## Corporate History

# Fuji Electric continues to evolve along with society in step with the times, with technology as our driving force.

# **Corporate History**

# 1923

## Fuji Electric Manufacturing Co., Ltd. Established

Established as a capital and technology alliance between Japan Furukawa Electric Co., Ltd. and German Siemens AG. The result is a company with characteristics inherited from industry in both countries



FS mark



1924 Started the operation of Kawasaki factory

1935 Established Fuji Tsushinki Manufacturing Co., Ltd. (present Fujitsu Limited) by spinning off the **Telephone Department** 

> 1942 Started the operation of Matsumoto factory

1943 Started the operation of Fukiage and Toyoda factories

1944 Started the operation of Mie factory

#### 1961 Started the operation of Chiba factory

1968 Merged with Kawasaki Denki Seizo Co., Ltd., and commenced operations at Kobe and Suzuka factories

1973 Started the operation of Otawara factory

1979 Established its symbol mark FUJI ELECTRIC

#### 1920 <u>1940 1950</u> 1930

1924 Started manufacturing electrical machinerv

1925

Started transformer production

1927

Began electric fan production



1930

1933 Started expansion circuit breaker production

1936 **Built its first** hydraulic turbine, 4,850HP Francis Turbine



1937 Began watt-hour meter production



#### 1954 • Started ultra-compact magnetic switch production 100

#### Began volume production of selenium rectifiers

In response to exploding demand for televisions and radios, Fuji Electric began the volume production of selenium rectifiers electronic components

that convert alternating current (AC) to direct current (DC). Soon, Fuji Electric had an 80%-90% share of the domestic selenium rectifier market.

#### 1955 Started manufacturing juicers

Sales of juicers take off from around 1961 on the back of nationwide health movement (campaign).

#### Full-scale foray into thermal power plant business

. Signed a contract with Siemens AG for technology transfer of the steam turbine manufacturing. Subsequently delivered the first super-critical, variable pressure turbine in Japan, which was one of the largest in the country at the time. This move to import European technology marked a change of tack in a domestic power generation market dominated by US technology.

# 1958

1959

Delivered the first electronic instrumentation system to a water treatment plant in Japan

Began manufacturing silicon diodes

# 1965

1960

**Electric propulsion system** fitted to Antarctic exploration vessel Fuji



#### 1966 **Tokai nuclear power** station comes on stream Facility equipped with nuclear pressure containers and other components made by Fuii Flectric

原子力の平和利用を用



1967 Developed earth-leakage circuit breakers

#### 1969 **Vending machines enter** production

Used know-how as a vendor of refrigerated milk showcases to move into vending machines. Delivered 230 beverage vending

machines to the 1970 Osaka World Exposition, prompting the wider take-up of made vending



# 1971

1970

 Developed centralized monitoring and control systems for power utility companies

First computerized control system in Japan, using the FACOM-R mini-computer

 Started hybrid IC manufacture

1973 Selenium photoconductive drums go into production

## 1976 Started manufacturing general-purpose inverters

First in the industry to develop general-purpose inverters. Led the market in creating smaller, more responsive and functional components, resulting in their adoption in a range of fields due to their energy-saving characteristics



Developed transistor inverter FRENIC 5000G

# 1978

Began research of amorphous solar cells



## 2001 Established Japan AE Power Systems

Corporation (a joint venture with Hitachi and Meidensha)

# 2002



## 2003 Changed name owing to shift

to pure holding company system Fuji Electric Holdings Co., Ltd.

# 2006

Started operation of solar cell factory in Kumamoto prefecture

# 2008

 Established METAWATER Co., Ltd. (a joint venture with NGK Insulators, Ltd.) Fuji Electric FA Components & Systems Co., Ltd. (merged operations with Schneider Electric Japan Ltd.)

# 2010

2010

Fuji Electric Systems Co., Ltd., merged its uninterruptible power supply (UPS) operations with the . TDK–Lambda Corporation

 Changed company name:

2011

2011

2011

sale

Fuji Electric Co., Ltd. (Merger of Fuji Electric Holdings Co., Ltd. with Fuji Electric Systems Co., Ltd.)

Establishment of GE Fuji

venture with General Electric)

Meter Co., Ltd. (a joint

• Fuji Electric Co., Ltd. merged Fuji Electric Device Technology Co., Ltd.

• High-Voltage Inverter with Water-Cooling

System "FRENIC

4800VM5" goes on

# 1980

1980

1984

Co., Ltd.

Established Fuji Electric

Corporate Research and

**Changed company** 

name to Fuji Electric

Development Ltd.

## 1981

Developed and commenced manufacture of electric propulsion system for ice-breaking vessel Shirase

1982 Developed 30kW phosphoric acid fuel cell

1985 • 1st generation mini UPS "M-UPS Series" launched



 Released the programmable logic controller "MICREX-F Series"



 Developed 1,000kW phosphoric acid fuel cell

# 1987

• New IC chip for auto-focus cameras completed Developed IGBT module

1989 Realization of EIC integrated control system

# 1991 Developed 2.5-inch magnetic disks

1991

1992

1994

persons

1996

1999

1990

affiliate company)

Construction Co., Ltd.)

guiding principles Started the operation of

Yamanashi factory

• Laid down 21st Century Vision to

stipulate the corporate mission and

Laid down Basic Policies of the Fuji

Electric on Environment Protection

Established Fuji Electric Frontier

**Company Limited (Preferential** 

Promoting employment for disabled

Fuji Electric Construction Co., Ltd.

(now Fuji Furukawa Engineering &

Introduced the company system

1992 Began development of solar photovoltaic cells with film substrates

 Completed an ozone-based water treatment system

# 1993

• Delivered the first generator (600MW output) of Noshiro Power Station

Completed a ski lift gate system

## 1994 Successful launch of Japan's first Hll rocket

The launch vehicle's power control unit is fitted with an aerospace power transistor made by Fuji Electric.

1995 Successful field experiment of the world's first linear-motor-driven vertical transport systems

1996 Order won for **IGBT** main conversion devices used in electric railwavs

1998 Delivered 100kW phosphoric acid fuel cell

1999 New mini-UPS "J-Series" launched



# 2002

Established biogas-powered fuel cell power generation system

Delivered Japan's first fuel cell cogeneration system (incorporating two 100kW fuel cells) powered by digested sewage sludge gas.

# 2006

#### **Commenced mass production** of film substrate amorphous solar cells

Began mass producing flexible amorphous solar cells based on plastic film substrate.

# 2007

#### Started mass production of perpendicular magnetic recording media

Full-scale mass production of world's largest capacity 2.5-inch glass substrate media (160GB/disk), 3.5-inch aluminium substrate media (334GB/disk).



#### 2009 High-voltage drop/dip compensator using a lithium-ion capacitor

The world's first embedded lithium-ion capacitor realizes environmental impact reduction in a significantly smaller package.



2010 • We developed a new three-level converter and a new three-level power module circuit, realizing highly efficient electric power conversion



• 140MW geothermal power plant, the largest single-unit capacity in the world, goes online



• High-speed electric vehicle battery charger goes on sale



- Installation and verification testing of micro-grid system on outlying islands of Kyushu and Okinawa
- Development of next-generation SiC module power semiconductor





