

# Power Electronics Systems Industry

We will accelerate overseas business expansion by promoting partnership strategies, mainly in Southeast Asia and India, to strengthen our local design local production for local consumption.

Hiroshi Tetsutani

Managing Executive Officer

Corporate General Manager, Power Electronics Systems Industry Business Group



## Awareness of Market Needs and Business Opportunities

The Japanese industrial sector is facing rising demand for environmental measures to address decarbonization, as well as labor shortages and the need for work-style reforms. Accordingly, companies are expected to increasingly adopt automation, labor saving, and remote control technologies at their manufacturing sites. In the materials sector including steel and chemicals, one of our focus areas, we plan to continue building optimal production systems, upgrading facilities to strengthen competitiveness, renewing aging facilities, and investing in energy savings and CO<sub>2</sub> emission control technologies aimed at decarbonization. Due to the aging and shortage of maintenance personnel, meanwhile, passing on

know-how and reducing the burden of maintenance work have become challenges.

In Southeast Asia and India, where steady economic growth is expected over a medium- to long-term, facilities are being automated to save energy and improve production efficiency in the wake of power shortages. We also look forward to new capital investments and equipment renewal demand in various material-related sectors, including steel and cement.

In China, we anticipate investments in factory automation and labor saving, as well as environmental measures to save energy, under that government's New Infrastructure Project.

## Fiscal 2020 Results and Fiscal 2021 Business Plan

In fiscal 2020, sales in this segment totaled ¥345.9 billion, up ¥28.4 billion year on year. Main factors included a large special order related to the GIGA School Concept in the academic sector, as well as increased demand for servo systems and other components in China and India, and higher demand for scrubbers and other systems for vessel transportation. Operating income increased ¥5.2 billion, to ¥21.8 billion, due to increased sales volumes and a less favorable sales mix.

In fiscal 2021, we look forward to an increase in demand

for low-voltage inverters and other components, as well as equipment construction projects in China, Japan and other overseas countries. However, we expect a decline in projects related to the GIGA School Concept, which generated special demand in fiscal 2020. For fiscal 2021, we forecast sales of ¥329.0 billion, down ¥16.9 billion year on year. Despite a decrease in sales volumes, we forecast sales income of ¥22.2 billion, up ¥0.4 billion, due to increased sales volumes of components and reinforcement of our business structure.

## Priority Measures

### Expand overseas business through partnership strategies

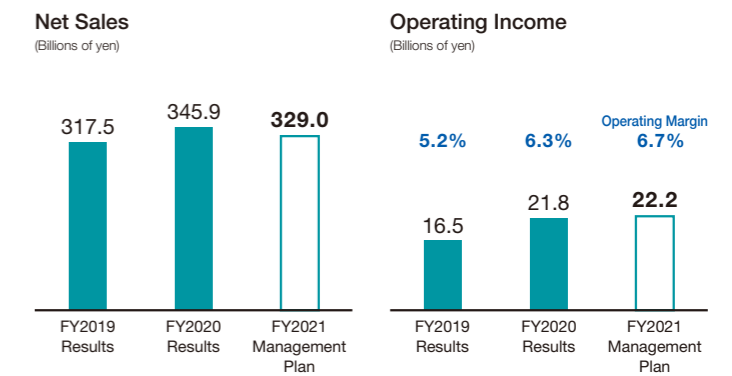
In China, we have enjoyed growth in sales of medium-voltage inverters used for pumps for public facilities and infrastructure, including electric power, gas, and water supply, by utilizing the sales channels of our partner, Shanghai Electric Group.

In fiscal 2021, we will expand our target markets to

include manufacturing facilities, mainly cement and chemical plants, and develop systems that combine our medium-voltage inverters with electric motors handled by Shanghai Electric Group.

In Southeast Asia, we are strengthening our partnership strategy with Fuji CAC Joint Stock Company (FCAC), which we acquired in 2016 with the aim of establishing a regional based type business system. In Vietnam, we will combine

<b>Business Areas</b>	<p><b>[Automation systems]</b> Inverters, Motors, Servo systems, Controllers, Programmable operator interfaces, Measuring instruments, Sensors, FA systems, Drive control systems, Measuring and control systems</p> <p><b>[Social solutions]</b> Drive systems and door systems for railcars, Exhaust gas cleaning systems for ships, Radiation monitoring systems</p> <p><b>[Equipment construction]</b> Electrical equipment construction, Air conditioning equipment construction</p> <p><b>[IT Solutions]</b> ICT-related equipment and software</p>
<b>Supplied to</b>	Air conditioning and water treatment facilities, Machine manufacturers, Material plants (steel, chemical, etc.), Railway companies, Shipbuilding companies, Public agencies and local government
<b>Strengths</b>	<ul style="list-style-type: none"> <li>• Early development of power electronics equipped with power semiconductors</li> <li>• Extensive product lineup tailored to customer applications</li> <li>• Engineering capabilities built up over a substantial delivery track record</li> </ul>



and leverage the sales power of Fuji Electric Vietnam Co., Ltd. and the engineering capabilities of FCAC to establish a framework for increasing sales in our plant business. We will use the framework to expand our systems business for harbor cranes and food and beverage plants, in addition to cement and waste treatment plants. In India, we have leveraged the sales channels of Electric Consul Neowatt Private Limited (FCN) that we acquired in 2019 to increase sales of inverters, servo systems, UPSs, and other products for spinning and other assembly machinery, as well as for hospitals and other healthcare applications. In fiscal 2021, we will fully integrate management and sales channels in India through the merger of FCN and Fuji Electric India Private Ltd. We will also enhance competitiveness by strengthening our local design capability and developing local procurement and manufacturing systems for power electronics including inverters. In addition, we will step up production and engineering of switchgears and controlgears at Fuji Gemco Private Limited and engage in business negotiations for systems in the steel and crane sectors.

In North America, we will collaborate with Fuji SEMEC Inc. to further strengthen our manufacturing and engineering systems for mass production of doors to expand our railcars business.

### Reinforce the FA-related components business

Committed to creating robust systems, we are working to improve competitiveness and strengthen the constitution of our components with the aim of improving profitability. In fiscal 2020, we promoted the standardization of components (platform creation) in power electronics, centered on our N-MEGA Series of low-voltage inverters, in order to lower procurement and production costs by reducing the number of components, and to facilitate customized and knockdown production at overseas bases. In fiscal 2021, we will globally deploy and reap the benefits of the products that we created a platform while expanding platform development for servos, measuring instruments, and other power electronics.

### Expand plant business and services using AI and IoT

To date, we have leveraged our products, technologies, and know-how related to drive control, measurement control, industrial heating, and the like to propose comprehensive solutions to customers in the steel, casting, waste treatment and ceramic sectors in Japan. However, our customers' production lines and systems were becoming increasingly complex, which presented a challenge. In fiscal 2021, therefore, we will build a plant system building at the Tokyo Factory to house facilities for verifying these increasingly complex customer systems and improve the quality of our engineering services.

The manufacturing industry plants and production facilities are facing numerous problems that include aging equipment, aging maintenance personnel, and a shortage of human resources. To address these problems, we will deploy AI and IoT technologies to provide our comprehensive smart service for equipment security and maintenance to optimize equipment maintenance—from maintenance planning to equipment monitoring and proposals for maintenance management measures—in order to expand our sales volume. We will also leverage our track records and know-how in Japan to expand our plant business overseas.

### N-MEGA Series, Our First Line of Low-Voltage Inverters Based on Platform Creation (Standardization of Components)

(Released in March 2021)



Applications:  
General industry (conveyance machinery, etc.)  
End-user fields (steel, cranes, etc.)