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## Fuji Electric Innovating Energy Technology

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# Technology Innovating Energy Technology In Schnology Innovating Energy Technology Innovating Energy Technology Innovating Energy Technology Innovating Energy Technology Innovational Energy Technology Innovational Energy Technology Innovating Energy Technology Innovating Energy Technology Innovating Energy Technology Innovating Innovating Energy Technology Innovating Innov

# **Corporate Profile**

As of October 1, 2020

Fuji Electric Co., Ltd.

## **Corporate Outline**



Company Name : FUJI ELECTRIC CO., LTD.

Established: August 29, 1923

Registered Address: 1-1, Tanabeshinden, Kawasaki-ku, Kawasaki-shi,

Kanagawa 210-9530, Japan

Head Office: Gate City Ohsaki, East Tower, 11-2, Osaki 1-chome,

Shinagawa-ku, Tokyo 141-0032, Japan

Capital Stock: JPY 47.6 billion (Year ended March 31, 2020)

Number of Employees (consolidated): 27,960 (As of March 31, 2020)

Net Sales (consolidated): JPY 900.6 billion (Year ended March 31, 2020)

## Message





# Contributing to the Creation of a Sustainable Society through Our Energy and Environment Businesses

Since its foundation in 1923, Fuji Electric has pursued innovation in energy and environment technology to make broad contributions to the world in the fields of industrial and social infrastructure.

Global society is currently engaged in a movement to achieve economic growth while simultaneously addressing social and environmental issues. This commitment can be seen in the adoption of the United Nations Sustainable Development Goals, a set of goals for realizing a sustainable society, and the Paris Agreement, an international framework for combating global warming. Companies, too, have come to be expected to take part in proactive efforts toward these goals as responsible members of society.

The direction indicated by Fuji Electric's corporate philosophy and management policies coincides with the goals of global society. We are thus committed to working together with our customers and business partners to help resolve social and environmental issues through the creation of products and systems that efficiently utilize electricity and heat.

Acting in accordance with our corporate slogan of being "enthusiastic, ambitious and sensitive," we will utilize the comprehensive strengths of dedicated teams of diverse individuals to contribute to the creation of a sustainable society through our energy and environment businesses.

Michihiro Kitazawa President and Chairman of the Board of Directors Om detyani

## **Corporate Philosophy**



## **Corporate Philosophy**

## [Corporate Mission]

We, Fuji Electric, pledge as responsible corporate citizens in a global society to strengthen our trust with communities, customers and partners.

Our mission is to:

- Contribute to prosperity
- Encourage creativity
- Seek harmony with the environment

[Slogan] To be enthusiastic, ambitious and sensitive

#### **Management Policies**

- 1. Through our innovation in energy and environment technology, we contribute to the creation of a responsible and sustainable society.
- 2. Achieve further growth through our global business expansion.
- 3. Maximize our strengths as a team, respecting employees' diverse ambition.

#### **Brand Statement**

## Innovating Energy Technology

## **Corporate History**

1935: Established Fuji Tsushinki

Fujitsu Limited) by spinning off

telephone division.

Manufacturing Co., Ltd. (currently,



1920 1930 1940 1950 1960 1970 1980 1990 2000 2015 1924: Started manufacturing 2002: Introduced company Power generators. 1923: Fuji Electric Manufacturing Co., Ltd. symbol mark. 1925: Started manufacturing 2003: Moved to pure Established by a capital and technology Transformers. holding company system. tie-up between Furukawa Electric Co., Ltd. and German company Siemens AG. 1984: Change company name 2014:Created new to Fuji electric Co., Ltd corporate brand emblem for products **Import** 1959: Started Heavy electrical equipment manufacturing sales Diode. Power Electronics Systems Energy measuring instrument Power Electronics Systems Industry 1937: Started manufacturing Flectronic Devices **Semiconductor** Watt-hour meters. Power Generation Home equipment Food and Beverage Distribution Communication **Vending machines** equipment 1927: Started 1936: Built first hydraulic 2011: Fuji Electric Co., Ltd. 1969: Started 1987: Developed turbine, 4,850 HP Francis manufacturing Vending (Merger of Fuji Electric manufacturing **IGBTmodule** machines. Holdings Co., Ltd. with Fuji Electric fans. Turbine Electric Systems Co., Ltd.)

1976: Started manufacturing

General purpose invertor

5

2012: Introduced new

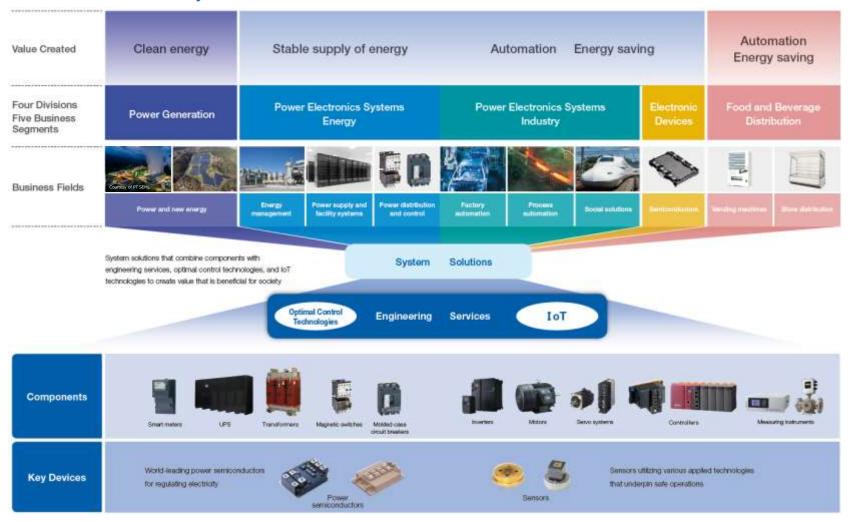
Innovating Energy Technology

brand statements.

## Fuji Electric's Energy and Environment Businesses



Fuji Electric is committed to thoroughly exercising synergies between its core power semiconductor and power electronics technologies. By combining high-quality equipment employing key devices with engineering services, optimal control technologies, and IoT technologies developed through frontline operations, we will make contributions to the creation of a responsible and sustainable society in industrial and social infrastructure fields.



## **Power Electronics Systems Energy** ①



Fuji Electric supports electricity infrastructure with proven technologies to ensure stable supply and optimization of energy.

#### **Transmission and distribution**



**High-capacity transformers** 



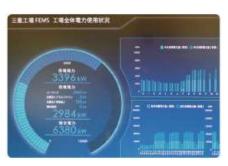
High-capacity rectification equipment

## Transmission and distribution monitoring and control systems



**Substation equipment** 

#### **Energy management systems**



**Energy management systems** 



**Smart meters** 

## Substation equipment diagnosis services



**Switchboards** 

**Services** Fuji Electric offers service throughout the lifecycles of its products. Our call centers in Japan and other countries respond to customer inquiries received via telephone or our website 24 hours a day, 365 days a year, contributing to higher levels of customer satisfaction.



## Power Electronics Systems Energy 2



Fuji Electric supports electricity infrastructure with proven technologies to ensure stable supply and optimization of energy.

#### **Switchboards**



High-voltage switchboard (compatible with domestic **JEM** standards)



High-voltage switchboard (compatible with overseas **IEC** standards)

**Data center total systems** 



**Data centers** 



Large capacity uninterruptible power systems (UPS)

#### **Power supplies**



Medium capacity uninterruptible power systems (UPS)



Power conditioning systems (PCS)

#### Power distribution and control



**Magnetic switches** 



Molded-case circuit breakers

## **Power Electronics Systems Industry** ①



Fuji Electric combines its power electronics products with measuring instruments and the Internet of Things (IoT) and facilitates the advance of plant automation and visualization to increase productivity and save energy.

#### **Drive equipment**







Servo systems

#### Optimal control systems Assembly and processing equipment



**Assembly lines** 



**Facility information collector** 

## **Control equipment**



**Programmable controllers** 



HMI

## **Measuring instruments**



Spool piece ultrasonic flowmeters



Gas analyzers

## Services Our technical service centers handle all inquiries related to drive equipment

Our technical service centers handle all inquiries related to drive equipment, factory automation equipment, measuring instruments, and other components. We also make it possible to receive responses to inquiries via our website as part of our efforts to further improve customer service.



## **Power Electronics Systems Industry 2**



Fuji Electric combines its power electronics products with measuring instruments and the Internet of Things (IoT) and facilitates the advance of plant automation and visualization to increase productivity and save energy.

## High-speed control systems Metal plants



Steel plants

#### Monitoring control systems Cement plants



**Cement plants** 

#### **Electrical equipment for railcars**



Passenger door systems



Drive systems for high-speed railcars

## **Exhaust gas cleaning systems for ships**



Exhaust gas cleaning systems for ships



SOx scrubbers

## **Electronic Devices**



Fuji Electric's electronic devices, achieving higher quality and high conversion efficiency, contribute to product downsizing and energy savings.

#### **Semiconductors**

Industrial field



7th-generation IGBT modules



**All-SiC modules** 



**Small-capacity IPMs** 



**Power MOSFETs** 

Automotive field



Direct liquid-cooling power modules for automotive applications



**Pressure sensors** 

## Magnetic disks



Magnetic disks

## **Power Generation**



With its sophisticated plant engineering capabilities, Fuji Electric is a one-stop provider of services ranging from design and manufacturing to on-site installation, commissioning tests, and after-sales services.

#### Renewable energy and new energy



Geothermal power generation facilities



**Hydropower generation equipment** 



Solar power generation systems



Wind power generation systems



Phosphoric acid fuel cells

#### **Thermal power**



Combined-cycle power generation plants



Steam turbines

#### **Nuclear power-related equipment**

- Decommissioning systems that utilize cutting-edge solidification technology
- Include mixed oxide nuclear fuel manufacturing equipment



## **Food and Beverage Distribution**



Fuji Electric provides food safety and security and helps to realize automation and conserve energy in this field.

## **Vending machines**



Hybrid heat pump can/PET vending machines



Cup vending machines



Food vending machines



Vending machines for food and other goods (models for Southeast Asian markets)



Automatic tea dispensers



Coffee dispensers (for overseas-use only)

#### **Store distribution**



Non-leak showcases



Multi-shelf showcases



Automatic change dispensers

Services F

Fuji Electric unifies the management of requests for service from customers, service staff dispatches, and the results of repair works. Moreover, we position technical support staff close to customers as part of our efforts to heighten customer satisfaction.

## Research and Development (R&D)



Through innovations made in energy and environment technology, Fuji Electric will create products that will help realize a sustainable society.

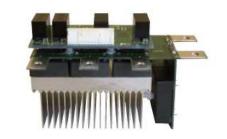
#### **Research and Development**

Creation of competitive components and systems



The newly developed SignAiEdge, an edge controller equipped with a touch panel and built-in analytics and AI, which enables productivity improvements by automatically visualizing "unusual" conditions on the production floor

Development of sophisticated and competitive products through the integration of technologies



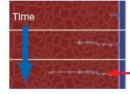
Next-generation ultra-compact power unit

A power unit that achieves ultra-high density output through the integration of advanced technologies, suchas insulation, bonding, thermal cooling, power electronics, next-generation widebandgap semiconductor devices and packages

Strengthening of basic technologies by utilizing digital technology



Process of forming gate oxide film on a SiC power device



Process of stress corrosion cracking in the material of turbine blades used for geothermal power generation

Reproduction of phenomena in the digital space, suchas an atomic-scale semiconductor interface and several-meter-scale turbine blade corrosion

Crack

## Manufacturing

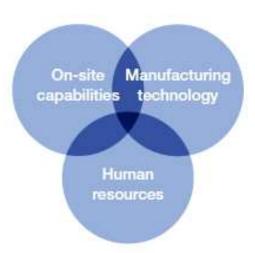


We are heightening our manufacturing capabilities by stepping up efforts to enhance onsite capabilities, manufacturing technologies, and human resource capacities. As one facet of our efforts to enhance our manufacturing capabilities, we are harnessing IoT technologies to convert all of Fuji Electric's factories into smart factories. With Japan acting as the mother base (plant), we are strengthening our global production network in accordance with our policy of pursuing local design, local production and local consumption.

#### The Three Pillars for Enhancing Our Manufacturing Prowess



The ability to enhance product-manufacturing skills, manage and maintain sites, improve productivity, and reduce costs





The ability to develop manufacturing methods, production processes, and production equipment for mass production in step with product development

## **Facility Technology Center**



- Production technology development
- Equipment production
- Technical and skills training



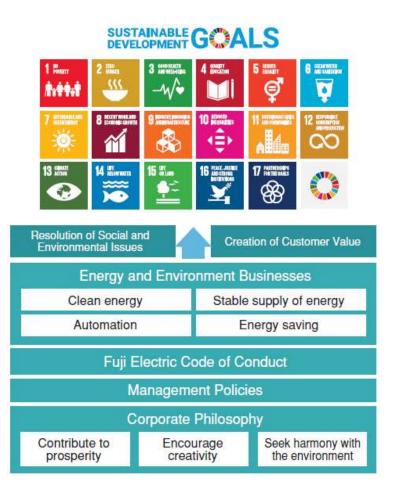
The capacity to develop the human resources underpinning manufacturing operations and to help them hone their skills and techniques

## Contributing to the creation of a sustainable society 1



Fuji Electric contributes to the resolution of social and environmental issues through its business activities.

## **Fuji Electric Corporate Activities and SDGs**



Guided by its corporate philosophy and its management policies, Fuji Electric has continued to contribute to the resolution of social and environmental issues by pursuing innovation in energy and environment technology and creating high-value, eco-friendly products. We have established the Fuji Electric Code of Conduct as a policy by which the Company and all employees come together as one under shared common values. Acting in accordance with this code, Fuji Electric is contributing to the accomplishment of the United Nations Sustainable Development Goals through its business activities.

#### Contributions to Accomplishment of Five Priority SDGs



- Spread of renewable energy use
- Improvement of energy efficiency



- Reduction of CO<sub>2</sub> emissions from industrial processes
- Reinforcement of social and industrial infrastructure



- Provision of energy and other basic services for cities and residential areas
- Development of sustainable transport systems



- Efficient use of natural resources
- Rigorous management and reduction of emissions of chemical substances and waste



 Contributions to climate change countermeasures through the supply of products that help reduce CO<sub>2</sub> emissions

## Contributing to the creation of a sustainable society 2



Fuji Electric contributes to the resolution of social and environmental issues through its business activities.

#### **Environmental Initiatives**

Fuji Electric positions the protection of the Earth's environment is a material management issue, and is proactively working to resolve environmental problems such as global warming. We formulated our Environmental Vision 2050, which aims to "realize a low-carbon society," "realize a recycling-oriented society," and "realize a society in harmony with nature" based on the Paris Agreement and the Plan for Global Warming Countermeasures of the Japanese government (Cabinet Decision). We are taking steps to reduce greenhouse gases, promote the 3Rs of "reduce, reuse and recycle," and reduce the impact on the ecosystem throughout the entire supply chain. We have been selected by CDP\* as one of the highest rated Climate Change A List Companies 2019, which recognizes companies for their initiatives in addressing climate change and information disclosure policies.

In addition, in June 2020, Fuji Electric expressed its support for the Task Force Climate-related Financial Disclosures (TCFD), an international framework for disclosing the financial impacts of climate change. Through the initiatives in our Environmental Vision 2050, we will analyze the financial impact of climate change, reflect it in our management strategies, and actively disclose the information.

#### **Environmental Vision 2050**

#### Realize a Low-Carbon Society

Reducing greenhouse gas emissions by 80% or more across the entire supply chain

## Realize a Recycling -Oriented Society

Promoting zero impact on the environment and the 3Rs

#### Realize a Society in Harmony with Nature

Contributing to biodiversity

## FY 2030 targets

31% reduction in greenhouse gas emissions during production

Note: Compared with FY 2013 base year levels

# **50 million** t/year reduction of society's CO<sub>2</sub> emissions through products

<sup>\*</sup> CDP is a non-governmental organization that researches, evaluates, and discloses environmental initiatives worldwide. CDP's primary activity is to call on companies and local governments to disclose information on environmental issues, such as climate change countermeasures, water resource protection, and forest conservation. This activity is based on the requests of global institutional investors and major purchasing companies with a strong interest in environmental issues, and through this activity, CDP encourages the implementation of such countermeasures

## Contributing to the creation of a sustainable society ③



Fuji Electric contributes to the resolution of social and environmental issues through its business activities.

## **Corporate Code of Conduct**

Fuji Electric, and our employees, in our corporate philosophy state that we, "pledge as responsible corporate citizens in a global society to strengthen our trust with communities, customers and partners, and fulfill our mission in good faith," and through all corporate activities we will "contribute to prosperity," "encourage creativity," "seek harmony with the environment," while also contributing to the achievement of the United Nations Sustainable Development Goals (SDGs). In order to practice our corporate philosophy to fulfill social responsibility and act with high ethical standards while understanding and complying with relevant laws, regulations, international rules and the spirit of such regulations and rules, both domestically and abroad, Fuji Electric and its employees have defined this code as a foundation for decision-making and behavior.

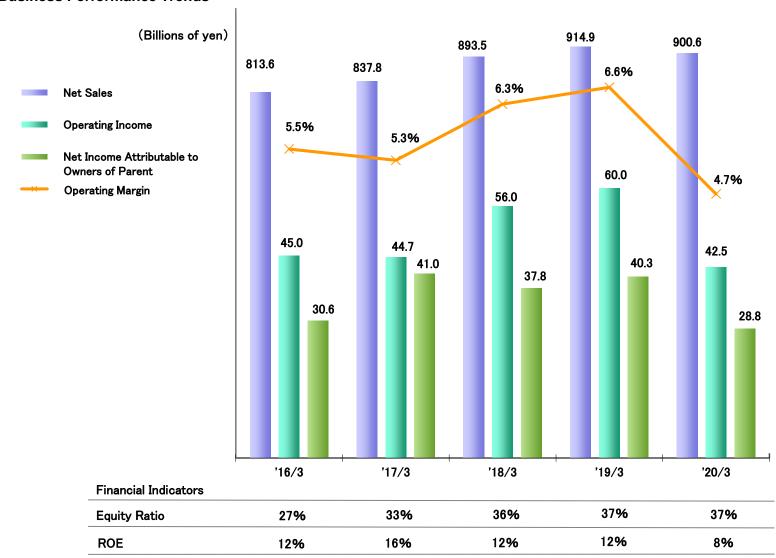
- 1. Respect and value all people 2. Respect
  - 2. Respect and value our customers
- 3. Respect and value our business partners
- 4. Respect and value our shareholders and investors
- 5. Respect and value the global environment
- 6. Respect and value interaction with society

- 7. Make global compliance a top priority
- 8. Top management will thoroughly practice this standard

## **Financial Highlights**



#### Business Performance Trends



## **Overseas Operation**



Consolidated subsidiary (As of August 2020)

Europe 2

Sales 1

Manufacture and Sales 1

Asia

China is contained.

42

Manufacture 5

Sales 12

Manufacture and Sales 19

Other 6

Japan 23

Manufacture 4

Sales 5

Manufacture and Sales 8

Other 6

North America

Manufacture and Sales 3
Other 1



## **Special Instruction**



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- 2. The images contained in this document are provided by each department and are limited to our company brochure uses.
- 3. It is not allowed to reproduce this presentation materials, including images, without permission for any purpose other than introducing our company.

October 1, 2020 Brand Promotion Dept., President's Office