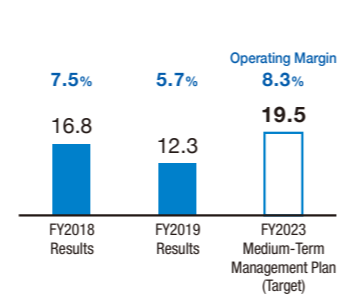
## Net Sales

(Billions of yen)



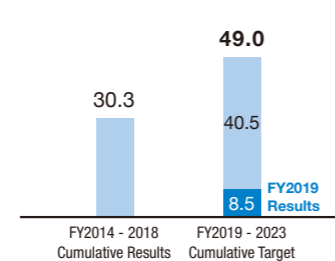
## Operating Income

(Billions of yen)



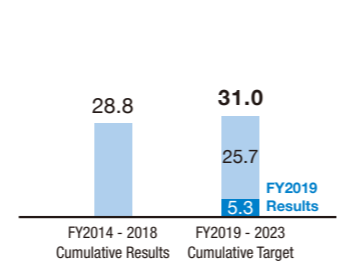
## Plant and Equipment Investment

(Billions of yen)



## R&D Expenditures

(Billions of yen)



## Medium-Term Management Plan Policy

We will introduce globally competitive products, such as substation equipment, power supply equipment, and switchgears and controlgears, to strengthen our manufacturing and engineering systems. At the same

time, we will deploy our integrated proposal capabilities, cultivated in Japan, to expand our overseas businesses in transmission and distribution systems and comprehensive electrical equipment.

## Awareness of Market Needs and Business Opportunities

In Southeast Asia, India, and the Middle East, which are enjoying strong economic growth, demand continues to grow for electric power and investments in social and industrial infrastructure, such as substations and data centers. Accordingly, demand has remained firm for substation equipment, switchgears and controlgears, etc. for power companies, factories, and buildings requiring stable power supply.

In Japan, we look forward to ongoing steady investments—to replace aging facilities, including substation equipment delivered to material plants and

railway companies in the 1970s and 1980s—aimed at preventing accidents and improving efficiency.

Meanwhile, the need to save energy and reduce CO<sub>2</sub> emissions has led to increased demand for visualization and optimization of factory-wide energy usage, from the perspective of growing environmental awareness and efforts to lower energy costs. In addition to introducing products with high power conversion efficiency, customers will have more opportunities to use energy management systems (EMSs) to achieve optimal energy supply and demand control.

## Major Initiatives in Fiscal 2019–2020

### Strengthening our plant system business

Amid growing demand for switchgears and controlgears and substation equipment for data centers and railways, we are working to rebuild our development and production system to improve profitability.

In fiscal 2019, we started building an engineering center within the Chiba Factory, our mother factory for substation equipment. The new center will bring together the development, design, and engineering functions, which were previously dispersed over multiple locations. In fiscal 2020, we will consolidate our standardized switchgear and controlgear design and evaluation functions at the Tokyo Factory, and start construction of a dedicated systems building aimed at improving productivity. In addition to integrating functions to facilitate standardization of products and systems, we will work to improve our testing capabilities. Utilizing testing equipment that can simulate local environments enables us to achieve greater product quality perfection at the time of shipment, which reduces the need for onsite reworking and shortens testing times.

Through these efforts, we will accelerate the development of new competitive products, while further expanding standardization and streamlining production and testing processes, resulting in lower costs and shorter delivery times.

### Expanding our comprehensive electrical equipment business

The proliferation of 5G and IoT technologies has buoyed demand from large-scale data centers and semiconductor factories, boosting orders in our comprehensive electrical equipment business.

In fiscal 2019, we developed and launched a series of large-capacity uninterruptible power systems (UPSs) to address the increasing size of data centers. The new units have capacities ranging from 330 kVA to 1,000 kVA, making it possible to build large-scale systems with maximum capacity of 8,000 kVA by operating the devices in parallel.

In addition to our wide product lineup, we can handle integrated projects covering everything from facility design to equipment procurement and construction. This enables us to swiftly construct data centers and make them energy efficient. For this reason, we are receiving more and more orders each year from foreign-affiliated companies that are expanding globally.

In fiscal 2020, we will take advantage of our strong domestic track record to broaden our comprehensive electric equipment business across Southeast Asia.



## Contributing to development of global transformers and stable power supply

In Southeast Asia, India, and the Middle East, where power demand is strong, construction of power plants and substations continues unabated.

Transformers, switchgears, and other substation equipment play an important role in power plants and substations and thus need to be highly reliable. However, substations are often constructed in urban areas where land acquisition is difficult, leading to calls to build “smaller and lighter” facilities.

We have developed a global transformer that is among the most compact in the world and has achieved significant cost reduction. We will make these transformers locally at our production base in Thailand.

Going forward, we will develop and commercialize competitive global products, such as transformers, and switchgears and controlgears. In this way, we will contribute to the stable supply of electricity and the stable operation of equipment in overseas markets, such as Asia and India.



Global transformer



Fuji Tusco Co., Ltd. (production base in Thailand)



# Power Electronics Systems Industry

We will accelerate overseas business expansion by further promoting partnership strategies, mainly in Southeast Asia and India, while strengthening local production, consumption, and design systems.

Hiroshi Tetsutani  
Executive Officer  
Corporate General Manager,  
Power Electronics Systems Industry Business Group



## Business Areas

- Automation systems  
Inverters, Motors,  
FA components (servo and controller),  
Measuring instruments and sensors,  
FA systems, Drive control systems,  
Measuring and control systems
- Social solutions  
Electrical equipment for railcars,  
Radiation monitoring systems
- Equipment construction
- IT Solutions

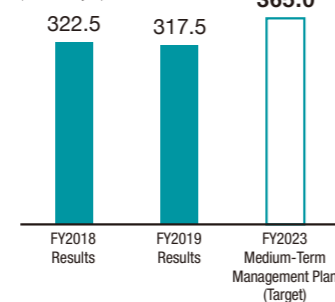
## Supplied to

Air conditioning and water treatment facilities,  
Machine manufacturers,  
Material plants (steel, chemical, etc.),  
Railway companies, Shipbuilding companies,  
Public agencies and local government

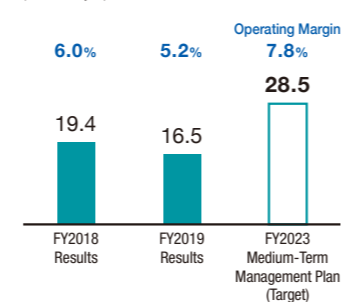
## Strengths

- Early development of power electronics equipped with power semiconductors
- Extensive product lineup tailored to customer applications
- Engineering capabilities built up over a substantial delivery track record

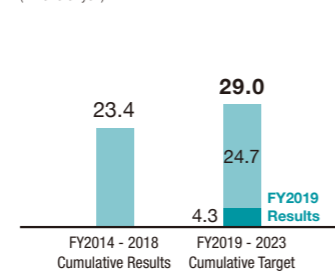
## Net Sales



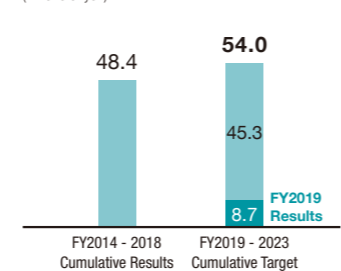
## Operating Income



## Plant and Equipment Investment



## R&D Expenditures



## Medium-Term Management Plan Policy

We will leverage our automation business—which combines IoT with drive equipment, measuring instruments, and control equipment—to promote partnership strategies aimed

at expanding our systems business. At the same time, we will broaden our business in ships and railways by utilizing unique products that differentiate us from other companies.

## Awareness of Market Needs and Business Opportunities

In Japan, the industrial field is witnessing a wave of production reform initiatives aimed at addressing labor shortages and increasing competitiveness. To combat COVID-19 and meet the need for workstyle reforms, meanwhile, we expect companies to increasingly adopt automation, labor saving, and remote control technologies at their manufacturing sites. In the materials field, companies in some industries are reorganizing their production bases. Nevertheless, we anticipate that investments in renewal of aging production equipment and in energy savings will remain steady.

In Southeast Asia and India, marked by strong economic growth, we expect an increase in demand to stabilize power supplies, improve energy-efficiency of facilities, and automate production lines. We also look forward to new capital investments and equipment renewal demand in various materials fields, including steel and cement. Meanwhile, companies in China are investing in energy savings to protect the environment while working to address labor shortages and taking steps to stop COVID-19. Against this backdrop, we expect investments in automation and labor-saving to remain solid going forward.

## Major Initiatives in Fiscal 2019–2020

### Promote partnership strategies to expand overseas business

In Southeast Asia, we are leveraging the engineering capabilities and sales channels of Fuji CAC Joint Stock Company in Vietnam to increase sales of monitoring and control systems for production equipment at cement plants. In fiscal 2020, we will emphasize development of standardized software and hardware packages to improve cost competitiveness and further increase orders.

In India, Fuji Electric Consul Neowatt Private Limited (FCN) and Fuji Electric India Private Ltd. will join forces to build an integrated manufacturing system covering design, production, and testing of inverters, UPSs, power conditioning systems (PCSs), and other components.

By combining the sales channels of FCN with the engineering capabilities and sales channels of Fuji Gemco Private Limited, we will work to expand our systems business in the renewable energy and food and beverage fields, in addition to the materials field.

### Expansion of the systems business leveraging IoT

In the industrial field in Japan, we are increasing efforts to improve operations and productivity. Here, we use IoT to visualize equipment operational status and predict and analyze equipment failure, with the aims of raising competitiveness and preventing equipment stoppages.

In fiscal 2018, we launched OnePackEdge, a data collection system that bundles all types of production floor data to support factor analysis of equipment abnormalities and defects. In fiscal 2019, we developed and launched SignAiEdge, a field-based diagnostic device that detects and analyzes signs of equipment abnormalities. It is the first in the industry to incorporate batch-process MSPC\* technology.

In fiscal 2020, we will introduce these IoT products into our own production lines to help improve profitability, and we will use know-how acquired through this process to facilitate horizontal rollouts to our customers. Meanwhile, we will work to increase orders for IoT products by combining them with a remote equipment monitoring service, which is expected to attract demand as a measure to prevent the spread of COVID-19.

\* Abbreviation for "multivariate statistical process control"

## Close Up!

### Contributing to energy savings at Indian steel plant

In India, the third-largest emitter of CO<sub>2</sub> in the world, there is a campaign to improve energy efficiency of plants in nine industries that consume a lot of energy, including thermal power generation, steel, and cement, in order to meet that nation's greenhouse gas reduction targets.

Steel plants use large amounts of energy from multiple sources, such as electricity, gas, and steam, in the production process. In order to save energy, it is necessary to optimally combine and control each type of energy.

Using our own optimization technology, cultivated through our achievements in Japan, as well as past operational data and production and operational plans, we provided an energy management system (EMS) to a major Indian steel plant and started field tests. Our aim is to help predict and optimally

deploy energy usage across all of the plant's production equipment.

Utilizing the results of the field tests, we will promote rollouts to other Indian steel plants and step up proposals in other Asian regions to help reduce CO<sub>2</sub> emissions through energy savings.



Monitoring and control room (steel plant in India)