## **Review of Operations in Fiscal 2016**

## **Consolidated Performance in Fiscal 2016**

Net sales increased ¥24.2 billion year on year, to ¥837.8 billion. Unfavorable foreign exchange rates placed downward pressure on sales, but the benefits of higher demand in the Power and Social Infrastructure and Industrial Infrastructure segments were most significant.

Operating income decreased ¥0.3 billion year on year, to ¥44.7 billion, as the impacts of upfront investments in Power Electronics and foreign exchange rate fluctuations outweighed the benefits of cost reduction efforts.

Net income attributable to owners of parent climbed ¥10.3 billion, reaching a new record high of ¥41.0 billion due to the recording of gain on sales of a portion of the Company's holding in FUJITSU LIMITED.

Substantial year-on-year improvements were seen in financial indicators with an equity ratio of 33% and return on equity of 16%.

## **Domestic and Overseas Net Sales**

Power and Social Infrastructure

Domestic net sales increased ¥35.0 billion year on year, to ¥632.7 billion. This increase was a result of a rise in plant sales and higher smart meter demand in the Power and Social Infrastructure segment and robust replacement demand in the Industrial Infrastructure segment.

Overseas net sales decreased ¥10.8 billion, to ¥205.0 billion. Major factors resulting in this decrease included declines in the earnings of overseas subsidiaries when translated to yen amounts and lower plant sales in the Power and Social Infrastructure segment.

(Billions of yen) 837.8 813.6 (5.5%) (5.3%) <mark>4</mark>5.0 44.7 <mark>41</mark>.0 30.6 2015 2016 (FY) Results Results Financial Indicators 27% 33% Equity Ratio 16% ROE 12%

Net Sales 📃 Operating Income

Net Income Attributable Owners of Parent

Operating Margin

## Net Sales (Japan and Overseas)



 Business Areas
 Thermal, geothermal, and hydro power generation facilities; solar power generation systems; fuel cells; nuclear power-related equipr
 Energy management systems, smart meters
 Information systems

Net sales increased following higher demand for replacing aging hydro power generation facilities and increasing the output of other existing hydro power facilities as well as a rise in demand for smart meters, which was a result of power companies switching over to such meters in conjunction with the deregulation of the electricity retail market. As another factor, sales of information systems for the public sector and the academic sector were up.

Operating income rose together with sales volumes of hydro power generation facilities and smart meters.



## Industrial Infrastructure

 Substation equipment, industrial power supply facilities
 Industrial drive systems, plant control systems, data centers, industrial energy management systems
 Measuring instruments and sensors, radiation monitoring systems, electrical and air-conditioning equipment construction

Net sales increased due in part to higher demand for substation equipment and industrial power supply facilities in Japan. Other contributors included strong energy saving and replacement demand among steel and chemical plants and other customers in the materials industry as well as increased sales in new solutions businesses targeting data centers.

Operating income rose due to the benefits of higher demand for substation equipment, industrial power supply facilities, and products for data centers as well as cost reductions.



## **Capital Expenditure**

Investments were conducted in boosting production capacities based on the policy of local design, local production, and local consumption; commencing mass-production of next-generation power semiconductors in the Electronic Devices segment; and enhancing facilities at the global mother factory for the Power Electronics segment in Japan with a view to sales growth. In addition, we started construction of a new factory to expand vending machine production capacity in China.

## **R&D** Expenditure

Fuji Electric advanced development of competitive components and solutions that create value for customers. We also developed equipment and platform technologies that utilize the Internet of Things (IoT).\*<sup>1</sup> In the Power Electronics segment, development ventures targeted the creation of new products for expanding plant systems operations. Meanwhile, the development of next-generation power semiconductors that contribute to the realization of more energy-efficient and compact equipment was pursued in the Electronic Devices segment.

\*1 Internet of Things: Framework for fundamentally revolutionizing business and our daily lives by connecting various objects through networks and enabling them to achieve optimal, autonomous control of one another



35.9 34.9 2015 2016 (FY)

#### **Capital Investment**

- Equipment for increasing production of smart meters
- Portable machining equipment for providing on-site repair services at thermal power plants
- **Research and Development**
- Improvement of efficiency and compatibility with high temperatures for thermal and geothermal power turbines, etc.

## Supplied Binary Geothermal Power Generation System among Largest Generation Capacity in Japan

Aiming to contribute to the supply of electricity generated from renewable sources, Fuji Electric took part in a project for building a binary geothermal power generation system that uses lower-temperature hot water. The Company was contacted to perform engineering, procurement, manufacturing, and construction for this project. The system that was delivered boasts a generation capacity of 5,050 kW, among the largest in Japan.



Change

0

(FY)

Change

-0.2

R&D Expenditure\*2

(Billions of yen)

**Capital Expenditure** 

Capital Expenditure (Billions of yen)

2.1

2016

Results

2.1

2015

Results

2.0

(Billions of yen)

2.2

Takigami Binary Geothermal Power Plant of Idemitsu Oita Geothermal Co., Ltd. (left) and turbine (right)

4.2

2016

Results

R&D Expenditure\*2

(Billions of yen)

4.3

2015

Results

3.3

#### **Capital Investment**

• Production equipment for substation equipment and measuring instruments

## **Research and Development**

- Gas-insulated switchgears for power plants and substations in Asia and the Near and Middle East
- Ultrahigh efficiency indirect external air conditioning equipment that contributes to data center energy savings
   56 kW F-COOL NEO (40% higher cooling capacity than previous offerings)

## Delivered Large-Scale Data Center Project

Demand for data centers is rising rapidly amid the spread of cloud systems. Fuji Electric received an order for a large-scale data center project that entailed an EPC (Engineering, Procurement and Construction) base contract and delivered it.



Shirakawa Data Center of Yahoo Japan Corporation and IDC Frontier Inc.

Change

-0.3

(FY)

Change

-0.1

(FY)

Results Results
R&D Expenditure\*2

(Billions of yen)

3.6

\*2 Figures for R&D expenditure above have been divided by segment based on theme and may therefore differ from the figures contained in the consolidated financial report for the fiscal year ended March 31, 2017.

# Review of Operations in Fiscal 2016 (By Segment)

## **Power Electronics**

Business Areas • Inverters, servos, motors, railcar systems • Uninterruptible power systems, power conditioning systems, switchboards • Power distribution and control equipment

Although sales of servos and other products rose on the back of robust automation demand in China, overall net sales were down. Factors behind this decrease included a decline in largescale overseas orders for electrical equipment for railcars, lower demand for power conditioning systems for megasolar power generation systems in Japan, and the impacts of unfavorable foreign exchange rates.

Operating income decreased due to lower sales, upfront investments in overseas production bases, and the aforementioned unfavorable foreign exchange rates.



## **Electronic Devices**

Business Areas • Power semiconductors, photoconductor

Net sales were down, despite higher demand for power semiconductors in the industrial, automotive, and consumer fields, as a result of reduced demand for magnetic disks stemming from the deterioration of market conditions as well as unfavorable foreign exchange rates.

The lower magnetic disk sales and adverse foreign exchange rates also caused operating income to decline.



# Food and Beverage Distribution

usiness Areas • Vending machines for beverage and food / gooc • Store equipment, currency handling equipment

Net Sales

There was a rise in demand for store equipment for convenience stores, but net sales decreased as a result of lower vending machine shipment volumes stemming from reduced demand in Japan and the revision of market development plans in China.

Lower sales of vending machines in Japan and China coupled with a less favorable sales mix for store equipment led to a decline in operating income.

#### **Operating Income**



#### Capital Investment

- Reorganization of products manufactured and rationalization of the in-house production systems at global mother factories in Japan (Suzuka Factory and Kobe Factory) to increase product competitiveness
- Construction of Power Electronics Technical Center (Suzuka Factory) that consolidates development and design functions

## Research and Development

 New ALPHA7 series servo systems for industrial machinery that contribute to control with industry-leading levels of speed and precision

## Launched New Product into Overseas Market

We introduced a new uninterruptible power system (UPS) for the North American data center market, where demand is anticipated to grow. This product is equipped with Fuji Electric's silicon carbide (SiC) power semiconductors, enabling it to realize power conversion efficiency at industry-leading levels.



UPS for the North American

12.8

2016

Results

Change

+2.5

(FY)

Change

-0.5

market

(Billions of yen

10.3

2015

Results

**R&D** Expenditure\*1

2.5

other goods (left) and automatic change dispensers (right)

(Billions of yen)

3.0

**R&D** Expenditure\*1



Capital Expenditure (Billions of yen)

**Capital Expenditure** 

3.7

(Billions of yen)

2.0

7.4

2015

Results

8.9

2016

Results

#### **Capital Investment**

- Equipment for mass-production of 7th-generation IGBT chips at the Yamanashi Factory
- Equipment for increasing production at back-end process bases in Japan and overseas

#### **Research and Development**

• Direct liquid-cooling power modules for electric and hybrid electric vehicles

(50% more compact and 60% lighter than previous offerings)

## Expansion of Power Semiconductor Series for Industrial and New Energy Fields

Fuji Electric expanded its series of 7th-generation IGBT module power semiconductors, which deliver increased energy savings and contribute to more compact equipment and subsequent space savings. Applications for these products include numerical control machinery and other production equipment as well as power convertors for wind and solar power generation systems in the new energy field.



Change

+1.7

(FY)

Change

+1.5

#### **Capital Investment**

• Construction of second Dalian factory to expand vending machine business in China

#### **Research and Development**

Freezer showcases for stores

(30% less electricity consumption than previous offerings), other showcases

## Contributions to Labor Savings at Stores

Labor shortfalls are stimulating increases in demand for labor savings and automation at convenience and other stores. Fuji Electric catered to this demand by expanding its lineup of vending machines that can sell goods 24 hours a day and by delivering automatic change dispensers for selfcheckout registers.



\*1 Figures for R&D expenditure above have been divided by segment based on theme and may therefore differ from the figures contained in the consolidated financial report for the fiscal year ended March 31, 2017.

