

SANSHA ELECTRIC MFG. CO., LTD.

# SanRex REPORT 2022

Sansha Electric Manufacturing Co., Ltd. SanRex REPORT 2022

Corporate Philosophy

**Valuable Products for Society**

Make a continuous effort to create products that are sought by society and contribute to the development of society by providing products of better quality

**Profits and Prosperity for the Company**

Always endeavor to raise awareness, aim for prosperity, secure profits and fulfill social responsibility for the Company

**Happiness and Stability for Employees**

Always look to the future in high spirits and ensure happiness and a stable life for employees through trust and cooperation

**SANSHA ELECTRIC MFG. CO., LTD.**

3-1-56 Nishiawaji, Higashiyodogawa-ku, Osaka, Osaka, Japan  
Phone: +81-6-6321-0321 (main) Fax: +81-6-6321-8621



<https://www.sansha.co.jp/eng/>

**SanRex**

SanRex is a registered trademark of Sansha Electric Manufacturing Co., Ltd.

The SanRex trademark is the combination of Sansha Electric Manufacturing's "San" and "Rec" from rectifier. The Sansha Electric Manufacturing Group will capitalize on the electric power conversion technologies cultivated through the development of rectifiers and endeavor to build a prosperous society. The color red used for SanRex logotype gives the logo an active look that viewers associate with energy. It represents the enthusiasm and energy of the individual employees that work to realize the philosophy of the Sansha Electric Manufacturing Group.



Special Feature  
**Management material issues**  
**P.23**

- #1 Contribution to a carbon-free society and environmental conservation
- #2 Constructing infrastructure and contributing to industrial development
- #3 Providing safety, security and new value to improve services
- #4 Strengthening of manufacturing
- #5 Reduction of the environmental impact of production activities
- #6 Promotion of diversity and personnel in action

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**SanRex**

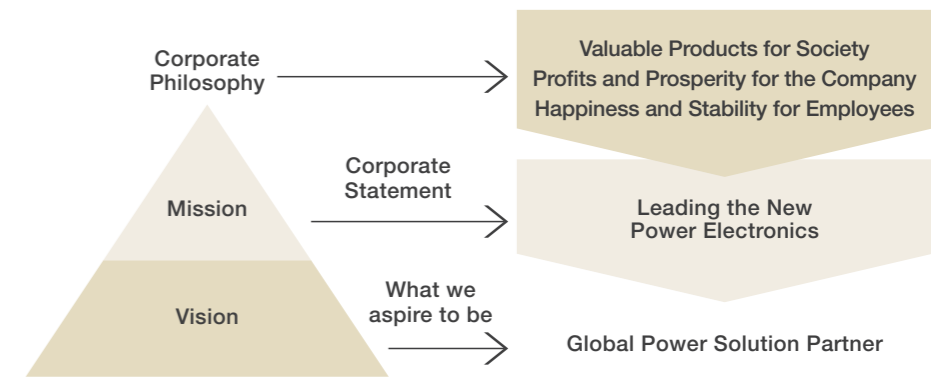
# Bringing a Brighter Future Through Power Electronics



The Sansha Electric Manufacturing Group leads today's power electronics industry as a developer of power semiconductors for power supply control and conversion and as a specialist in a broad array of industrial power supplies for various industries, from high to low electric power.

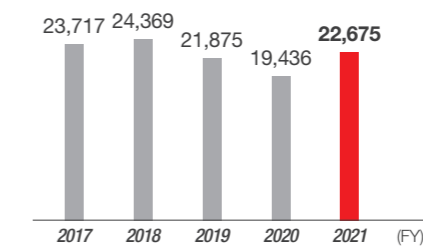
In a society that is being urged to massively increase energy efficiency and shift to low-carbon energy to reduce greenhouse gas emissions, the Group provides quality technologies as one as a unique partner helping resolve social issues.

## The Sansha Electric Manufacturing Group's Philosophy, Mission and Vision

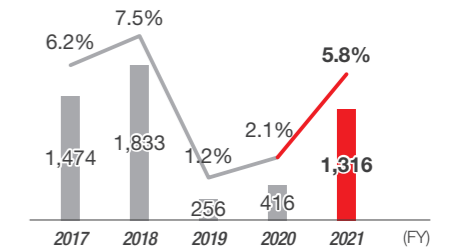


## Our Performance

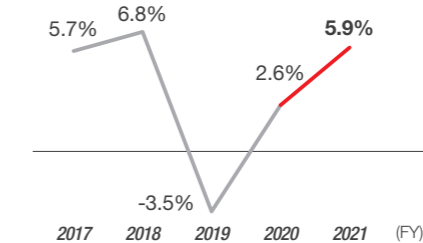
Net sales  
(in million yen)



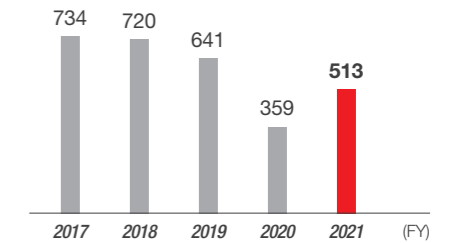
Operating profit & ratio of operating profit to net sales  
■ Operating profit (in million yen) — Profit ratio (%)



Return on equity (ROE)  
(%)



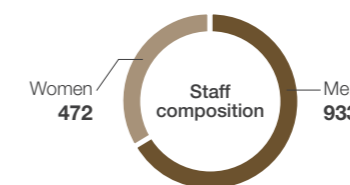
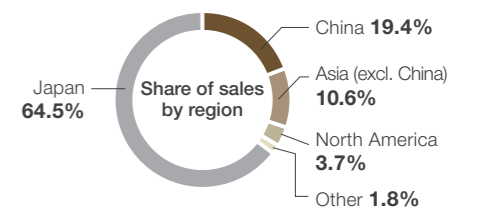
Capital investment  
(in million yen)



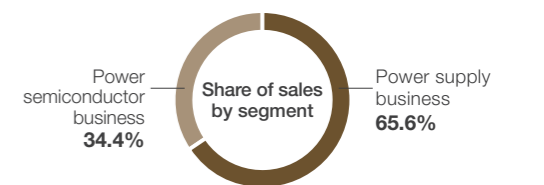
## Basic Information (as of the end of March 2022)



Established in **1933**  
Developing a power supply for a movie projector that stabilizes the image on the movie theater screen



employees in the Sansha Electric Manufacturing Group **1,405**



Introduction  
01

# The Sansha Electric MFG history of growth

Since its founding in 1933, the Sansha Electric Manufacturing Group has been contributing to the development of society through the creation of products that society needs.

Nearly four decades have passed since we launched our first overseas bases in the United States and in Hong Kong in 1983.

The Group will continue to operate its business globally.

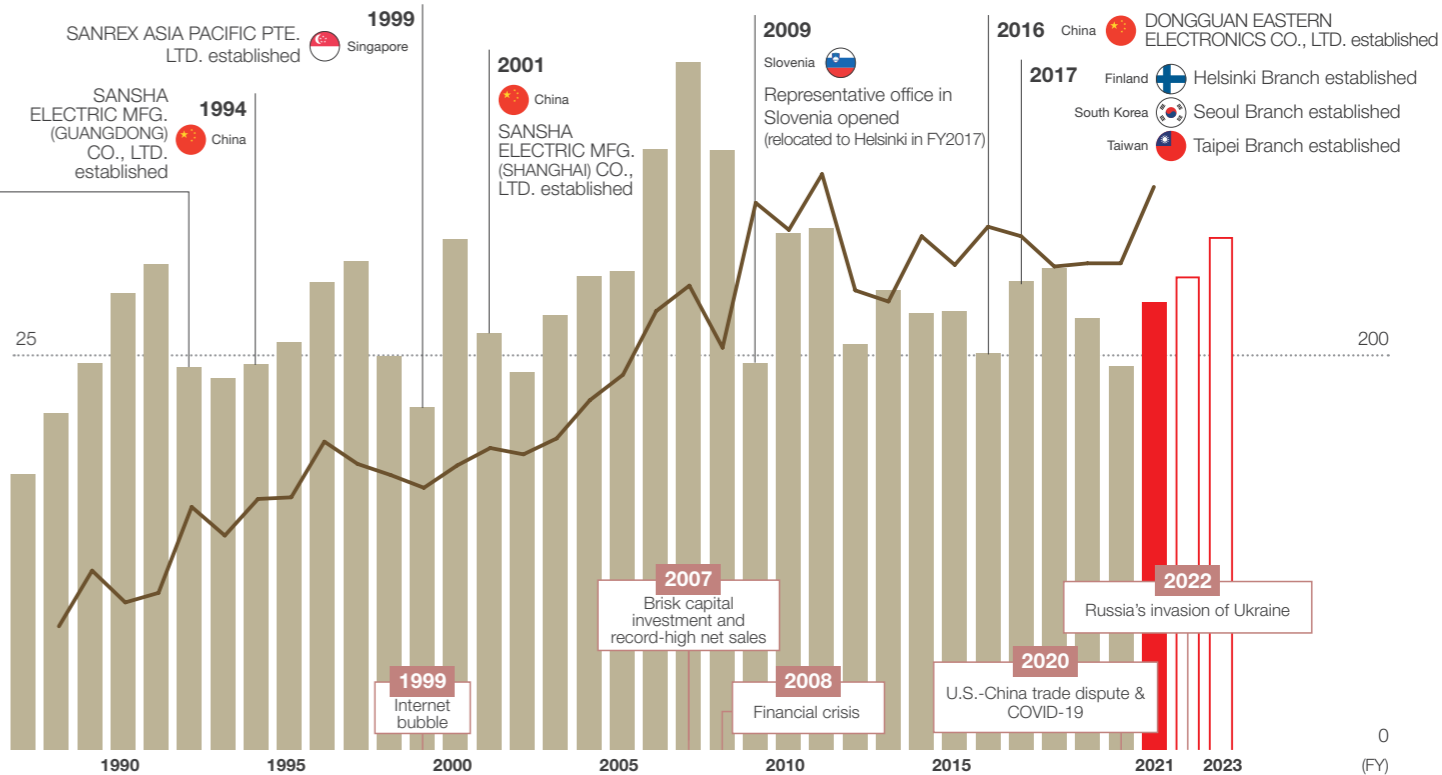
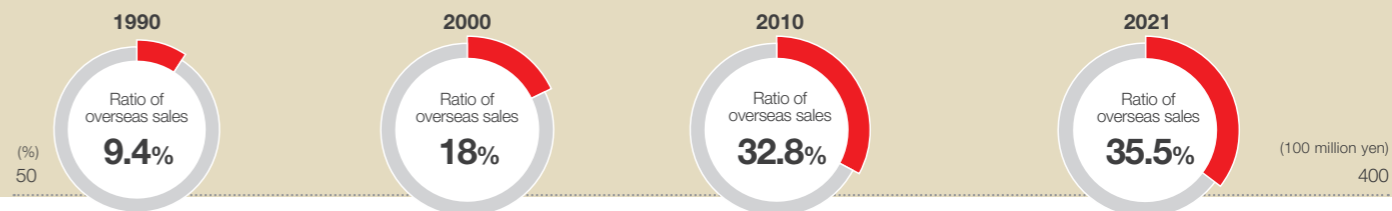
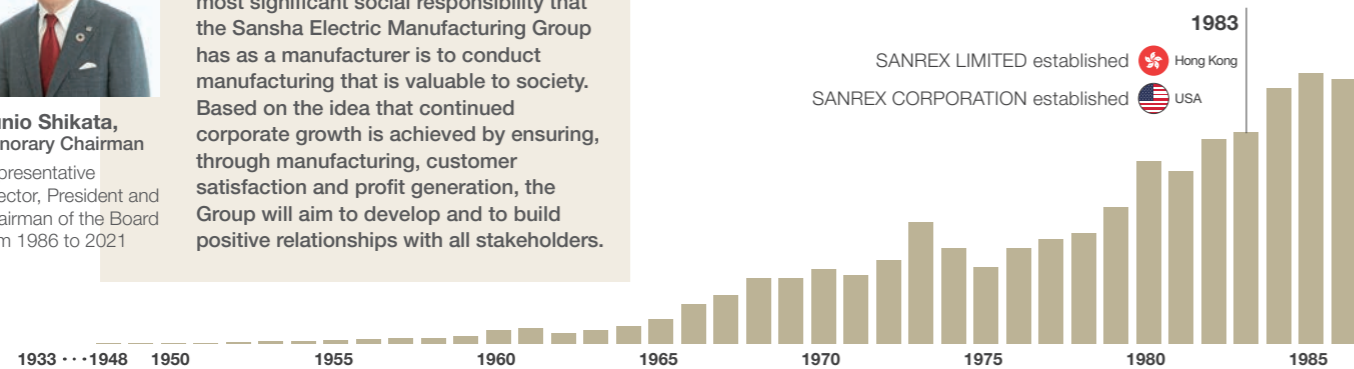


**Kunio Shikata,**  
Honorary Chairman  
Representative Director, President and Chairman of the Board from 1986 to 2021

No matter the changes of the era, the most significant social responsibility that the Sansha Electric Manufacturing Group has as a manufacturer is to conduct manufacturing that is valuable to society. Based on the idea that continued corporate growth is achieved by ensuring, through manufacturing, customer satisfaction and profit generation, the Group will aim to develop and to build positive relationships with all stakeholders.

Trends in consolidated net sales and in the ratio of overseas net sales

■ Consolidated net sales (right scale)  
— Ratio of overseas net sales (left scale)



## Establishing the technological foundation that continues from the foundation of the Group to the present

### 1933-1970

- 1933 Sansha Denki Seisakusho founded
- 1948 Sansha Denki Seisakusho Co., Ltd. established
- 1953 Tokyo District Office (currently Tokyo Branch) established
- 1960 Headquarters Plant completed in Osaka
- 1970 Fukuoka Representative Office (currently Kyushu Sales Office) established



**Yukio Shikata,**  
founding president

Representative Director and President from the Group's foundation to 1972

## Increasing bases and specialization in the development of power semiconductors

### 1971-1990

- 1982 Shiga Plant completed in Shiga Prefecture for the production of power supplies
- 1985 Okayama Plant completed in Okayama Prefecture for the production of power semiconductors



**Masao Shikata,**  
second president

Representative Director and President from 1972 to 1986

## Developing a system for increased globalization

### 1991-2010

- 1994 Shiga Plant obtains ISO 9001 certification
- 1996 Okayama Plant obtains ISO 9001 certification
- 1997 Achieves listing on the second section of the Osaka Stock Exchange
- 2001 Power Supply System Manufacturing Division obtains ISO 14001 certification
- 2002 Semiconductor Manufacturing Division obtains ISO 14001 certification

## Towards a new age

### 2011-2022

- 2014 New building completed at the Shiga Plant
- 2016 SANSHA SOLUTION SERVICE CO., LTD. established in Osaka
- 2016 SANSHA ELECTRIC EASTERN CO., LTD. (currently SUWA SANSHA ELECTRIC CO., LTD.) established in Nagano Prefecture to commence small power supply business
- 2021 OSAKA DENSO INDUSTRY CO., LTD. becomes a wholly owned subsidiary
- 2022 Listing moves to the Standard Market of the Tokyo Stock Exchange

Business History

Product Development

- 1933 Develops a choke coil auto transformer, a predecessor to projector power supplies
- 1937 Develops a tungar rectifier for light projectors
- 1963 Develops and announces our first power semiconductor and thyristor
- 1964 Develops an inverter uninterruptible power supply and an electric power regulator for electric furnaces
- 1968 Develops a diffusion type of triac and thyristor
- 1970 Develops a rectifier for plating



Tungar rectifiers for light projectors

- 1971 Develops an insulated triac that is the first in Japan
- 1980 Develops a thyristor module and a power transistor for high speed switching
- 1982 Develops a power transistor module
- 1988 Develops a power MOSFET module



Insulated triac



Thyristor modules

- 1991 Develops a planner type transistor module
- 1993 Develops a solar power conditioner
- 2002 Develops a power supply for light source for projector of digital cinema
- 2007 Develops an IGBT chip for inverter for industrial use



Solar power conditioner

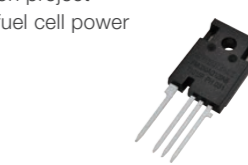


Lamp power supply for digital cinema projector

- 2014 Develops a photovoltaic power generation evaluation system for the National Institute of Advanced Industrial Science and Technology's Fukushima Renewable Energy Institute
- 2015 Jointly develops a compact SiC power module with Panasonic Corporation
- 2016 Participates in the virtual power plant (VPP) construction demonstration project
- 2017 Develops a fuel cell power conditioner



SiC power module



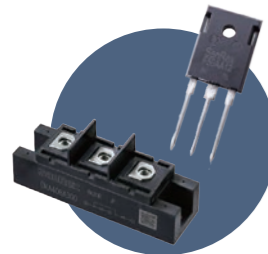
1200 V voltage-resistant SiC MOSFET discrete semiconductor

- 2019 Develops a 1500 V string compatible diode module for photovoltaic power generation
- 2020 Develops a power supply for storage battery tests
- 2022 Releases a 1200 V SiC MOSFET discrete semiconductor



Power supply for storage battery tests

# Products of the Sansha Electric MFG That Support Society



## Power semiconductors

Are devices that strictly control the electric current flow and the voltage level, including transformation from an alternating current into a direct current. They are indispensable to increasing efficiency of electric power transformation and to energy conservation.



## Power supplies

Refer to systems for supplying the electric power necessary for the operation of machinery and equipment for industrial purposes. Using power semiconductors, they efficiently supply stable electric power for a wide variety of applications, including everything from high to low electric power.

## Energy & the environment

### Solar (PV) power generation

#### Power conditioners

Converting the direct current electric energy obtained from sunlight into alternating current to connect to the commercial power network

#### Diode

Preventing the backflow of electric current from a storage battery or other device and the subsequent damage of solar panels

### New energy

#### Power conditioners for fuel cells and for storage batteries

Converting electric energy stored in fuel cells and storage batteries and connecting to the commercial power network

### Hydrogen

#### Power supplies for hydrogen generation

Supplying a stable electric current to the water electrolysis system necessary for the production of hydrogen through the electrolysis of water

### Lithium ion batteries

#### Power supplies for copper foil

Performing an electrolytic process with a stable electric current to generate copper foil to be used as an anode material for lithium-ion batteries

### Fuel cells and storage batteries

#### Power supplies for testing and evaluation and charge-discharge products

High performance power supplies indispensable in the testing and evaluation of a range of batteries and automotive equipment

### Power plants

#### Power supplies for seawater electrolysis

Large current power supplies that generate sodium hypochlorite through the electrolysis of seawater to prevent marine life from depositing on the plant's water inlet

### Waste disposal plants and contaminated substance disposal plants

#### Power supplies for plasma

Power supplies for plasma arc generators that quickly increase the temperature of waste to be treated to a high temperature to suppress the generation of dioxins

## Information & communication

### Smartphones

#### Power supplies for surface treatment

Used for plating, which is a process of placing a thin metal film over the surfaces of electronic components, printed circuit boards and other parts used in computers and smartphones

## Infrastructure

### Expressways and electronic toll collection (ETC)/Stations

#### Uninterruptible power supplies (UPS) and control power supplies

Maintaining the supply of electric power for a certain period of time during a power failure to protect the operation of equipment and data

#### Auxiliary power supplies for electric rolling stock

##### Diode

Supplementary power supplies that supply electric voltage and frequency to lighting, air conditioning and other machinery in rolling stock

### Mobile phone base stations

#### Power supplies for aluminum foil processing

Power supplies for electrochemical etching, which is the process of expanding the surface area of the aluminum foil used in electrolytic capacitors that are necessary for the power supplies for base stations

#### Water supply and sewage facilities

##### Power supplies for ozone sterilizers

Generating ozone to decompose organic substances in water by directing dry air or oxygen and applying a high voltage to induce an electric discharge

## General industries

### Automobiles

#### Power supplies for surface treatment

Used in plating for increasing the abrasion resistance and oxidation resistance of metal and other surfaces

### Manufacturing robots and welders

#### Thyristor/Diode

Controlling motors and maintaining a constant voltage to protect electric circuits from overvoltage

#### Power supplies for welding and cutting

Power supplies for welding and cutting steel sheets

### Printed circuit board

#### Power supplies for surface treatment

Used for plating, which is the process of covering the surfaces of printed circuit boards built in to power supplies with a thin metal film

### Inverters for industrial use and commercial air conditioners

#### Diode

Stabilizing and controlling motors

## Lifestyles, medical care and entertainment

### Movie theaters

#### Power supplies for light sources

Power supplies for projecting images clearly onto a screen

### Medical equipment/ATMs

#### Small embedded power supplies

Power supplies providing stabilized electric power

### TV studios, halls and stadiums

#### Power supplies for dimmers

Power supplies that enable the continuous dimming of lighting

## What does "freely transforming electricity" mean?

The electricity generated by power plants and other facilities cannot be used as it is. It must be transformed.

There are roughly four different ways of transforming electricity.

- 1 Converting direct current electricity to alternating current.
- 2 Converting alternating current electricity to direct current.
- 3 Changing the frequency of alternative current electricity.
- 4 Changing the voltage of direct current or alternating current electricity.

The Sansha Electric Manufacturing Group uses technologies based on the methods for these conversions to transform and control electricity in the manner that is best suited to the purpose of use of the power supply to support society in many different areas.

## What does "efficiently converting electricity" mean?

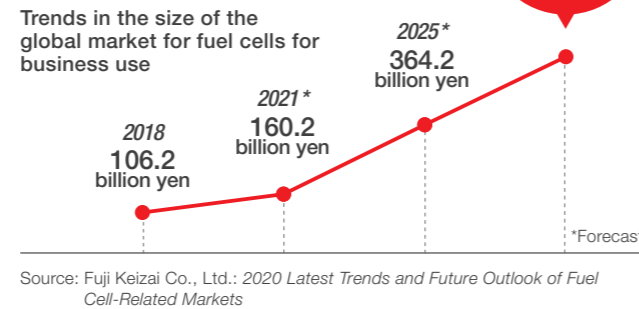
There is always a loss of electricity every time a power conversion occurs in the process from power generation at a power plant, through transmission lines and power supply circuits to the final operation of electric appliances by consumers.

To reduce this power loss, we are working to develop high performance power devices and high efficiency power supplies.

# Four unique features of the Sansha Electric MFG

## 1 Business operation in domains that contribute to a sustainable society

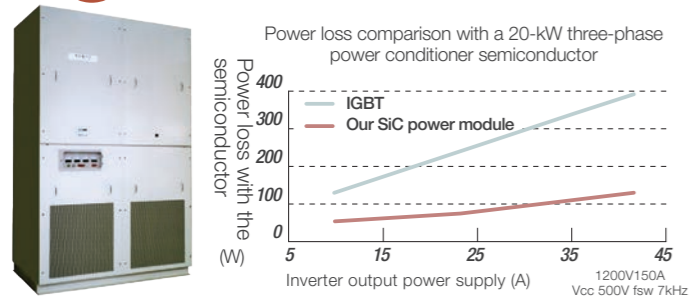
Since its foundation in 1933, the Sansha Electric Manufacturing Group has been conducting its corporate activities in accordance with its corporate philosophy, "Valuable Products for Society." Today, the international community faces climate change and many other social and environmental issues and businesses are urged to take actions toward the creation of a sustainable society. We provide power semiconductors, power supplies for storage batteries and fuel cells and other products and services to help resolve these issues.



Examples of products that help to realize a sustainable society

### Fuel cell power conditioner

**Feature** It includes a silicon carbide (SiC) power module we developed to achieve a 97.5% or better conversion efficiency, one of the highest in the industry.



### SiC power module

- Feature** Employing a transfer mold<sup>1</sup> package that is small and has excellent long-term reliability
- Providing enhanced long-term reliability,<sup>2</sup> lower loss and greater compactness

<sup>1</sup> A method of molding thermosetting resins in which materials are heated and softened before being pressed into a metal mold  
<sup>2</sup> Power cycle resistance that is around three times greater than our conventional models



## 2 Integrated production and one-stop services including after-sales services

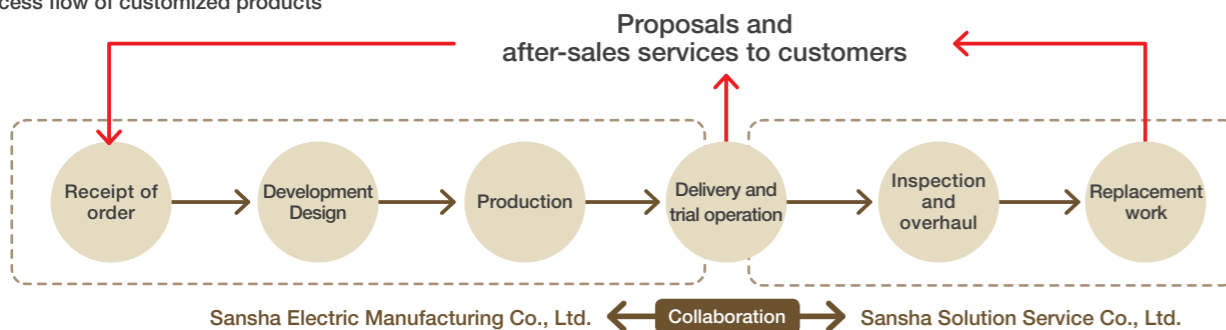
Our power semiconductors supporting high voltage and current are manufactured in an integrated production system including wafer processing and package assembly. Power supply devices, circuit boards and other components are manufactured in an integrated production system that includes development, design and manufacturing.

The Sansha Electric Manufacturing Group develops, designs and manufactures both power semiconductors and power supplies.

This has made us very familiar with how power semiconductors are used in power supplies. That allows us to create proposals that are highly efficient, safe, and best suited to the specific environment the customer will use them in, including peripheral circuits.

We believe that maintenance is a vital part of ensuring the safety of power supplies. We are ready to provide one-stop support including efficient installation, operation, maintenance and replacement.

Process flow of customized products



## 3 A large market share because of our advanced technologies and services

In the semiconductor thyristor and diode module market that we target, our Group has the third largest share of the global market.<sup>1</sup> In the Japanese market of power supplies for plating and other power supplies for surface treatment, we hold the largest market share.<sup>2</sup>

Customers have continued to choose our power supplies for surface treatment for a long time. First, they have superior output stability from startup. Second, we are always ready to provide wide-ranging support to customers, including delivery, after-sales services and equipment replacement.

<sup>1</sup> Source: Omdia, Annual Power Semiconductor Reports - 2020  
<sup>2</sup> Estimated by Sansha Electric Manufacturing Co., Ltd. on the basis of the Japan Plating Suppliers Association: FY2020 Dynamic Statistics of Power Supply Sales



Thyristor and diode module semiconductors

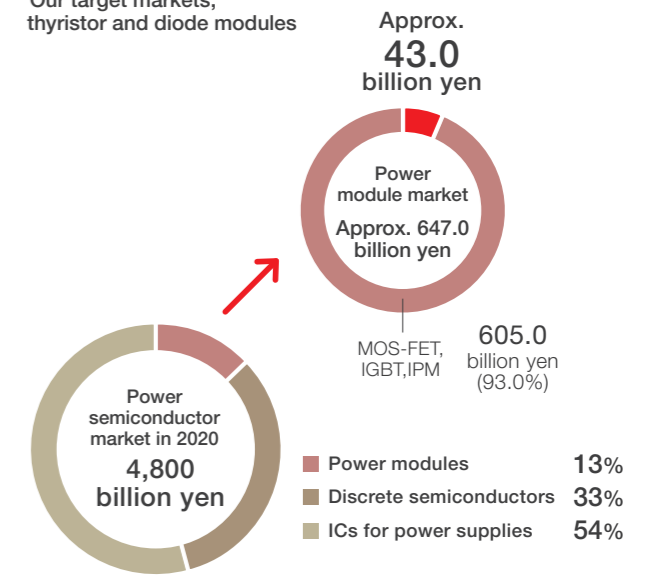
Third largest share of the global market



Power supplies for surface treatment

Largest share of the Japanese market

Our target markets, thyristor and diode modules



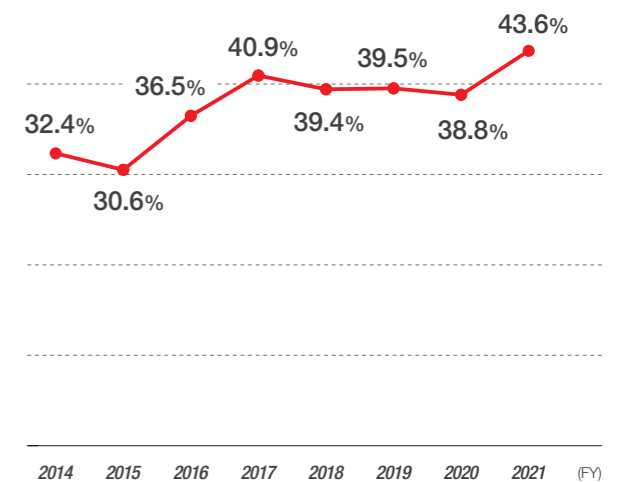
Source: Omdia, Annual Power Semiconductor Reports - 2020

## 4 Overseas growth potential

In 1983, we established two subsidiaries: SANREX CORPORATION in the US state of New York and SANREX LIMITED in Hong Kong. We then opened sales bases in Singapore in 1999 and in Shanghai, China in 2001 to expand our overseas sales operations. In 1994, we opened a base manufacturing power supplies in Guangdong Province in China to push ahead with local production for local consumption in China. To continue our overseas expansion, we set up branches in Helsinki, Finland, Seoul, South Korea and Taipei, Taiwan in 2017. We are expanding our business globally with the medium- to long-term target of increasing the ratio of overseas sales to around 50%.

Ratio of overseas sales

SUWA SANSHA ELECTRIC CO., LTD. is excluded because all of its sales are in Japan.



# Confident in our direction and potential, we will be intrepid in our efforts.

**Hajimu Yoshimura**  
Representative Director & President

## We manage to operate according to the target

The fiscal year ended March 31, 2022 was to us the first year of the new three-year-long medium-term management plan, CG23, on the basis of our medium-term vision of Global Power Solution Partner and our slogan Change to Growth. It was a special year when we pictured the future of Sansha Electric Manufacturing and examined our direction towards that future.

As a result of our operations, net sales stood at 22.6 billion yen as opposed to the target of 21.8 billion yen, while operating profit was 1.3 billion yen as opposed to the target of 0.8 billion yen. I believe this is a result of concerted Group-wide efforts amid fast-changing social circumstances, such as the lingering COVID-19 pandemic and the Russian invasion of Ukraine. I do not want to be complacent with these results, but I think we managed to operate according to the target envisioned in our planning.

One of the achievements for the fiscal year is growth in new energy. This is a strategic sector for the power supply business. It will also be a future core sector for us in connection with our contribution to a carbon-free society and environmental conservation as one of our management material issues, and with our contribution to resolving social issues as part of the basic policy for realization of the CG23 medium-term management plan. We received brisk orders in new energy, such as hydrogen, as well as those for fuel cells and power conditioners for storage batteries. For example, we developed a system of generating electricity from hydrogen produced with the use of sunlight energy. It was adopted for a demonstration trial operated by the Iki City Government in Nagasaki Prefecture. We established an example of working towards realizing a carbon-free society in collaboration with the governmental sector. The emergence of projects in which we offer not only standalone products but solutions, including the one mentioned above, coincides with

our vision of Global Power Solution Partner we seek to achieve.

Another achievement is growth in China. China is at the heart of our global strategy. In the fourth quarter of the previous fiscal year, i.e. January to March 2022, capital investment became buoyant in the Chinese market. The semiconductor business generated its highest sales in the past ten years. Our acquisition of an order related to capital investment in China is also part of our achievements. It is possible that there may be adverse effect of Beijing's zero-COVID policy and a reactionary fall after the results for the fiscal year under review. However, China is without doubt a growing market from a medium- and long-term perspective.

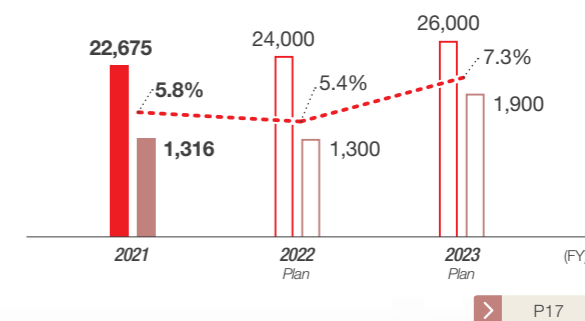
## An urgent need to reconstruct our production structure

While financial results were healthy overall, we face a question in terms of our production structure. This is namely how

to cope with the shortage of materials and rising material prices. While we produce power semiconductors, we use a large number of semiconductors in our mainstay business of power supplies. We are experiencing the impact of a global semiconductor shortage. Resins and other raw materials are also in short supply. We made Group-wide efforts and managed to obtain the materials. We sought new suppliers. Our engineers studied alternative items. We took all possible measures to finally purchase the materials. The global trend of decarbonization will gather pace towards 2050. We expect our sales team to continue receiving a large number of inquiries, mainly in new energy. We need to create a production system that will allow us to take solid action when we are on a growth track. For this purpose, we will regard supply chain development for the next era as a new issue and will take swift actions to address it, including the diversification of procurement and the development of alternative items.

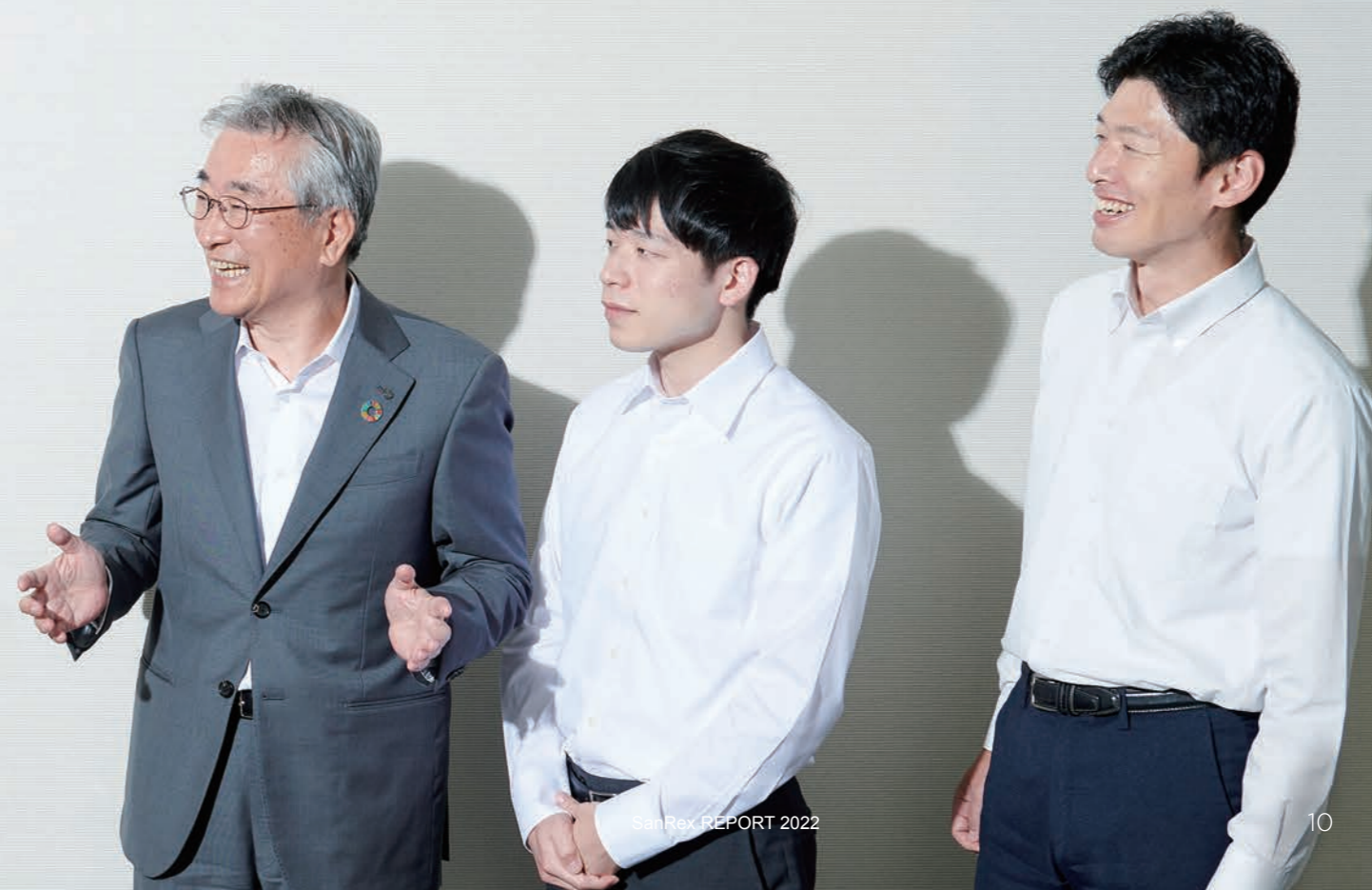
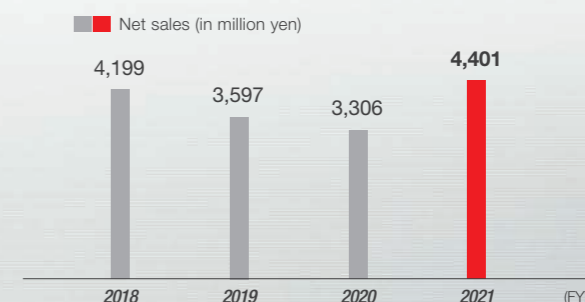
**Numerical targets under the CG23 medium-term management plan and results for FY2021**

■ Net sales (in million yen) ■ Operating profit (in million yen)  
- - - Operating profit/net sales (%)



**Net sales of the China business**

■ Net sales (in million yen)



### Results in the second year are important

After ending the first year under the CG23 medium-term management plan, we are now certain that our primary direction is the right one. In this respect, results in the second year are very important. The medium-term management plan runs for three years. This period is just the first phase of our actions towards what we aspire to be like ten years from now. Results in the second year are significant in the sense of bringing some clarity to the future. We need to make powerful steps forward with confidence.

On the occasion of developing the medium-term management plan, we defined management materiality items. Our management plan is based on these. Our management materiality items were identified from the standpoint of resolving social issues. As a consequence, they are grouped into two by subject. One pertains to solutions to social issues through business, and the other to strengthening the foundations of our business.

### Significance of new product development

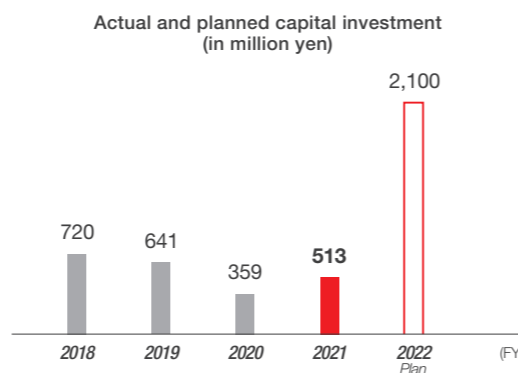
In terms of business, the development of new products will be a key to the second year of the medium-term management plan. We have long worked to gain trust by sincerely tackling and solving customers' issues and challenges. This is what has

enabled us to achieve our growth. We will never change this stance since it gives us strength. However, to move to the next stage, we need to be a group that independently solves social issues in addition to addressing customers' issues. To achieve this objective, as a manufacturer it is essential that we develop new products. We should be proactive in this. We will address this challenge in both the power supply business and the power semiconductor business. For this purpose, we will make robust investments in research and development.

### Advancing diversity without fail

With respect to strengthening our business foundations, I believe that enhancing diversity will be vital to the future development of Sansha Electric Manufacturing Co., Ltd. Amid a decline in the working population and an intensifying race to recruit workers, the advancement of women is a significant issue that we cannot ignore. We must acknowledge that companies mainly engaging in manufacturing like us constituted a male-oriented society. I myself was an engineer in the past. I graduated from the faculty of engineering at university. In my faculty, there were only a few female students. Naturally, engineers who joined our Company were all males. Today, the situation is different. Now the number of women

wishing to become engineers has increased dramatically. They offer advantages in their unique attention, viewpoint and sensibility. Frankly, it is not easy to change what has long worked for us and our established system. Nonetheless, we will absolutely transform them. What is important is not to achieve gender parity in the number of employees but to create an atmosphere or system in which employees can fully display their strengths irrespective of gender. We have upgraded our program for accepting a wide variety of people, whereas improvements in our training program are still ongoing. It is necessary to transform them from a medium- and long-term perspective, not from a short-term one. The Human Resources Department has already started its efforts. We are planning to further advance diversity for the second year of the medium-term management plan.



### Making a greater capital investment than usual

Strengthening of manufacturing is another issue in strengthening our foundations. As I mentioned earlier, we managed to achieve our results for FY2021 by stretching ourselves to respond to brisk inquiries. Especially in the semiconductor business, net sales reached 7.8 billion yen, far exceeding the target for the first year based on the final-year net sales target of 8.0 billion yen. We need to increase our production capacity to ensure constant production of around 8.0 billion yen and to firmly grasp this opportunity. We will therefore make greater capital investments than in usual years in semiconductor plants for FY2022. To achieve constant growth, we need to strengthen our production structure.

### Evolving into a company that is aware of its roles and that never loses its sense of gratitude

The Japanese word "san" means

"three" and it is included in our company name, which was coined based on the fact that our business was established by three parties, namely the business operator, the provider of technologies and the provider of capital and after the aspiration to be one of the three leading companies in the world. I understand that the leader of this corporate group has a mission to attach importance to this aspiration as well as three elements. Specifically, they are employees, technologies, and shareholders. Valuing employees means to make them happy. While it is important to increase their job satisfaction and to provide them with a good working environment, it is very important to remunerate them properly. In addition, it is vital to deliver consistent returns to shareholders who support us. Our dividend policy is to reliably and continuously pay returns to shareholders with a payout target of 30%, notwithstanding short-term fluctuations in our results.

Our businesses and products are directly linked to the resolution of the environmental issue that faces

the entire global community. What our power supplies and our power semiconductors have in common is the function of controlling very large electric power loads. It is fundamental to electronics. Controlling a high electric voltage or current leads to a significant change in power consumption. It is applied in the sector of new energy, which covers renewable energy and hydrogen. Our engineers are hard workers and serious, in a positive sense. They tackle electricity questions and never give up on trying to solve them. I really like this attitude, and I am proud of them. We will believe in our course of action and our potential. We will be aware of the roles we have to play. Without losing a sense of gratitude, we will work to resolve social issues. We will thus aim to be a corporate group that is needed by society and that achieves sustained growth.

Origin of the company name

### SANSHA ELECTRIC MFG. CO., LTD.

Sansha is a combination of two Japanese words: "san" meaning three, and "sha," which is party. Our business was founded by three parties: the party who was to operate the business, the party who owned technologies and participated in the business, and the party who offered capital. The business was named Sansha Denki Seisakusho, embodying our ambition to first develop into one of the top three companies in Japan and then into one of the top three companies in the world.

At that time, it was common to put founders' surnames into company names. However, our top priority was to express our strong determination through the term we coined, "Sansha."

### Management material issues and process for realization of the vision





# Making efficient use of our capital for increasing corporate value

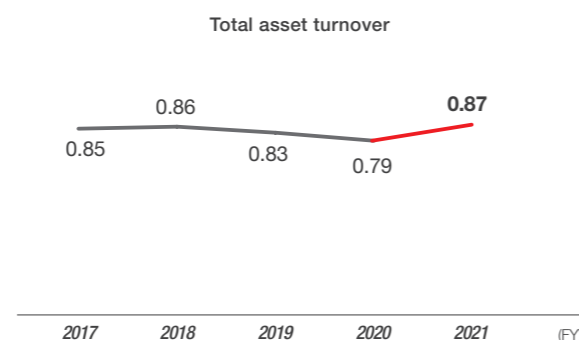
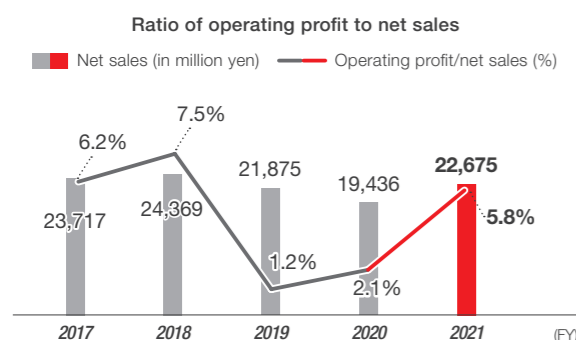
**Masaki Fujiwara**  
Director and Senior Managing Operating Officer

## Basic Stance on Our Capital Policy

The 90th anniversary of our founding is drawing near. We will utilize electric energy conversion technologies that we have developed to respond to many different social demands related to energy

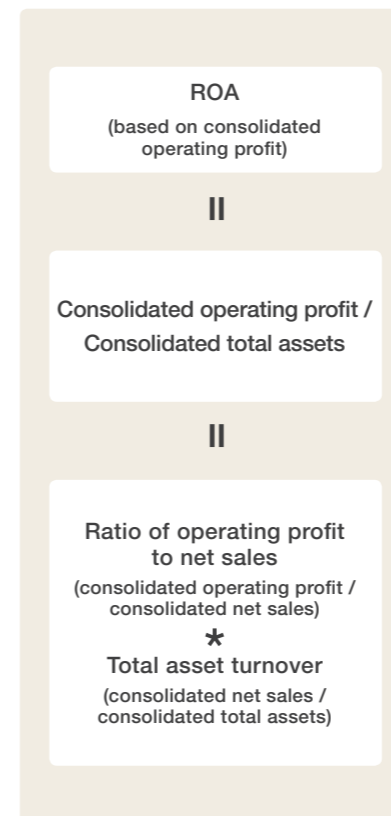
and to customers' problems. We will thus increase our significance as well as our corporate value. It is a task we cannot bypass if we are to continue our story. With a view to fulfilling our social roles and increasing our corporate value, financial strategies are important

in addition to business strategies. I recognize that it is the most significant to repeat the spiral in which the efficient utilization of capital invested leads to net sales growth and in which the newly gained revenue is used to develop future businesses.



## Performance indicators

The Group uses return on assets (ROA) based on consolidated operating profit as an indicator. It consists as portrayed below.



We have selected this indicator for two reasons. First, the ratio of operating profit to net sales reflects the revenue status of our core business. And second, total asset turnover indicates how efficiently the assets invested turn into sales, and this indicator is a hybrid that shows improvement in the consolidated statement of income and improvement in the consolidated balance sheet. The diagram below illustrates the current figure of this indicator and its past trend.

ROA is regrettably at a low level. We understand that we need to improve, firstly, the ratio of operating profit to net sales and, secondly, the total asset turnover.

As for the ratio of operating profit to net sales, we should create products that answer the needs of customers and the market so that their value will be recognized, while standardizing and rationalizing design and manufacturing processes to increase cost competitiveness.

Regarding total asset turnover, we will need to verify whether or not the optimization of current assets, especially inventories, and capital investment results in net sales growth.

**Performance indicator target:**

**(based on consolidated operating profit)**

**10% or more in ROA**

The key to achieving this target is to raise the ratio of operating profit to net sales to at least 10% and to achieve a total asset turnover of at least 1. We will steadily implement the measures specified in the CG23 medium-term management plan in a bid to increase net sales, profitability and turnover of invested capital.

It is anticipated that attaining the ROA target mentioned above will result in a higher level of return on equity (ratio of profit to equity) and achievement of ROE exceeding the capital cost.

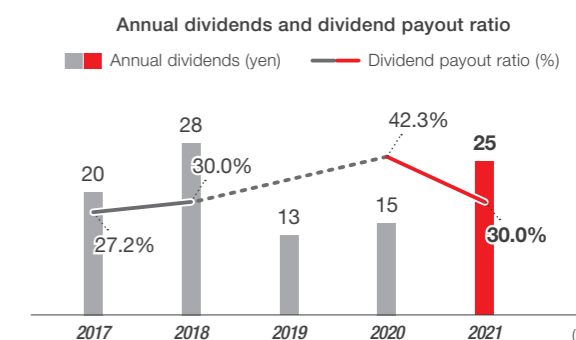
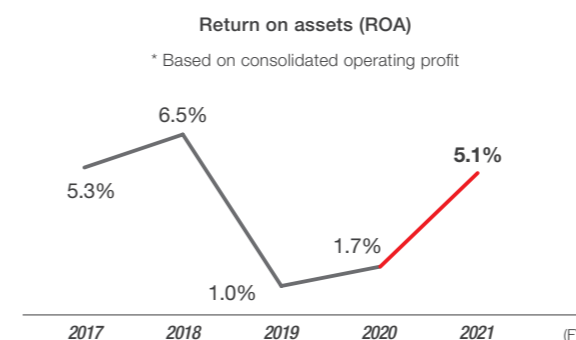
## Distribution of retained earnings

We will appropriate retained earnings from operating activities to actively investing in accomplishing the CG23 medium-term management plan and to delivering returns to shareholders in a well-balanced manner. We have a stance of keeping the shareholder dividend payout ratio constant at 30% or higher.

We cannot always raise our position in the fields we can serve on the strength of our efforts alone. We are convinced that we need to adopt an agile and flexible capital policy.

Especially in a situation where the global trend towards carbon neutrality is expected to gather pace, we have a possible option of tying up with other companies sharing the same orientation in order to keep up with this speed.

We have recently set a target of reducing our CO<sub>2</sub> emissions. We are considering making the necessary investments to meet this target in a systematic way.





# Sansha Electric Manufacturing

# Group's value creation process

### Financial capital

Stable creation of cash flows and secure and sound financial standing

Consolidated net assets: **19.8 billion yen**

Equity ratio: **73.0%**

Cash and cash equivalents: **5.0 billion yen**

### Human capital

Endeavoring to provide a working environment that allows individual workers to achieve personal development by capitalizing on their personality and strengths

Number of employees: **1,405**  
(consolidated)

Percentage of employees who are female: **33.6%**

### Intellectual capital

Technologies in the domain of power electronics that support society

R&D expenses: **1.2 billion yen**

Numbers of patents and utility model rights owned	Japan	<b>161</b>
	Overseas	<b>179</b>

## INPUT

Different kinds of capital that form the foundation for business activities (FY2021)

**MATERIALITY 1**  
Contributing to a carbon-free society and environmental conservation

**MATERIALITY 2**  
Constructing a robust infrastructure and contributing to industrial development

**MATERIALITY 3**  
Providing safety, security and new value to improve services

## Management material issues

**MATERIALITY 4**  
Strengthening of manufacturing

**MATERIALITY 5**  
Reduction of the environmental impact of production activities

**MATERIALITY 6**  
Promotion of diversity and personnel in action

### Manufacturing capital

An integrated production structure ranging from wafer processing to package assembling for power semiconductors and from the development and design of circuit boards and other components to the manufacturing of them for power supplies

Number of plants	Japan	<b>4</b>
	Overseas (in China)	<b>2</b>

Capital investment (average in the past five years) **590 million yen**

### Natural capital

Intensive environmental conservation activities for continuous procurement

Power consumption **17,825MWh**

Utility gas consumption **210,000 m<sup>3</sup>**

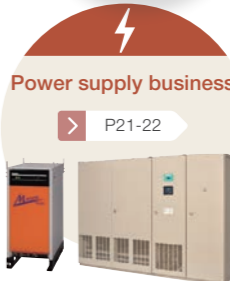
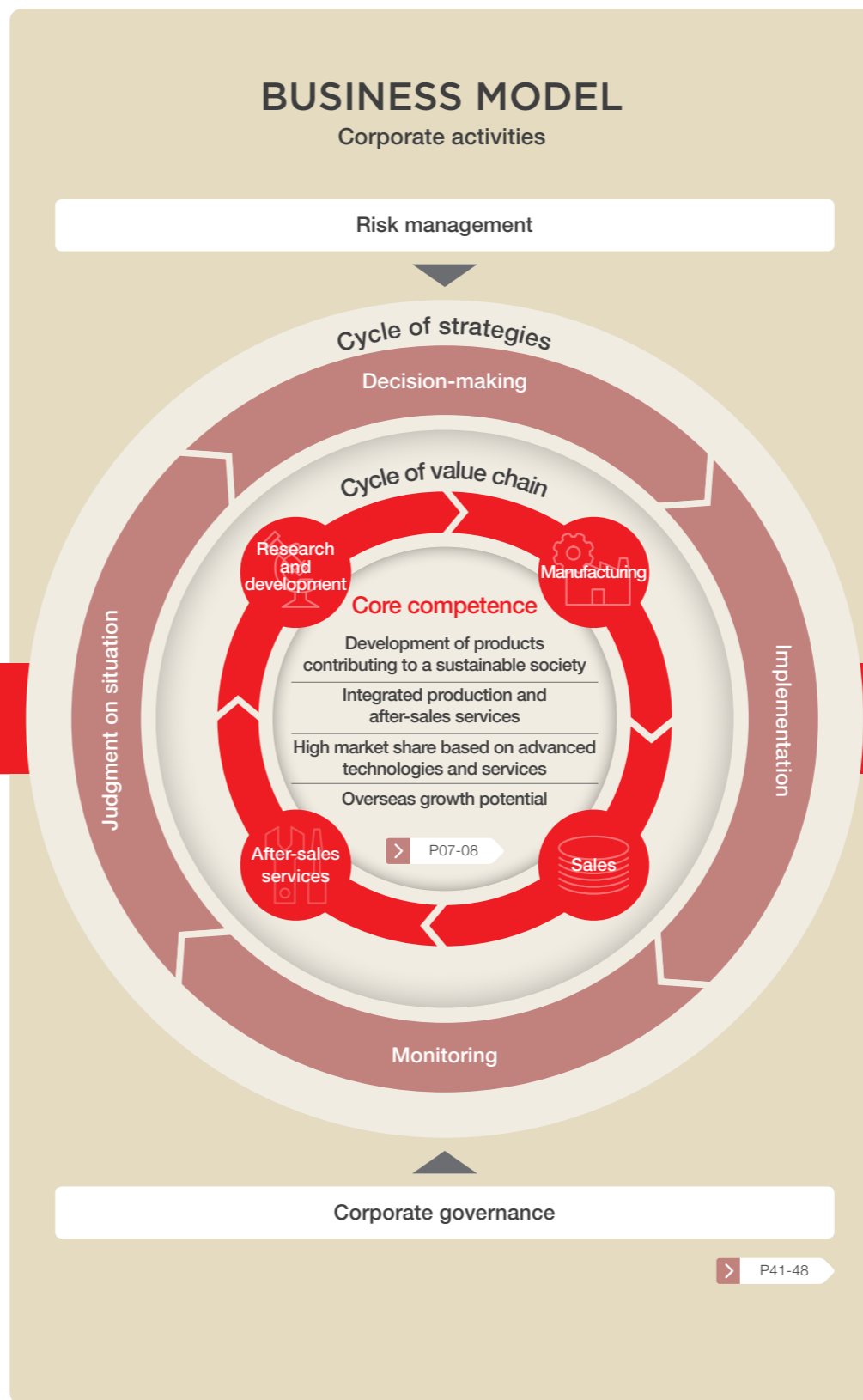
PRTR substances **53.4 tons**

### Social capital

Sales network	Japan	<b>7</b>
	Overseas	<b>8</b>

## BUSINESS MODEL

Corporate activities



### Economic value

Consolidated net sales **22,600 million yen**

Consolidated operating profit **1,300 million yen**

Return on equity (ROE) **5.9%**

Operating cash flow **900 million yen**

Annual dividend per share **25 yen**

New products sales\* **1,600 million yen<sup>1</sup>**

\* Products which have been on the market less than three years since the sales approval are deemed to be new products.

### Active participation of human resources

Ratio of overseas employees **35.9%**

Ratio of females in leading and managerial positions **8.2%<sup>1</sup>**

Average overtime working hours per employee **13.3 hours<sup>2</sup>**

## OUTPUT

## OUTCOME

Social value created (FY2021)

### Products with improved power conversion efficiency

Power supplies for surface treatment (example)



### Reduction in environmental impact

CO<sub>2</sub> emissions **9,916t-CO<sub>2</sub><sup>\*2</sup>**

Ratio of reduction from FY2013 level **▲31.0%**

Waste emissions **656.2 tons<sup>\*2</sup>**

Recycling rate **85.5%<sup>\*2</sup>**

\*1 The data cover Sansha Electric Manufacturing Co., Ltd.

\*2 The data cover Sansha Electric Manufacturing Co., Ltd. and its group companies based in Japan.

Shift to renewable sources of energy



Adapting to climate change (Response to environmental disasters)



Shortage of resources



Social issues



Acceleration of technological advancement



Aging of population in developed countries and in China



Population shrinkage in Japan



# Progress of the medium-term management plan

During the medium-term management plan, we will work to contribute to the resolution of social issues including the realization of a carbon-free society, developing products using power conversion and control technologies as we work to become a Global Power Solution Partner.

Basic policy for the realization for CG23

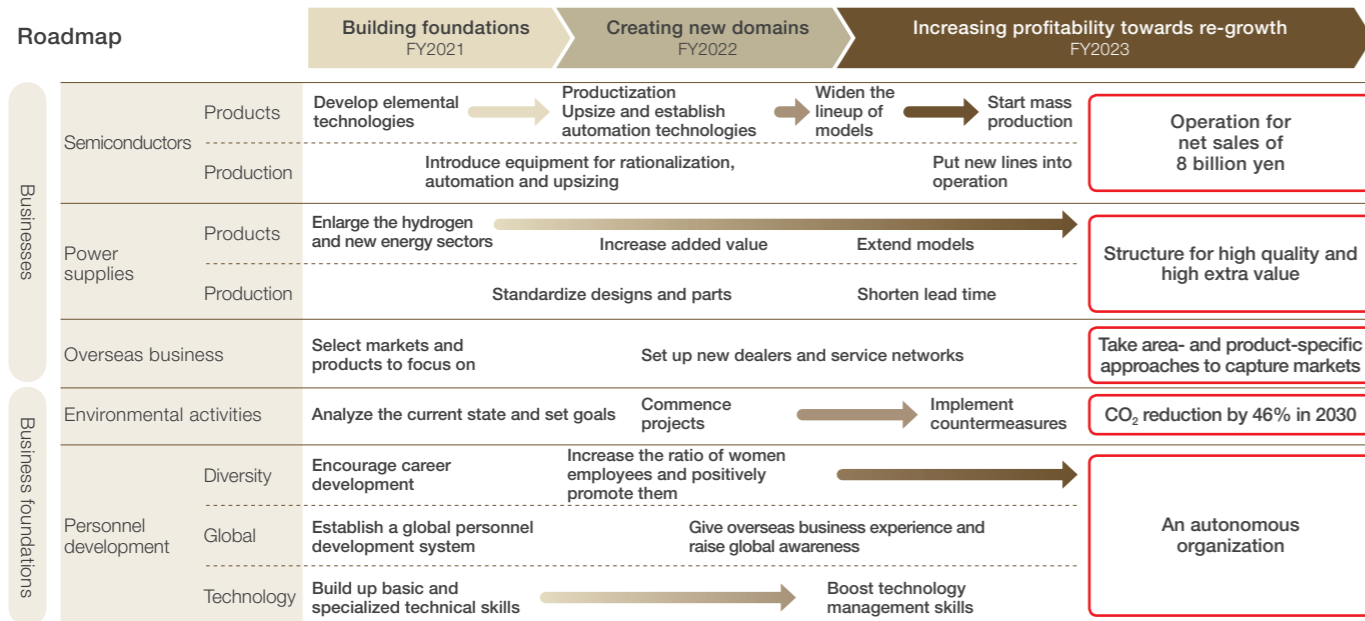
Contribution to the resolution of social issues

Innovation for continuous growth

Numerical targets	FY2021		FY2022		FY2023
	Medium-term management plan	Results	Medium-term management plan	Results forecast*	Medium-term management plan
Net sales	21,800 million yen	<b>22,675 million yen</b>	24,000 million yen	26,000 million yen	26,000 million yen
Semiconductor business	6,300 million yen	<b>7,791 million yen</b>	6,900 million yen	7,800 million yen	7,400 million yen
Power supply business	15,500 million yen	<b>14,884 million yen</b>	17,100 million yen	18,200 million yen	18,600 million yen
Operating profit	800 million yen	<b>1,316 million yen</b>	1,300 million yen	1,600 million yen	1,900 million yen
Semiconductor business	200 million yen	<b>767 million yen</b>	300 million yen	400 million yen	400 million yen
Power supply business	600 million yen	<b>548 million yen</b>	1,000 million yen	1,200 million yen	1,500 million yen
Ordinary profit	800 million yen	<b>1,313 million yen</b>	1,300 million yen	1,600 million yen	1,900 million yen
Profit attributable to owners of parent	500 million yen	<b>1,147 million yen</b>	900 million yen	1,200 million yen	1,300 million yen
Earnings per share	39.15 yen	<b>83.30 yen</b>	64.07 yen	93.40 yen	92.54 yen
Return on equity (ROE)	2.8 %	<b>5.9 %</b>	4.4 %	6.0 %	6.1 %

\*Announced on May 10, 2022

## Roadmap



## Overview of fiscal 2021

In the first year of the CG23 medium-term management plan, businesses were affected by COVID-19. In Japan, a state of emergency was declared, while vaccinations proceeded. Economic activities gradually resumed. However, a new COVID-19 variant emerged in the fourth quarter, resulting in a resurgence in infections. That created supply chain disorders and material supply shortages. Business circumstances remained uncertain.

With respect to the environment surrounding the Group, demand related to industrial equipment was strong. The use of new and renewable energy expanded, aiming for decarbonization, while demand for power semiconductors surged dramatically. In the meantime, material supply shortages and rising prices of materials aggravated to a level where they had adverse effect on corporate revenues.

Under these circumstances, the Group defined the first year of the CG23 medium-term management plan as a year for building the foundations for growth. Our production, sales and engineering teams worked as one to carry out activities for firmly capturing markets in growth sectors, such as hydrogen and new energy. As for overseas business, we selected what markets and products to focus on and drew a map of regional strategies. Amid restrictions on sales activities caused by the pandemic, we conducted business negotiations online, participated in online exhibitions and utilized websites in an active effort to boost the publicity of our products. In response to difficulties in procuring components, which had not been anticipated at the beginning of the fiscal year, we selected alternative items and made advance arrangements. We also took steps to standardize parts.

As for sustainability, the Group has a basic policy of seeking to solve social issues through its products and services. Meanwhile, we understand that we need to pay full

attention to the impacts of the Group's business activities on society and the global environment. On the basis of that, we set a new CO<sub>2</sub> reduction target and launched a project for accelerating reduction efforts not only at plants but throughout the Group.

Personnel is another part of the business foundations that are of paramount importance to corporate growth and development. Because of the pandemic, we postponed the overseas business experience program we had planned. Instead, we started training personnel to work actively outside Japan by launching a language learning support program. We ran a systematic training course on power electronics technologies, which are a source of the Group's competitiveness. We worked to train engineering personnel for the purpose of improving basic and specialized technological skills.

As a result of these actions, consolidated financial results for the first year were driven by strong demand for semiconductors to surpass the target for the first fiscal year of the medium-term management plan. Specifically, net sales stood at 22,675 million yen, operating profit at 1,316 million yen, ordinary profit at 1,313 million yen, and profit attributable to owners of parent at 1,147 million yen.

## Future initiatives

We believe that the second year of the plan will be a major turning point for achieving stable growth in the future. To solidify the foundations for business, we will invest in rationalization, automation and CO<sub>2</sub> emission cuts with a view towards innovation in manufacturing. In addition, to expand the areas where we can operate in the new energy sector, we will make intensive efforts in marketing and accelerate our research and development in new domains.

Major capital investments in FY2021

Power semiconductor business  
**346 million yen**  
Mainly for introducing automated equipment to principal processes

Power supply business  
**136 million yen**  
Mainly for introducing automated equipment

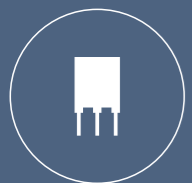
Company-wide  
**29 million yen**

## TOPIC OSAKA DENSO INDUSTRY CO., LTD. becomes a subsidiary.

OSAKA DENSO INDUSTRY CO., LTD. is a supplier of core materials to our power supply business. We made it into a subsidiary to ensure stable supply of components. In addition to constant supply of core materials, we expect to enjoy synergies based on joint purchases of raw and other materials for producing transformers and expansion of sales channels for transformers.

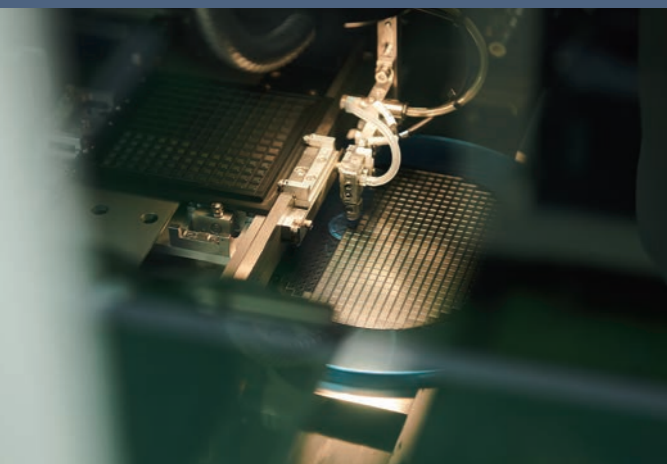
Location	Higashiyodogawa-ku, Osaka
Capital	12 million yen
Date of incorporation	April 1955
Representative	Representative Director Hajime Katsushima
Number of employees	37 (as of the end of March 2022)





# Power semiconductor business

The Sansha Electric Manufacturing Group does not develop or manufacture integrated circuit semiconductors such as memory or microcomputers. Instead, it develops power semiconductors. These are used in diverse power supplies for the conversion of high voltages or currents between direct current and alternating current, for controlling the current and voltage levels and for other purposes. They are adopted to customers' different production systems and incorporated into a broad range of power supply products to play significant roles in them.



## Strengths and features

### Independently developed power semiconductors with high voltage resistance, high current and low power loss characteristics

We develop and manufacture planar power semiconductors and also semiconductors based on our original mesa technology to achieve high voltage resistance and low loss.

### Packaging technologies for high reliability

Our original chip packaging technologies suited for power semiconductors gain high marks for their long-term reliability in key industrial applications.

### Synergy with the power supply business

Since our foundation we have been developing and manufacturing power supplies. Therefore, we are familiar with how power semiconductors are used in power supplies. This enables us to propose solutions that best suit customers' operating environments and applications.

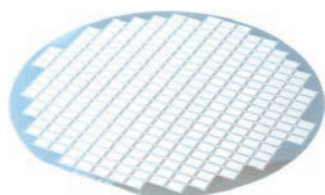
## Segments

### Power modules

Used mainly in a wide range of industrial machinery and business facilities, including commercial air conditioners, auxiliary power supplies for rail rolling stock and solar (PV) power generation systems

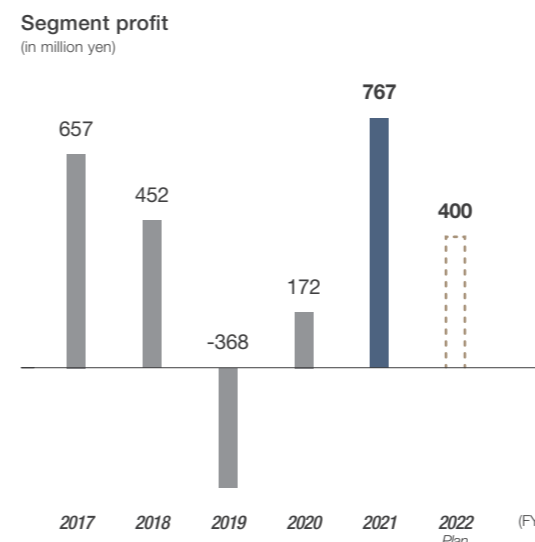
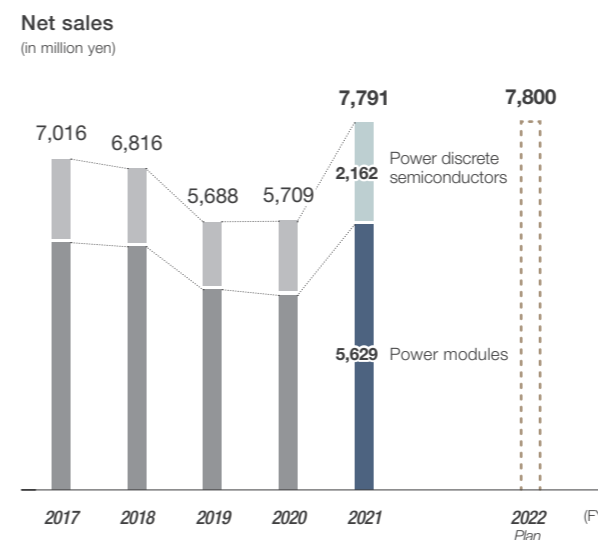
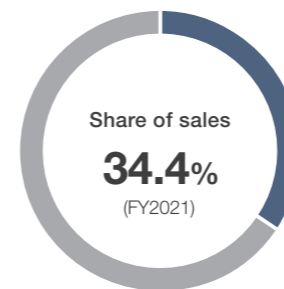


**Power discrete semiconductors**  
Used mainly in white goods



### Other

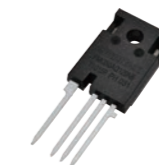
Chips  
(or small piece of silicon substrate with electric characteristics, such as diodes and thyristors)



## FY2021 initiatives

### Broaden the product lineup based on the concept of high current, voltage resistance, efficiency and reliability

#### Main newly developed products



#### Silicon carbide (SiC)-MOSFET discrete semiconductor

- An insulation package with heat dissipation properties
- Industry's lowest-class power loss

#### Main applications

Induction heating, electric vehicle (EV) battery chargers, contactless chargers and others



#### Insulated gate bipolar transistor (IGBT) module

Reduction of power loss achieved in the low switching frequency range

#### Main applications

Tungsten inert gas (TIG) welders, pulse reverse rectifiers for surface treatment, and others

### Automated equipment introduced to principal processes with a view towards a smart factory

Demand for power semiconductors is expected to grow amid the trend towards a carbon-free society. We will introduce automated equipment for continuously increasing production efficiency and lowering the ratio of process defects due to unevenness in an aim for quality, cost and delivery (QCD) improvement.

## Future issues

### Establish operation for net sales of 8 billion yen

In a bid to achieve growth of the semiconductor business and to establish stable operations for net sales of 8 billion yen, we will increase the pace of the following actions in the second year of the medium-term management plan.

- 1 Broaden the lineup of SiC power semiconductors to cultivate new markets
- 2 Make investments for rationalization and automation and for upsizing wafers

According to the forecast of financial results for FY2022, net sales will remain flat and operating profit will shrink, given that the capital investment mentioned above is expected to produce its effect of increasing production in one or two years and that increases in depreciation and in research and development expenses related to SiC are anticipated. For FY2022, we are planning to make capital investment worth around 1.2 billion yen in the semiconductor business.

# Power supply business

Since we developed a power supply for projectors ensuring the projection of stable images onto movie theater screens in 1933, we have been utilizing technologies that freely transform and efficiently convert electricity to develop and manufacture a wide variety of power supplies supporting the environmental and energy sectors, the infrastructure and facility equipment sectors and entertainment-related sectors.

As we engage in integrated production including development, design and manufacturing, we are able to provide standard products and also customized products tailored to customers' requests with short delivery lead times. After delivering products to customers, we consistently provide maintenance and other support services.



## Strengths and features

### High-efficiency power conversion technology

We excel in technology for the quick, high precision conversion of electricity while keeping power loss to a low level. We lead the industry in the development of power conditioners for fuel cells equipped with our silicon carbide (SiC) modules, power supplies for hydrogen generation and other new high-efficiency products.

### Wide range of development from small custom-made to large industrial power supplies

We are ready to design and develop unique power supplies, ranging from small customized power supplies to large industrial power supplies, in accordance with customers' specifications.

## Segments

### For general industries

Large capacity power supplies for industrial use that are used in the production facilities of large steel, chemical, electrical machinery and other manufacturing plants.

### Power supplies for surface treatment

Surface treatment includes plating, coating and aluminum anodization. Our power supplies for surface treatment are used to manufacture smartphones, electronic components, printed circuit boards, automobiles and other products.

### For light sources and dimming

Power supplies for light sources are used for projection mapping and in movie theaters, studios and other facilities. Power supplies for dimming serve the purpose of controlling power for light source lamps. They are used for stage lighting in theaters, halls, TV studios and elsewhere.

### Inverters

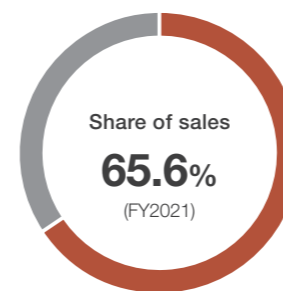
Uninterruptible power supplies (UPS), solar (PV) power generation, power conditioning systems (PCS) compatible with fuel cells and storage batteries and others are delivered chiefly to power plants, data centers and large factories.

### Small embedded power supplies

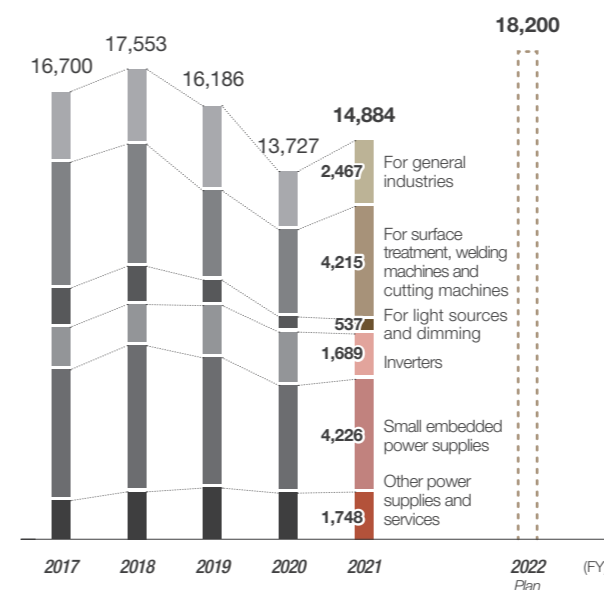
Small capacity power supplies are incorporated into financial institutions' automatic teller machines (ATMs), medical equipment, communication equipment and printers.

### Other power supplies

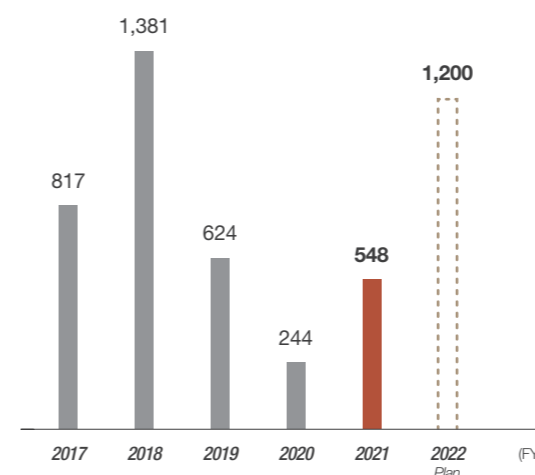
They include electric power regulators for heating to increase the temperature to a high level while controlling electric power and charge-discharge products.



Net sales (in million yen)



Segment profit (in million yen)



## FY2021 initiatives

### Enlarge the hydrogen and new energy and environmental sectors

We worked hard to propose power conditioners for solar (PV) power generation systems, inverters for power storage systems and fuel cells and other power supplies. These applications will play significant roles in creating a carbon-free society. We gradually receive inquiries on power supplies for testing and evaluating lithium-ion batteries and many other kinds of batteries.



New product development  
Fuel cells Power conditioners

### Strengthen fundamental sectors

Orders for power supplies for surface treatment increased amid growing demand for printed circuit boards from growing sectors such as automobiles and information and communication terminals. SANSHA ELECTRIC MFG. (GUANGDONG) CO., LTD., a subsidiary in China engaging in production, newly developed a plasma welder for North America and started to receive orders via U.S.-based SANREX CORPORATION. However, it was unable to adapt to increasing difficulties in procuring parts and to sharply increasing demand. It thus piled up a backlog of orders.



New product development  
Plasma welder for North America

## Future issues

We have defined priority measures for the second year of the medium-term management plan as follows.

- 1 Step up marketing activities in hydrogen, new energy and environmental sectors and carry out proactive sales activities.
- 2 Standardize design and production to improve efficiency with a view to shortening lead time.
- 3 Make more proposals on systems and solutions instead of focusing on sales of standalone products.
- 4 Provide an extensive lineup ranging from small-capacity models to large-capacity ones.

# Management material issues



## Process of identifying material issues

- Understand social issues**  
We selected socially important issues referencing the Sustainable Development Goals (SDGs) and other international initiatives, the code of conduct in the industry the Group is a part of (the Responsible Business Alliance (RBA) Code of Conduct\*), major guidelines (the Global Reporting Initiative (GRI) and ISO 26000) and megatrends.  
\*The RBA Code of Conduct is guidance formulated for electronics industry and electric equipment-related industry supply chains.
- Analyze the selected issues**  
We analyzed and assessed how significantly the selected social issues interested stakeholders, the size of their impact and how significant they are to the Group to create a draft set of material issues.
- Identify and review material issues**  
The management team assessed the appropriateness of the draft and determined the priority material issues to be addressed in March 2021. The Board of Directors adopted a resolution regarding them concurrently with the medium-term management plan. Going forward, each time a new medium-term management plan is formulated, we will revise them in consideration of changes in business circumstances and society.



**MATERIALITY 1**

### Contribution to a carbon-free society and environmental conservation

**Risks**

- Interruption of business activities due to climate change or large disaster
- Increased strictness of environmental regulations

**Opportunities**

- Increase in business opportunities related to renewable energy and new energy
- Improvement in views on CO<sub>2</sub> reduction effect of high efficiency products
- Rising momentum of global environmental conservation

**Related SDGs** 7, 13, 14

**Initiatives** P25-26

**MATERIALITY 2**

### Constructing a robust infrastructure and contributing to industrial development

**Risks**

- Loss of capital investment opportunities due to large disaster

**Opportunities**

- Necessity of constructing resilient infrastructure able to withstand intensifying disasters as the climate changes
- Economic growth in developing and emerging countries

**Related SDGs** 9, 11, 13

**Initiatives** P27-28

**MATERIALITY 3**

### Providing safety, security and new value to improve services

**Risks**

- Product incidents and failures
- Intensifying international competition

**Opportunities**

- Increase in business opportunities resulting from progress in IoT technologies

**Related SDGs** 12

**Initiatives** P29-30

**MATERIALITY 4**

### Strengthening of manufacturing

**Risks**

- Decline in technological strengths due to a decrease in skilled engineers
- Progress in the technologies of competitors
- Delays in manufacturing and shipping due to difficulties in procuring raw materials

**Opportunities**

- Development of new products using our accumulated intellectual property

**Related SDGs** 12

**Initiatives** P31-32

**MATERIALITY 5**

### Reduction of the environmental impact of production activities

**Risks**

- Increase in costs for complying with stricter environmental regulations
- Decrease in corporate value and deterioration of reputation due to the increase of the Group's CO<sub>2</sub> emissions

**Opportunities**

- Increase in competitiveness through energy and resource conservation, decrease in environmental impact and increase of productivity

**Related SDGs** 7, 12, 13, 14

**Initiatives** P33-36

**MATERIALITY 6**

### Promotion of diversity and personnel in action

**Risks**

- Intensifying competition for personnel being recruited
- Harassment

**Opportunities**

- Creation of innovation rooted in diversity
- Improvement of work-life balance to increase employee satisfaction

**Related SDGs** 5, 8

**Initiatives** P37-40

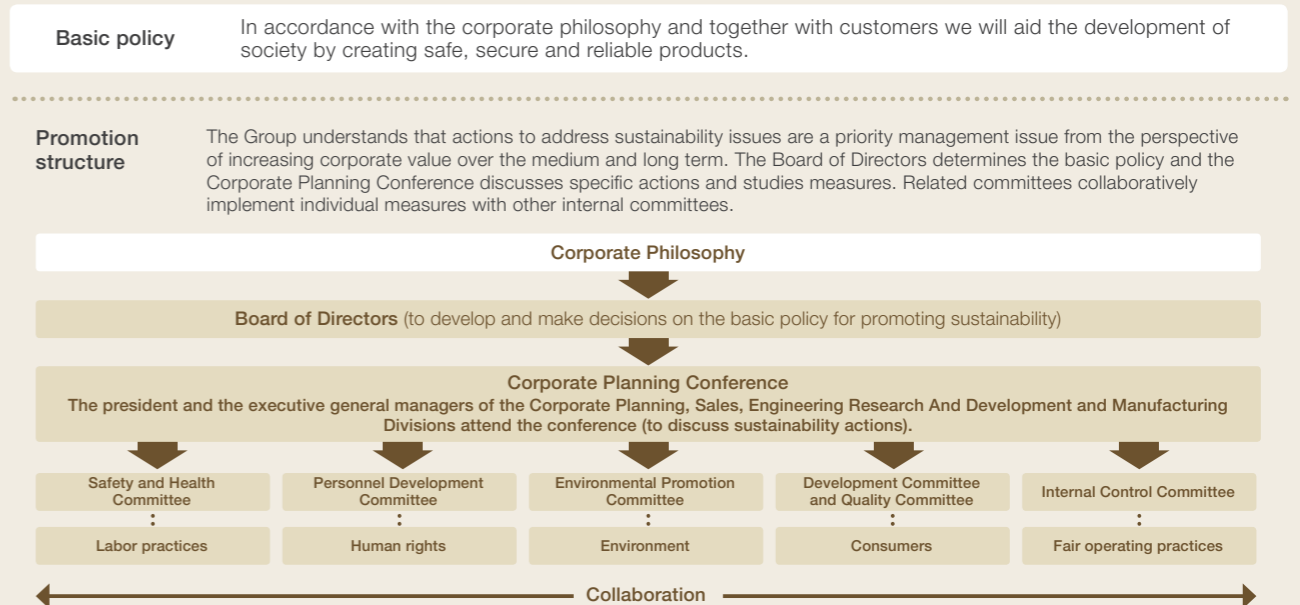
## Sustainability

### Approach to Sustainability

Today, the international community faces climate change and many other social and environmental issues and businesses are required to act towards the establishment of a sustainable society. In this context, we will endeavor to resolve social issues through our products and services and work to create

and increase value for both business and society.

We will behave in a manner that fully considers the impact of the Group's business activities on society and the global environment. We will strive to earn the trust of stakeholders through dialogue.



#### Basic policy

In accordance with the corporate philosophy and together with customers we will aid the development of society by creating safe, secure and reliable products.

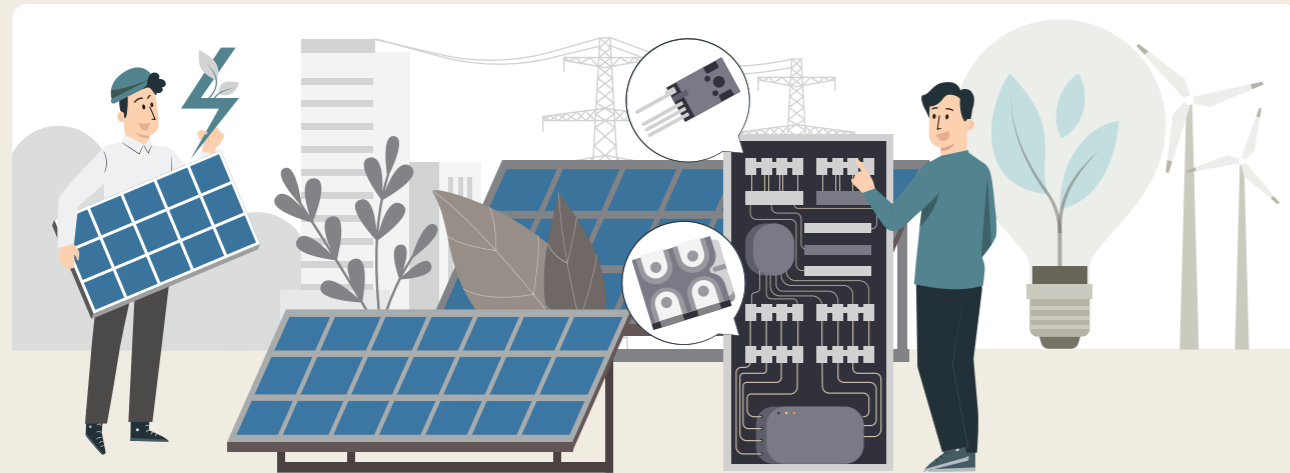
#### Promotion structure

The Group understands that actions to address sustainability issues are a priority management issue from the perspective of increasing corporate value over the medium and long term. The Board of Directors determines the basic policy and the Corporate Planning Conference discusses specific actions and studies measures. Related committees collaboratively implement individual measures with other internal committees.

## Contribution to a carbon-free society and environmental conservation

Reasons for identification

The Sansha Electric Manufacturing Group has achieved growth by integrating power semiconductor technologies that aid energy creation, storage and conservation with power conversion and control technologies to develop technologies and new products based on the creation of power electronics products. We maintain an attitude based on our corporate philosophy, "Valuable Products for Society." In the situation where the whole world is working to establish a carbon-free society, we understand that it is important for the Group to provide new value.



### Towards carbon neutrality

The significance of the efforts in the energy conversion sector is increasing, as it is responsible for more than 40% of greenhouse gas emissions. It is particularly necessary to increase the use of sunlight, wind power, biomass and other renewable sources of energy. Announced in April 2021, the Green Growth Strategy set specific goals not only in the area of next-generation renewable energy but also in the storage battery, semiconductor and many other related sectors.

Since our foundation, we have nurtured power source technologies to limit the loss involved in power storage or

consumption to a low level. Based on these technologies, we develop power conditioners for solar (PV) power generation systems, inverters for power storage systems and fuel cells and other power supply devices. They play significant roles in the creation of a carbon-free society. We also internally produce high-voltage and large-current power semiconductor and high efficiency next-generation compound semiconductor modules. They are core devices supporting the power supply devices above. We are always able to deliver leading-edge technologies to society.

### The new energy solution domains where the Sansha Electric Manufacturing Group operates

#### Energy creation Generating electric power

Sunlight, wind power, biomass and other renewable sources of energy are important low-carbon sources of energy that emit no greenhouse gases.

Solar (PV) power generation and power from hydrogen production, fuel cells and different kinds of storage batteries produce direct current electricity. To sell this electricity to electric power companies or use it to operate alternating current devices, it is necessary to convert it into alternating current electricity using of a power conditioner. We have been involved for many years in the commercialization of power semiconductor devices as well as the power converters that use them. We will continue our efforts to ubiquitize new energy.



Fuel cell power conditioner



Solar power conditioner

#### Energy storage Storing electric power

In solar power generation, output fluctuates considerably depending on the weather conditions. This makes it necessary to use power storage systems to store surplus electricity generated and supply the stored power when the generated electricity is insufficient.

Power storage systems do not just store electricity. With the peak-reduction<sup>1</sup> and peak-shifting<sup>2</sup> features during periods of peak power consumption, they level power consumption to lower the electricity bill. We will serve to reduce greenhouse gas emissions by privately consuming backup power supplies at the time of disaster emergency and electricity produced by solar (PV) power generation.

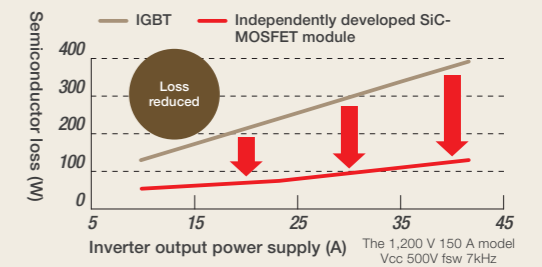
- 1 Reducing electricity used during high-consumption periods
- 2 Shifting activities from high electricity-consumption periods to low electricity-consumption periods to level fluctuations in power consumption.

#### Energy conservation Efficiently consuming electric power

Silicon carbide (SiC) power devices are attracting attention as key devices for energy conservation in high-voltage and large-current applications, because they feature lower loss and higher-speed operations than conventional silicon devices. Our SiC-MOSFET modules feature enhanced long-term reliability, low loss and a smaller size achieved using our original packaging technology. They are suited for high speed switching.



Power loss of the SiC-MOSFET module mounted in a 20-kW power conditioner



#### Products aiding environmental conservation

The Group is working to reduce the environmental impact of its production activities and also to design and develop products that reduce environmental impact.



Power supply for plasma arc generation

To melt the incineration ash from the combustion of industrial waste, it is necessary to quickly achieve a high temperature, which requires a large output. When waste is put into a melting furnace, the plasma arc tends to be unstable. Our power supplies for plasma arc generation incorporate a high speed control response technology to suppress plasma arc interruption or fluctuation and support constant operation.



Power supply for ozone generation

Ozone has a strong oxidizing ability and produces deodorizing and other effects. Ozone cannot be generated without a power supply applying a high voltage at a high frequency to the discharge tube. We have developed power supplies with different capacities suited to a wide variety of applications, ranging from small-sized products (with an output of several kilowatts) for swimming pools to large-sized ones (with an output of several hundred kilowatts) for water purifying plants and sewage treatment plants. Thus, we support the improvement of water environments.



DC power supply for seawater electrolysis

In many cases, our direct current (DC) power supplies for seawater electrolysis are installed in power plants, in other plants in coastal industrial zones and in other outdoor environments in coastal areas. Therefore, they are designed to be resistant to salt damage and otherwise suited for adverse installation conditions. The large-current power supplies necessary for electrolysis are prone to generating high harmonics that affect electric power systems. We introduce our power conversion technology to suppress these high harmonics.

#### Implementation Examples

#### Evaluation system for power conditioners for new energy

Introduced at: National Institute of Advanced Industrial Science and Technology (AIST)'s Fukushima Renewable Energy Institute

AIST's Fukushima Renewable Energy Institute engages in the development of technologies for solar (PV) power generation, wind power generation, the use of hydrogen, geothermal energy management and peripheral technologies with a view toward accelerating the ubiquitization of renewable energy in Japan and overseas. Our expertise is in accurately reproducing the characteristics and conditions of individual energy sources for power conditioners. Leveraging this expertise, we delivered a 5-megavolt-ampere simulator system.



MATERIALITY  
2

## Constructing a robust infrastructure and contributing to industrial development

Reasons for identification

In recent years, earthquakes and typhoons have caused large-scale and long-lasting power outages. They have tremendously damaged corporate activities. The Sansha Electric Manufacturing Group develops backup power supplies based on its power electronics technologies to support social infrastructure. At the same time, our power supplies for surface treatment have the largest share of the Japanese market. They are used for plating electronic and other components of automobiles, motorcycles and other transport devices, industrial machinery, precision equipment, computers, communication equipment and other equipment. They support the development of industry. We will continue to provide our technological strengths to support the development of industry.



### Helping increase the resilience of social infrastructure

The recent increase in natural disasters has been attributed to global climate change. In Japan, typhoon damage is worsening and the frequency of torrential rains and floods is increasing. In preparation for disasters like these, industry is implementing measures focused on resilience. One of them is the consideration of microgrid plans\* in different regions. These plans are an attempt to establish an independent regional power supply in an emergency such as a large power failure following a disaster. This is very significant in earthquake-prone Japan. Microgrids will display their strengths when thermal, nuclear and other power generation facilities are severely impacted. Resilience is also undermined by supply chain disruptions due to the pandemic and war. These are big the challenges facing global industries.

The Group manufactures and sells uninterruptible power supplies (UPS) used as emergency power supplies during power outages during a natural disaster. The Group's UPS products are installed in hospitals, expressways and

many different production lines. They help maintain social infrastructure in the event of disaster. The Group provides power conditioners with power storage and grid stabilization features and systems that control power peak reduction and shifting for the microgrid plans studied by different regions.

Our power supplies for surface treatment are employed in Japan and around the world. They support the manufacturing of key parts of a digital society, such as electronic components, semiconductors and electric and electronic circuit boards. A constant supply of these parts is vital to maintain and expand information and communication infrastructure. The Group's power supplies and power semiconductors greatly assist the maintenance and continuity of stable supply chains.

\* A method for distributed power supply using small power generation facilities close to the power consumers for the continual supply of electric power.

### Case Study

#### 1 Uninterruptible power supplies developed to help ensure the safety of expressways



Uninterruptible power supplies (UPS)

Expressways play an important role in wide-area distribution and inter-regional exchange and linkage. They are a key part of the foundation of society and the economy. When a disaster strikes, the importance of transportation increases to enable relief to arrive quickly. For toll gates, tunnel lighting, emergency alarm systems and other important facilities and equipment on expressways, uninterruptible power supplies (UPS) and private power generation systems need to ensure that the supply of power continues from the beginning of a power failure to the restoration of the power supplied by the electric power company. Our UPS systems are found at 100 or more locations on the nationwide expressway network. They are the emergency power supplies for tunnel lighting and for computers for the electronic toll collection (ETC) devices at toll gates. They ensure safety on expressways.

**Point**

In FY2021, we developed a UPS equipped with lithium-ion batteries. While lead batteries require regular maintenance, lithium-ion batteries do not. This also reduces environmental impact.

#### 2 DC power supplies supporting surface treatment technologies developed to support significant fundamental technologies for industry



Power supplies for surface treatment

Plating is applied to the surface of iron and other metal materials to increase corrosion resistance, functionality and decorativeness. Plating takes the form of a thin film made of gold, silver, nickel or other material. Incorporating our electric power control technologies, our power supplies for surface treatment are used in the plating process for automobiles, motorcycles and other transport devices, industrial machinery, precision equipment and electronic components for computers and communication equipment.

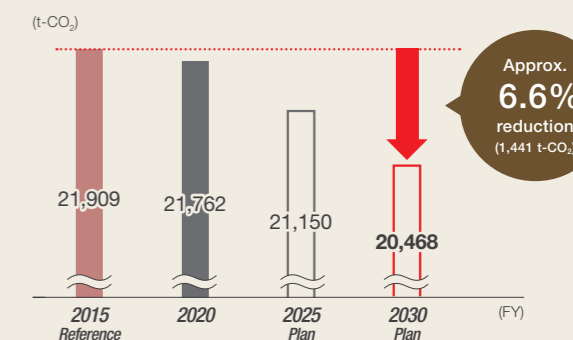
**Point**

Under the medium-term management plan, we will expand our lineup of power supplies for surface treatment with the goal of expanding overseas sales. Commercialization was complete in FY2021. In FY2022 and later, we will increase sales in Asia and China.

### Power conversion technologies improved, helping reduce CO<sub>2</sub> emissions

We have specified the CO<sub>2</sub> emissions from the operation of our 2015 model of power source for surface treatment as the reference level. We will develop new products with higher power conversion efficiency in the future to reduce CO<sub>2</sub> emissions by around 6.6% in FY2030.

#### CO<sub>2</sub> emissions reduction by improving the power conversion efficiency of power supplies for surface treatment



**Operating conditions:** Operating 12 hours per day, 250 days a year  
**Emission factor:** 0.047 kg-CO<sub>2</sub>/kWh

\* CO<sub>2</sub> emission factor announced by Japan's Ministry of the Environment

MATERIALITY  
3

## Providing safety, security and new value to improve services

Reasons for identification

The Sansha Electric Manufacturing Group's power semiconductors and power supplies are intended for use in industrial equipment. Given that they operate inside our customers' power supplies for production process equipment and backup power supplies that support infrastructure, they need to be safe and high quality. We are working unceasingly to improve quality, keeping in mind that the provision of reliable, reassuring quality to customers is greatly connected to social contribution and the conservation of the global environment. In addition, daily maintenance and inspection are indispensable in the safe, long-term use of large power supplies.

The Group will accelerate its provision of comprehensive solutions including maintenance, inspection, repair and other support services.

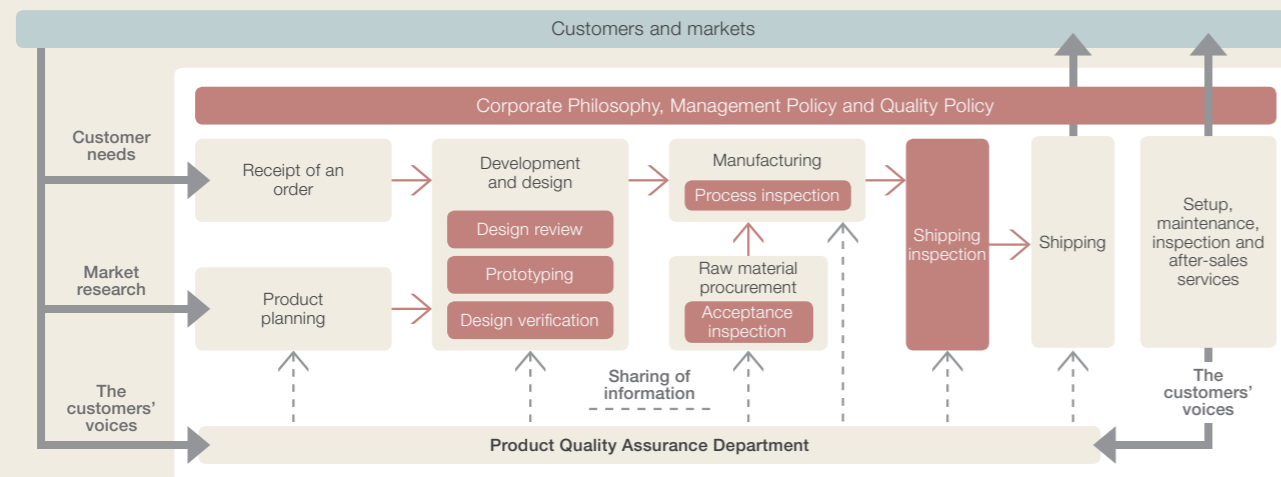


### Efforts to improve quality

To ensure that a level of quality that satisfies customers is maintained, the Group has established procedures for its quality assurance activities at each stage of its operations, including product planning, development, design, delivery to customers

and after-sales services. Through this, we are working to improve quality to provide customers with products that satisfy their needs and earn their trust.

### Quality assurance system diagram



### Ability to propose solutions tailored to customer needs

The Group conducts the integrated production of high-voltage and large-current power semiconductors and power supplies. This means that we internally conduct all processes ranging from wafer processing to package assembly for power semiconductors and every process from the development and design of circuit boards to their assembly for power supplies. This allows us to provide customers with the proposals that are best suited to their needs from the perspective of high efficiency, safety and other features.

The medium-term management plan states that one of the priority measures for the power supply business is to accelerate the proposal of systems that combine power conditioners with storage batteries and network functions, rather than proposals related to power conditioners alone. A strength of the Group is the flexibility of its development and manufacturing. We will help customers solve their problems by proposing systems based on this strength.

For an example of implementation, see page 26.

### Total solution services deliver safe and secure power supplies

Sansha Solution Service Co., Ltd. is a group company providing maintenance services. Headquartered in Osaka, it has service offices in Tokyo, Nagoya and Fukuoka. It provides customer support in collaboration with overseas bases to ensure safety and security.

Sansha Solution Service is implementing four priority measures in the medium-term management plan to enhance the total solution services of the Sansha Electric Manufacturing Group.

#### Four priority measures under the medium-term management plan

#### FY2021 Initiatives

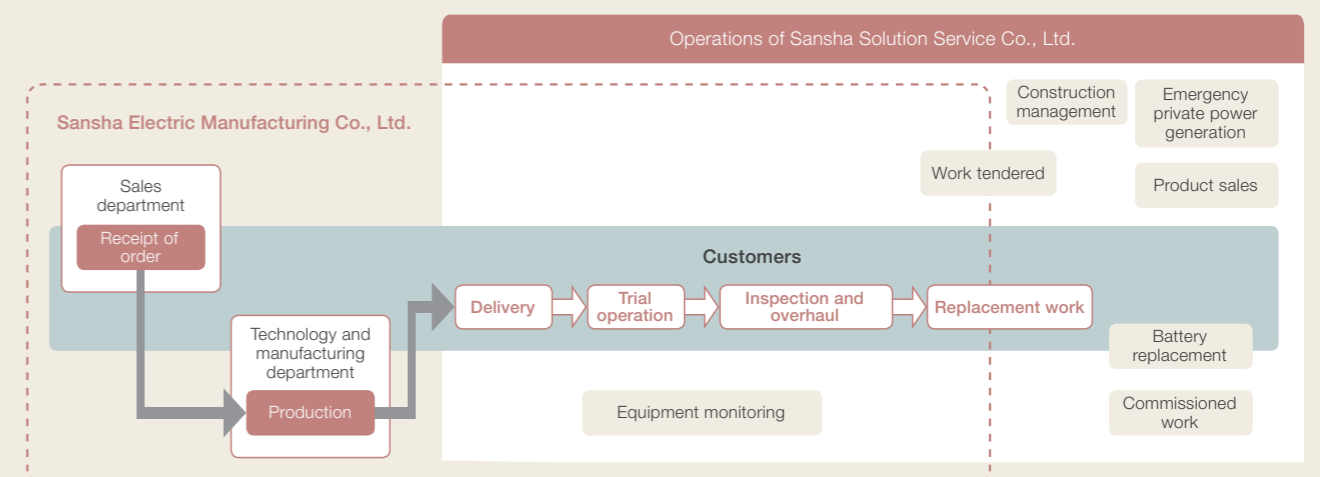
1 Improve quality of services	<ul style="list-style-type: none"> <li>• Increase service staff and sign contracts with new service partners to improve the service structure</li> <li>• Train service staff to develop their skills</li> </ul>
2 Accelerate construction of the maintenance structure	<ul style="list-style-type: none"> <li>• Carry out a demonstration trial of the remote maintenance system</li> </ul>
3 Enhance the construction work implementation structure	<ul style="list-style-type: none"> <li>• Increase staff qualified as construction management engineers for construction work</li> </ul>
4 Propose long-term service plans	<ul style="list-style-type: none"> <li>• Propose long-term maintenance services for a recommended operation period from the start of operations</li> </ul>



UPS inspection

The Group will expand remote maintenance services and accelerate long-term service plans to help customers use our products without worry for the long term and thereby help resolve their problems.

### Sansha Electric Manufacturing Group's comprehensive solution services

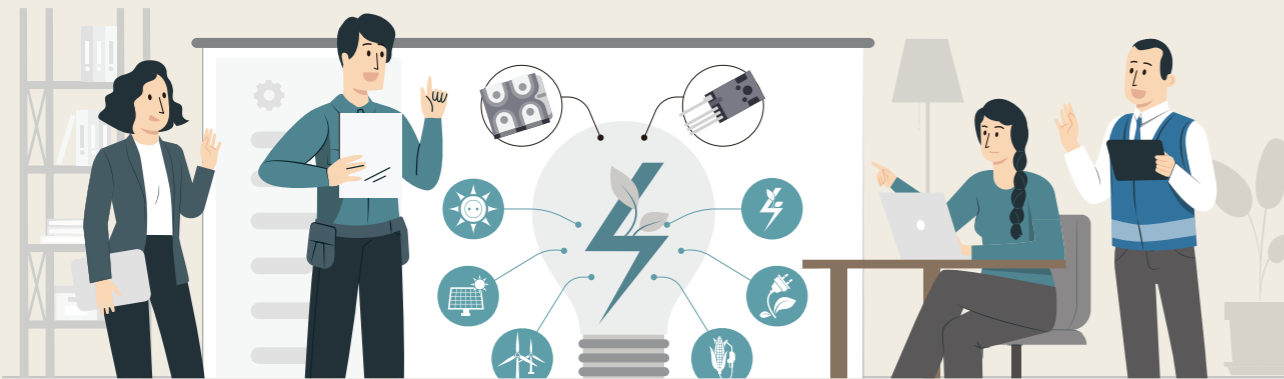




# Strengthening of manufacturing

Reasons for identification

The most significant social responsibility that the Sansha Electric Manufacturing Group has to fulfill as a manufacturer of power semiconductors and power supplies is to implement manufacturing that is valuable to society. We will continuously increase our technological strengths to achieve customer satisfaction. In parallel, we will strive to create social value and maintain our continuous growth.



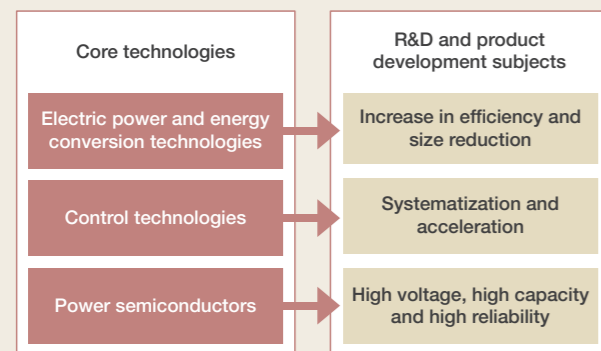
## Research and development

### Leveraging technology to achieve carbon neutrality

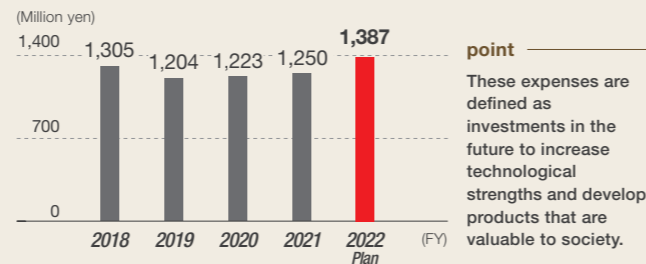
The Group engages in product development for the industrial power electronics market for serving energy creation, storage and conservation. At the time of development, we integrate three core technologies for power conversion, control and power semiconductors. Since our foundation, we have always been responding to the demands of the times and creating high-performance and high value-added products. This experience drives us to continuously advance our technologies to open the way to a new age.

Under the CG23 Medium-Term Management Plan (from April 2021 to March 2024), we will seek to increase the sophistication of our fundamental technologies for developing technologies that aid the conservation of the global environment and for providing extensive solutions for industrial equipment in accordance with our new product development philosophy. With a view toward the establishment of a carbon-neutral society in particular, we are striving to create technologies that will open the way to the future.

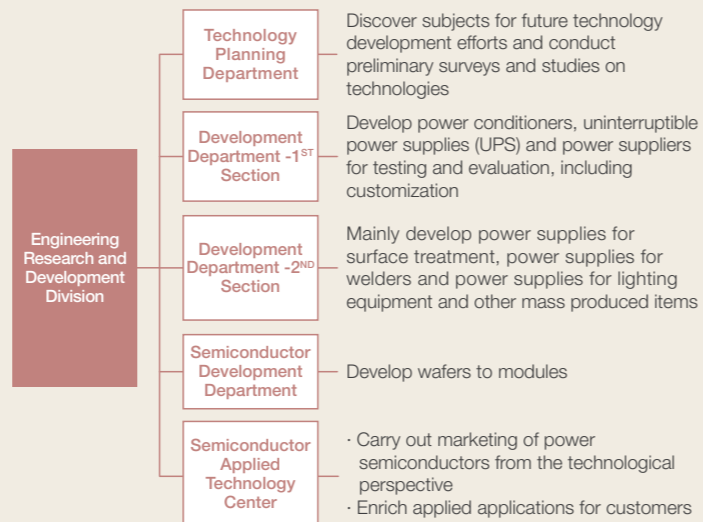
### Our core technologies and future direction



### Research and development expense



### Research and development structure (organization of the Engineering Research and Development Division)



point: We believe that the teams for developing semiconductors and power supplies in the Engineering Research and Development Division bring about a sense of unity in development from devices to equipment. The organizational structure above is based on the idea that an absence of organizational boundaries will lead to the speedy development of superior products.

## Intellectual property

### Concept behind the intellectual property strategy

The Group understands that the intellectual property strategy is inseparable from the technology strategy and the management strategy. We regard intellectual property as a source of competitiveness and as one of our most important management resources. Therefore, we implement the intellectual property strategy with attention to whether or not a particular technology should be monopolized by the company, not whether or not it can be patented. We will protect, manage and utilize intellectual property in order to maintain and increase corporate and brand value.

### Intellectual property activities

In accordance with the policy shown below, the Group actively obtains intellectual property rights to research and development achievements and makes effective use of their protection for boosting business competitiveness.

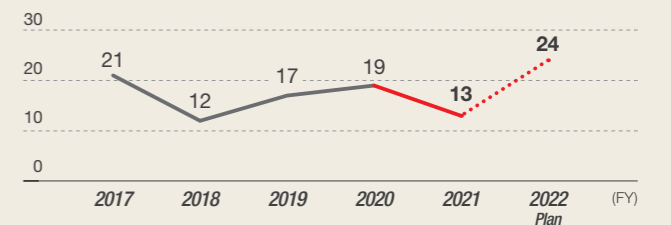
- Actively obtain intellectual property rights over inventions such as new technologies, circuits, methods and original designs as well as conceived property.
- File applications for international intellectual property rights in accordance with the global strategy.
- To expand business in emerging countries, continuously collect information on counterfeit products through overseas resident staff to take appropriate measures to address them.

### Employee invention incentive program

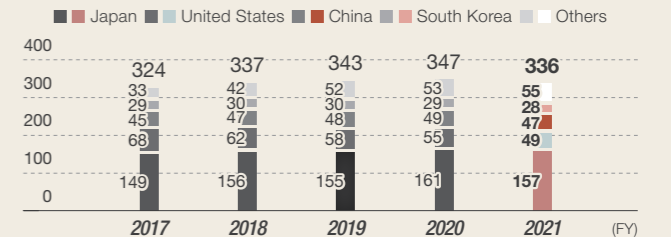
We have an employee invention incentive program aimed at encouraging engineers to develop inventions and at supporting corporate development by protecting and utilizing their inventions.

### Applications for and ownership of intellectual property rights

#### Number of patent applications



#### Number of patents owned



## Supply chain management

The Group carries out sustainable procurement activities throughout its supply chain to operate its business, which encompasses an extensive lineup of products all over the world. For this purpose, we ask suppliers to understand and comply with our Procurement Policy, which stipulates the observance of laws, ordinances and social norms, consideration of human rights and industrial safety, use of conflict-free minerals, consideration of the environment and the upholding of other social responsibilities.

In addition, we impartially evaluate and choose suppliers in accordance with the criteria below.

- Our suppliers must observe laws, ordinances, social norms and equivalence and place importance on human rights and the environment.
- Our suppliers must have a sound financial position and information management systems.
- Our suppliers must supply materials and services with an appropriate quality, price and delivery lead time.
- Our suppliers must have the ability to ensure stable supply and flexibly respond to changes in supply and demand.
- Our suppliers must conduct value analysis (VA) and value engineering (VE) activities\* to achieve mutual prosperity.
- Our suppliers must carry out risk management activities, such as business continuity planning, under normal circumstances to hold a capacity to continue supplying even in unexpected disaster or other extreme situations.

- ### Procurement Policy
- We will observe laws, ordinances, social norms and equivalence and place importance on human rights and the environment.
  - We will offer fair transaction opportunities to suppliers.
  - We will carry out procurement activities based on mutual understanding and relationships of trust with suppliers.

### Use of conflict-free minerals

The Group has drawn up the Sansha Electric Manufacturing Group Conflict Minerals Response Policy. From a humanitarian point of view, we will not use any conflict minerals, such as tin, tantalum, tungsten or gold, that are produced using inhumane practices in the Democratic Republic of the Congo and the surrounding region.

#### Sansha Electric Manufacturing Group Conflict Minerals Response Policy

<https://www.sansha.co.jp/csr/purchase.html>



\* Value analysis (VA): Activities reducing the cost of mass-produced products throughout the entire value chain  
Value engineering (VE): Activities thinking about the maximization of value from the process of product development (consideration of design)

## Reduction of the environmental impact of production activities

Reasons for identification

The international community is accelerating climate action. The Sansha Electric Manufacturing Group is aware that conservation of the global environment is an obligation to the next generation. We understand that the reduction of environmental impact of business activities is one of our top priority issues. We will accelerate our activities to protect the global environment and work to realize a sustainable society.



### Sansha Electric Manufacturing Group Environmental Policy

We are continuously pursuing action to protect the environment in accordance with the environmental policy.

Basic Philosophy

We are aware that conservation of the global environment is a corporate social responsibility. We will work to reduce environmental impact and consider biodiversity to aid the realization of a sustainable society.

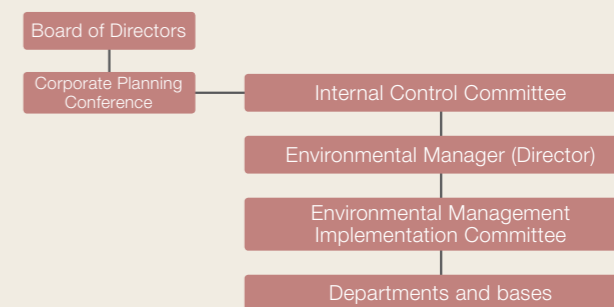
Basic policy

- 1 | Observance of environmental laws and regulations**  
We will observe environmental laws and regulations and meet equivalent requirements.
- 2 | Prevention of global warming**  
We will work to reduce greenhouse gas emissions from business activities.
- 3 | Contribution to a recycling-oriented society**  
We will push ahead with the 3Rs, reduce, reuse and recycle, to realize a sustainable recycling-oriented society.
- 4 | Reduction of hazardous substances**  
We will work to reduce emissions of substances that adversely impact the environment and to prevent pollution.
- 5 | Reduction of the environmental impact of products**  
We will always strive to create environmentally-friendly product designs to provide products with little environmental impact throughout their life cycle.
- 6 | Consideration of biodiversity conservation**  
All our personnel will be aware of importance of conserving biodiversity and act in due consideration of it.
- 7 | Continuous improvement of the environmental management system**  
We will be aware of impact our business activities and products have on the environment and work to continuously improve our environmental management system.

### Promotion structure

The Group has established the Environmental Management Implementation Committee. Under the control of the environmental manager, it is an organization that implements environmental conservation activities. This committee develops plans for environmental conservation activities. The plans are discussed at the Corporate Planning Conference and at the Internal Control Committee and decisions on them are made by the Board of Directors.

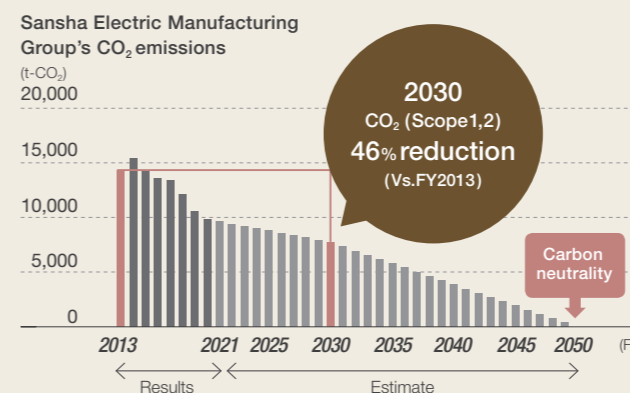
The Quality and Environment Management Department acts as the administrative office for the Environmental Management Implementation Committee, which comprises managers from individual departments and bases.



### Actions towards carbon neutrality in 2050

We recognize the importance of constantly lowering CO<sub>2</sub> and waste emissions from production activities. Based on this understanding, we decided in FY2021 to reduce groupwide CO<sub>2</sub> emissions by 46% from the FY2013 level by 2030 and to achieve carbon neutrality in 2050. We have since been accelerating our actions to achieve our goals.

In FY2021, groupwide CO<sub>2</sub> emissions were 9,916 tons of CO<sub>2</sub>. This figure is 31% lower than in FY2013.



### We will work to conserve the environment for the realization of a sustainable society

I have supported factories in their acquisition of the ISO 14001 certification of environmental management systems and the construction of internal systems for compliance with Europe's RoHS Directive and other regulations regarding the chemicals contained in products.

My current duties are related to our Group's actions reducing CO<sub>2</sub> emissions. They include education and other activities to increase the environmental awareness of the Group's personnel

and actions toward meeting the CO<sub>2</sub> emissions reduction target for 2030 in collaboration with the Group's bases and the CO<sub>2</sub> emissions reduction working group.

We will continue doing what we can for the conservation of the global environment, including the reduction of CO<sub>2</sub> emissions, for the realization of a sustainable society.



**Yumiko Fukuoka**  
Section Manager,  
Quality and  
Environmental Management  
Department

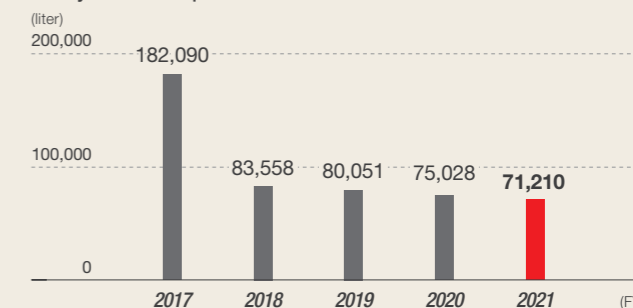
### Actions at Okayama Plant

Processes using electric furnaces are a necessary part of the wafer process, which is part of the manufacturing process of power semiconductors. Strict air conditioning management is required in cleanrooms. These two operations consume huge amounts of power totaling around 70% of the entire Group's power consumption.

The Okayama Plant stopped using a heavy oil boiler for steam humidification and introduced a heat pump chiller\* in one of the two buildings with production equipment. It also began using dry fog, which does not wet objects exposed to it. We are positively utilizing waste heat in a bid to reduce energy consumption. Discontinuing the use of heavy oil had the greatest impact on energy conservation. Total CO<sub>2</sub> emissions from air conditioning decreased from 1,257.3

tons CO<sub>2</sub> before modification (FY2016) to 476.2 tons CO<sub>2</sub> after modification (FY2019). In the remaining building, we are rationalizing the wafer process to conserve energy in consideration of productivity. We will check if the electric furnaces are more effectively used paying attention not only to power consumption but also to operation percentages.

#### Heavy oil consumption



\*Heat pump chillers are devices that circulate heat from a low-temperature section to a high-temperature section using a refrigerant as a heat transfer medium to maintain a constant temperature

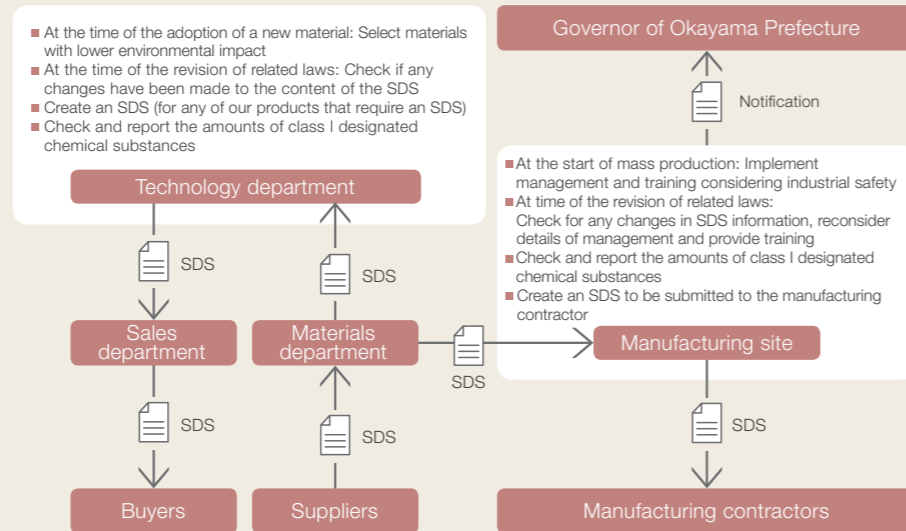
## Management of chemical substances

### Basic stance

The process of manufacturing power semiconductors involves many different chemical substances with environmental risks. In accordance with its environmental policy, the Group is working to reduce consumption of these chemicals by increasing productivity, including the improvement of manufacturing processes and yield ratios, and is also working to appropriately treat them to prevent pollution.

### Proper control of chemicals in the manufacturing process

The Okayama Plant obtains the safety data sheets of the chemicals used in the manufacturing process from their suppliers and properly controls them to comply with environmental laws and regulations, to be able to act in the event of an accident and for the management of its work. Pursuant to the Act on the Assessment of Releases of Specified Chemical Substances in the Environment and the Promotion of Management Improvement (PRTR Law)\*, it assesses and calculates the amounts of the targeted materials that it handles, releases and transfers and submits the data to the prefectural governor on an annual basis.

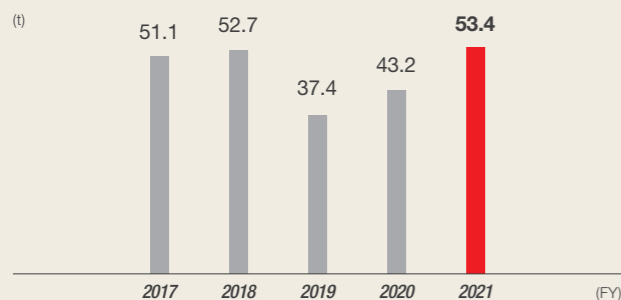


\* PRTR Law  
Establishes a system under which the sources and quantities of chemicals that involve environmental pollution risks that are released into the environment, such as the air, water or soil, and the quantities of these chemicals that are moved in the form of waste (amount transferred outside) are assessed, calculated and published.

### Substances whose notification is obligated under the PRTR Law

Number	Substance	FY2021 Handling volume	Emissions			Transfer amount	
			Air	Water	Soil	External site	Sewerage networks
53	Ethylbenzene	3,557	1,200	0	0	2,400	0
80	Xylene	5,512	1,900	0	0	3,600	0
265	Tetrahydromethylphthalic anhydride	5,045	0	0	0	25	0
296	1,2,4-trimethylbenzene	3,283	280	0	0	3,000	0
297	1,3,5-trimethylbenzene	1,127	380	0	0	750	0
304	Lead	8,548	0	0	0	0	0
320	Nonylphenol	695	150	0	0	400	0
374	Hydrogen fluoride and its water soluble salt	11,425	4.5	380	0	0	0
384	1-bromopropane	8,529	1,500	0	0	7,100	0
438	Methylnaphthalene	1,660	35	0	0	720	0
453	Molybdenum and its compounds	121	0	0	0	0	0

### The volume of PRTR substances handled



### Management of chemicals contained in products

In compliance with laws and regulations such as the European Union's Directive on Restriction of the Use of Certain Hazardous Substances (RoHS) in Electrical and Electronic Equipment, the Sansha Electric Manufacturing Group has formulated the Sansha Electric Manufacturing Chemical Substances Management Rank Guidelines to require that suppliers rigidly manage the chemicals contained in products. In addition, to ensure the reliability of chemical substance data, we make sure that our procuring departments work with the Product Quality Assurance Department to develop a management structure.

## Waste reduction

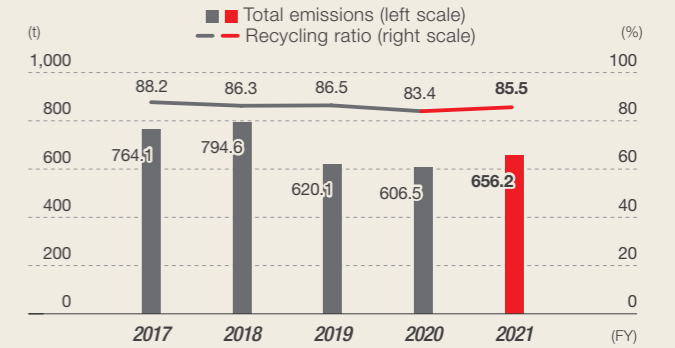
Our plants have been using reusable shipping containers and taking other actions in an effort to minimize waste emissions from business activities and to reduce packing materials and cushioning materials.

The amount of waste emitted in FY2021 increased by around 8% year on year. This is due mainly to an increase in imports of large members which resulted in the generation of waste wood.

In the future, we will successively replace plastic packing materials with cardboard for new products in a bid to reduce plastic consumption.

From this fiscal year onwards, a larger scope of disclosure applies. Data for the five past years, including general waste emissions from plants and also the offices, have been recalculated.

### Waste emissions and recycling ratio



The data covers Sansha Electric Manufacturing Co., Ltd. and its group companies based in Japan.

## Reduction of water consumption

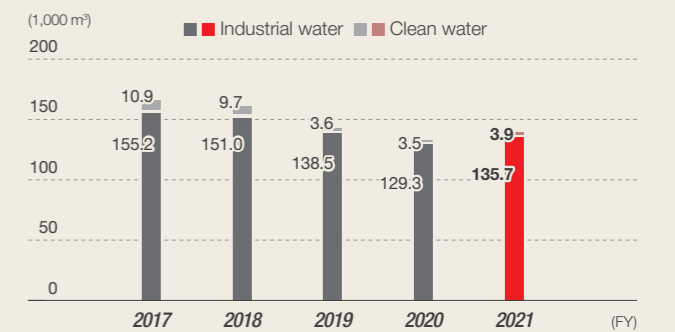
The semiconductor manufacturing process necessarily consumes a vast amount of pure water for the removal of etching and cleaning chemicals and the cooling of equipment.

As global warming worsens, the risk of failing to procure water due to droughts and water shortages and flooding damage intensifies around the world. The reduction of the corporate consumption of water is a significant issue.

Our Okayama Plant replaced its filtration equipment in 2019 to decrease its consumption of industrial water. In 2020, it replaced the pure water system and increased its reuse of water to reduce industrial water consumption. In FY2021, its water consumption surged around 5% because of an increase in production volume.

The Okayama Plant has set a more challenging water consumption reduction target in an endeavor to effectively use water resources.

### Water consumption



Data is from the Okayama Plant of Sansha Electric Manufacturing Co., Ltd.

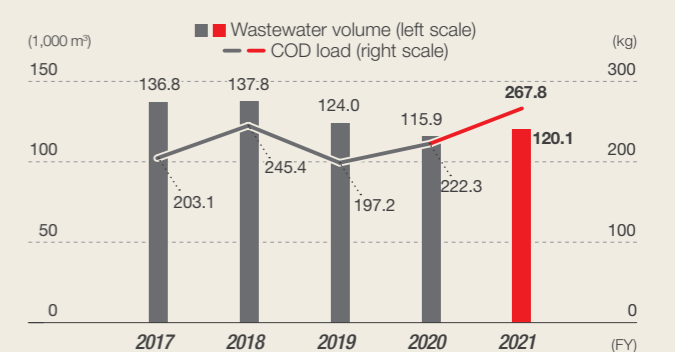
## Prevention of water pollution

Our Okayama Plant runs wastewater treatment facilities to purify the wastewater from the manufacturing process and discharge treated wastewater that fulfills our standards which are more strict than specified in laws and regulations. To control wastewater contamination, we are working to reduce and detoxify hazardous substances and to collect non-detoxifiable hazardous substances. We also inspect water quality regularly and monitor wastewater quality.



Wastewater treatment facilities at the Okayama Plant

### Wastewater volume and chemical oxygen demand (COD) load



Data is from the Okayama Plant of Sansha Electric Manufacturing Co., Ltd.

MATERIALITY  
6

## Promotion of diversity and personnel in action

Reasons for identification

Happiness and Stability for Employees is part of the Sansha Electric Manufacturing Group's corporate philosophy. We believe that our staff's happiness is one of the most important parts of our business's foundation for corporate growth and development.

Additionally, we are convinced that personnel who think and act independently are essential for the Group's continuous growth. We are focused on increasing employee independence.

The Group believes that respecting the human rights of all individuals involved in the Group, including its employees, is a vital part of the global operations of our business.



### Personnel management for continuous growth

Our basic policy for personnel development is that employee development leads to corporate growth. We will nurture our staff through the operation of our business and strive to build an environment that enables individual employees to develop leveraging their own personalities and strengths.

Required qualities

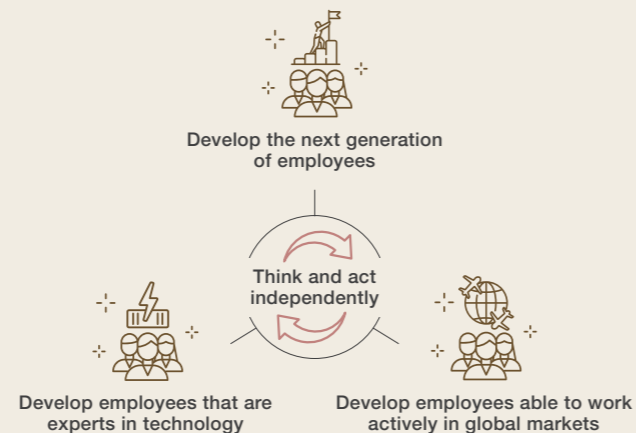
- Independent thinking and acting
- Have a can-do spirit
- Communicate with a wide variety of people
- Eager to learn and very curious

### | Priority measures in the medium-term management plan | Personnel development

The Group endeavors to realize a sustainable society through power semiconductors and power supplies. It is necessary for us to continue to develop technologies, and the development of engineering personnel is an indispensable part of innovation. To accelerate the global expansion of the Group's business, we emphasize hiring non-Japanese nationals and developing global leaders who will take charge of overseas-related duties.

The average age of our employees is now 46.2 years. As Japan's population continues to age, we are working hard to develop the staff that will support our business in the next generation.

#### Priority measures for personnel development



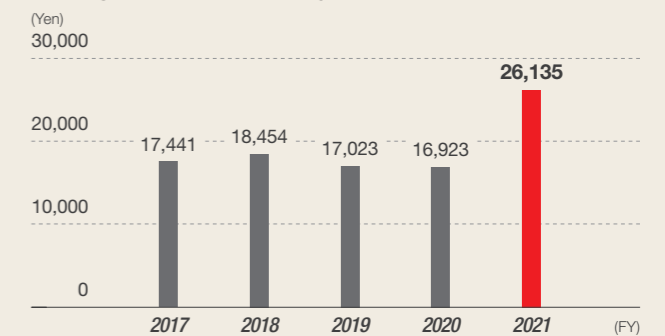
For this reason, the personnel development system was revised and new training programs were added in the medium-term management plan.

The global personnel development initiative has been suspended due to the COVID-19 pandemic. Instead, we have introduced a language skill acquisition support program and other measures to build a foundation for employees actively working in global markets.

Personnel development system  
<https://www.sansha.co.jp/csr/hr.html>



#### Training expenses per employee



The data covers Sansha Electric Manufacturing Co., Ltd. and its group companies based in Japan.

### Developing an environment where diverse employees can demonstrate their capabilities

#### Career development

We introduced the programs mentioned below to create an environment that supports the career development of personnel who think and act independently.

#### Qualification acquisition support system

The company pays examination fees and reward money to employees acquiring qualifications with a view toward supporting them.

#### Free agent (FA) program

Employees can communicate their wish to be transferred to their desired department directly to the Human Resources Department.

#### Male employees' use of childcare leave

We have seen a gradual increase in the number of male employees taking childcare leave since the first time a male employee used this leave program in FY2019. To continue to increase the percentage of people using the childcare leave system, we will publicize the program and ask superiors to encourage their subordinates to take leave. We will improve the working environment to help our personnel balance work and childcare.

#### Support for return from childcare leave

We ensure that employees wishing to resume working after childcare leave consult with their superiors to enable their smooth return to the workplace.

This is meant to remove anxiety about the return and facilitate their superiors' understanding of their work-life balance. Through this, we strive to create a working environment that enables employees to establish a healthy balance between childcare and their career.

Sansha Electric Manufacturing Co., Ltd. acquired Kurumin certification under the program run by the Ministry of Health, Labour and Welfare in August 26, 2022. The goal of this program is to recognize companies that support childcare in accordance with the Act on Advancement of Measures to Support Raising Next-Generation Children. Companies achieving their goals and fulfilling predetermined criteria are certified by the Minister of Health, Labour and Welfare.



#### Work-life balance

We continuously strive to ensure that working hours are properly managed and to reduce the amount of overtime worked. We are improving the working environment to provide a foundation for all employees, irrespective of gender, to establish a healthy work-life balance. Programs we have introduced include an annual leave saving program that allows employees to take expired annual paid leave for medical treatment and nursing care and a commemorative event leave program that encourages workers to take holidays for their preschool children's birthdays and other events.

#### A memory of childcare leave

About two years ago I learned that childcare leave was available to men as well. In the past couple of years, circumstances have changed. Men taking childcare leave is no longer rare now. I myself used to be hesitant to take it. When my second child was born, I was less hesitant and I became more positive about taking leave to reduce the burdens on my wife.

I consulted my boss about taking childcare leave. Luckily, other staff in the department were able to cover my duties, so I took about a month of childcare leave to take care of my second child and about two months of leave for the third. During these short periods, I was able to reduce the burdens on my wife when she was not at her best and to communicate with our children.

Observing their growth, I realized my responsibility and significance as their father more strongly than before. After returning to work, I was able to handle my duties more responsibly.

Some may feel awkward about household chores and some may have no idea about what to do while on childcare leave. However, what you can do or feel like doing will naturally increase as you spend time with your family. I feel very happy to have taken childcare leave.



Quality and Environmental Management Department  
Yusuke Miyazaki

## Promotion of diversity

The Sansha Electric Manufacturing Group respects every person's race, nationality, origin, faith, creed, gender, sexual preferences, age and disability status as a part of their individual identity and strive to build a worker-friendly system.

### Promotion of active participation of female employees

The advancement of women is a priority subject that we are addressing. We take various steps to enable the women we employ to develop. This includes skill development training for women employees, encouraging a shift in the mindsets of personnel including those supervising women, and job rotation to enable women to work in broader fields. We are striving to construct an environment that is friendly to our workers who are women by interviewing people taking childcare leave before returning to work, implementing a system of reduced working hours measured by the minute, and making it possible to take nursing care leave on an hourly basis.

As a result of these actions, we received three-star Eruboshi certification in December 2021. Under this certification program, the Minister of Health, Labour and Welfare certifies companies developing and submitting notification of their plans of action in accordance with the Act on the Promotion of Female Participation and Career Advancement in the Workplace. Companies must apply to prefectural labour bureaus and meet predetermined criteria and be engaged in outstanding efforts for the advancement of women.

In FY2019, we formulated a plan of action pursuant to the Act on the Promotion of Female Participation and Career Advancement in the Workplace for the period from April 1, 2019 to March 31, 2022. It set a target of at least 7% of our employees in leadership positions (heads of teams and higher) being women by the end of FY2021. We fulfilled this target, with 8.2% of our employees in leadership positions being women.

We will continue working to increase career awareness and develop management skills to nurture women leaders.

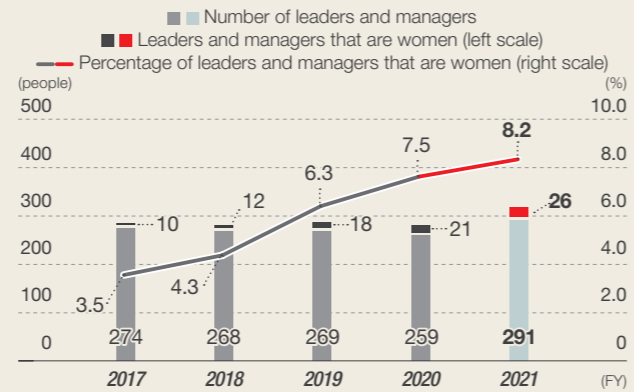
The new plan of action for the period from April 1, 2022 to March 31, 2025 set the targets specified below.

#### Target 1

**Increasing the percentage of new graduates recruited that are women to 20% or higher**

- Initiatives
- 1 Increase recruitment activities conducted by employees that are women
  - 2 Active distribution of information about the good performance of employees that are women

### Percentages of leaders and managers that are women



Data covers Sansha Electric Manufacturing Co., Ltd.

#### External recognition



Three-star Eruboshi certification acquired under the Act on the Promotion of Female Participation and Career Advancement



Certified as a Leading Company with Actively Participating Women in Osaka-shi



Certified by the Shiga Prefectural Government's program certifying companies that enable women to advance their careers



One of our employees was chosen as a role model in FY2019 by the Okayama Prefectural Government as a part of their Women in the Land of Sunshine project

#### Target 2

**Control the average overtime working hours of regular employees to 15 hours or less per month**

- Initiatives
- 1 Toughen overtime work management using the attendance management system
  - 2 Provide labor management training to managers

### A woman leader displaying her great strength

The Audit Department checks how internal rules are observed in performance audits and internal control actions and submits proposals to aid the prevention of misconduct and the improvement of operations. My current position allows me to take an overall look at the entire company. Often interacting with staff in other departments, I can propose improvements. This gives me a sense of fulfillment. When I clearly envision my role of serving the company through audits, my professional goals become clear and my small experience of succeeding and achieving these goals brings about a sense of fulfillment. This energizes me to do my next task and in my personal life as well. Some young staff members may not have clear goals. I would advise them to think again about what they want to achieve through their work. I hope that an environment friendly to women workers will be developed and that more women will aim to be leaders and managers.



General Manager of the Audit Department  
Yoshiko Sakagami

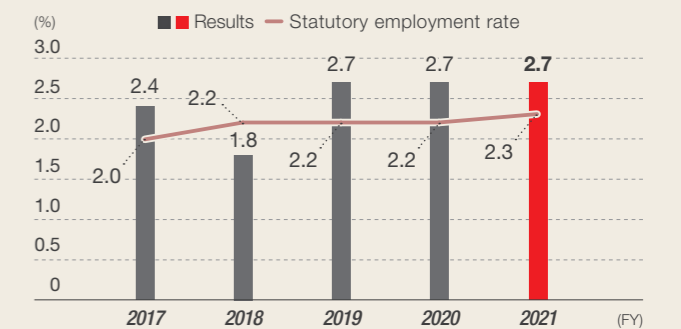
### Employment of persons with disabilities

The Group proactively employs workers with disabilities. We assign duties suited to their unique characteristics to ensure that every one of them can work without worries and that they are able to display their strengths as a valuable part of our work-force.

To move forward with the employment of workers with disabilities, we are organizing plant tours for institutions providing employment support for people with disabilities and hiring interns from these institutions. In addition, we are working to help staff acquire qualification as Working Life Counselors for Persons with Disabilities.

In November 2021, our Okayama Plant received an award as a leading company in the employment of disabled workers in Okayama.

### Percentage of employees with disabilities



The data covers Sansha Electric Manufacturing Co., Ltd. and its group companies based in Japan.



# Corporate governance

## Directors · Audit & Supervisory Board Member (as of June 28, 2022)

Directors

### Hajimu Yoshimura

Representative Director & President

Has rich experience and extensive knowledge cultivated as a business manager in the Panasonic Group, and also possesses abundant knowledge of global management as he once served as vice president of an overseas subsidiary in the same group. Since assuming his position as our company's Representative Director & President in 2018, he has been using his experience and advanced knowledge as a business manager and strong leadership to carry out the growth strategy and managerial reforms with a vision of being a Global Power Solution Partner.

Serving as director for 7 years  
Owning 21,800 shares of our stock

### Hajime Katsushima

Director and Managing Operating Officer

Joined us in 1981. Worked in research and development to develop products in the new energy sector. In November 2016, he was appointed representative director of a subsidiary to engage in corporate management. Currently, he is demonstrating his leadership as the person responsible for our power supply business. He became a Director in June 2022.

Serving as director for n/a  
Owning 10,700 shares of our stock  
Status of important concurrent holding of positions  
Chairman of the Board, SANREX LIMITED  
Chairman of the Board, SANSHA ELECTRIC MFG. (GUANGDONG) CO., LTD.

### Masaki Fujiwara

Director and Senior Managing Operating Officer

Has rich experience and broad knowledge based on his service in various positions mainly the areas of management and accounting in the Panasonic Group. He also served as a director at an overseas subsidiary of the Panasonic Group, where he acquired good knowledge about global management. Since appointed to his present post in June 2014, he has been in charge of the administrative department and the corporate planning department. He is also a Nomination and Compensation Committee member.

Serving as director for 8 years  
Owning 14,700 shares of our stock

### Akira Uno

Independent Outside Director

Has advanced knowledge of financial affairs due to his work experience at a financial institution. Since appointed to his present position in June 2014, he has been contributing to the improvement of the effectiveness of the decision-making and supervisory functions of our Board of Directors from a perspective independent from our management team. He also chairs the Nomination and Compensation Committee.

Serving as director for 8 years  
Owning 10,800 shares of our stock  
Status of important concurrent holding of positions  
Outside Director, Hashimoto Sogyo Holdings Ltd.  
Fellow, School of Business at Graduate School of Economics, Kyoto University (Doctor of Economics)  
Senior Executive Fellow, DMG Mori Co., Ltd.

### Hiroshi Zumoto

Director and Managing Operating Officer

Joined us in 1982 and engaged in productivity improvement and the strengthening of the production system as a person responsible for production technologies. Since his appointment as Director in June 2021 after holding important positions in the semiconductor business from 2012, he has been using his sophisticated skills and expertise in the semiconductor business to control this business. He has also been supervising our corporate management.

Serving as director for 1 year  
Owning 8,400 shares of our stock  
Status of important concurrent holding of positions  
Chairman of the Board, Sansha Electric Manufacturing (Shanghai) Co., Ltd.

### Koichi Ina

Independent Outside Director

Holds a good deal of experience and knowledge after working in the management team of a leading automobile manufacturer in Japan. He also possesses advanced knowledge of production technology and research and development since he worked as an engineer in factory management. Since being appointed to his present position in June 2019, he has been leveraging the knowledge above to help improve the effectiveness of the decision-making and supervisory functions of our Board of Directors from a perspective independent from our management team. He is also a Nomination and Compensation Committee member.

Serving as director for 3 years  
Owning 20,900 shares of our stock  
Status of important concurrent holding of positions  
Outside Director, Kubota Corporation  
Chairman, Central Japan Industries Association

Audit & Supervisory Board Members

### Ichiro Kitano

Full-Time Audit & Supervisory Board Member

Joined us in 1982. He has an abundance of working experience and knowledge after long serving as a person responsible for product design and the manufacturing of power supplies in our company. Since being appointed an Audit & Supervisory Board Member in June 2016, he has been making appropriate suggestions based on his experience and knowledge and conducting on-site inspections to help improve the effectiveness of the Audit & Supervisory Board's auditing as a whole.

Serving as director for 6 years  
Owning 5,000 shares of our stock  
Status of important concurrent holding of positions  
Audit & Supervisory Board Member, Sansha Solution Service Co., Ltd.  
Audit & Supervisory Board Member, Suwa Sansha Electric Co., Ltd.

### Kazuhiro Egawa

Independent Outside Audit & Supervisory Board Member

Possesses advanced knowledge of corporate legal affairs cultivated through long experience as a lawyer and appropriately advises the Board of Directors from an expert viewpoint. He also has a perspective on business administration nurtured through his rich experience serving as a corporate operating officer.

Serving as director for 2 years  
Owning 200 shares of our stock  
Status of important concurrent holding of positions  
Head of Eiwa Law Office  
Outside Director (Audit and Supervisory Committee Member), SK-Electronics Co., Ltd.

### Eriko Nashioka

Independent Outside Audit & Supervisory Board Member

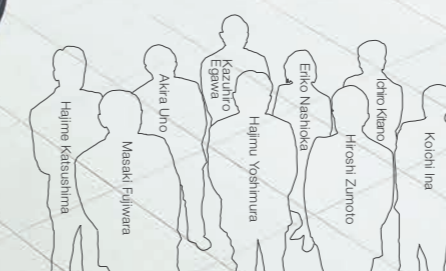
Has great experience and advanced knowledge as a certified public accountant and a licensed tax accountant. She worked as a member of the Environmental Accounting Technical Committee under the Management Study and Research Committee of the Japanese Institute of Certified Public Accountants and several committees of the Ministry of the Environment and the Ministry of Economy, Trade and Industry. She appropriately advises the Board of Directors from an expert viewpoint.

Serving as director for 2 years  
Owning 600 shares of our stock  
Status of important concurrent holding of positions  
Outside Director (Audit and Supervisory Committee Member), Fukushima Gallei Co., Ltd.; Outside Audit & Supervisory Board Member, Osaka Gas Co., Ltd.; Representative Director, Institute for Environmental Management Accounting, Head of Nashioka Accounting Office, Lecturer (part-time), Faculty of Commerce, Doshisha University

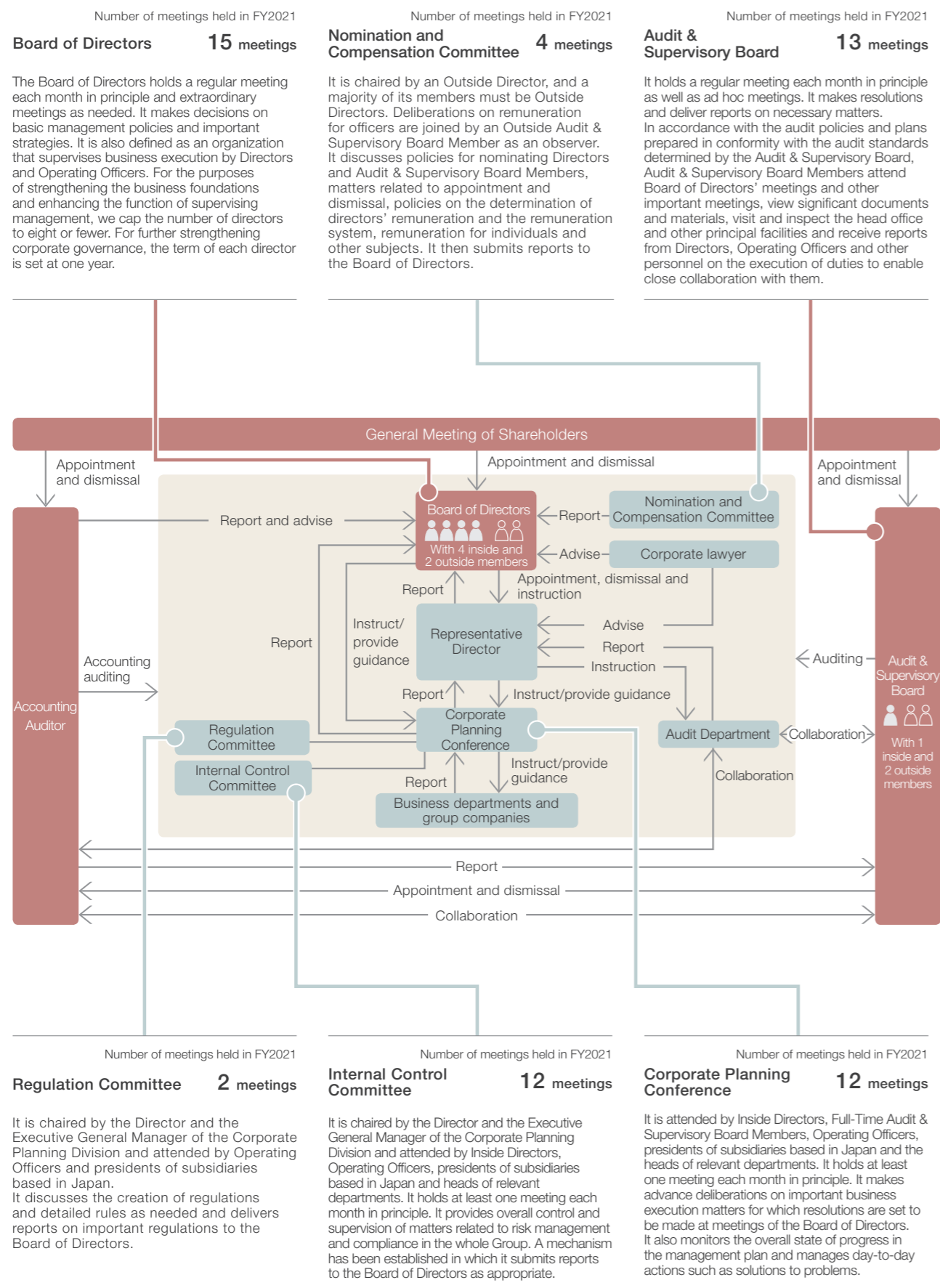
## Skill matrix

	Independence	Knowledge and experience particularly expected by the Company					
		Corporate management and management strategy	Overseas business experience	Business strategy	R&D and production	Finance and accounting	Legal affairs and compliance
Directors							
		○	○	○	○		
		○	○	○		○	
		○		○	○		
	○	○				○	
	○	○			○		
Audit & Supervisory Board Members			○	○	○		○
		○	○			○	
		○	○				○

Skills for ensuring the effectiveness of the Board of Directors	Reasons for selecting skills		Skill requirements
	Overall business management skills	Business core skills	
Corporate management and management strategy	Requires management experience and achievements in corporate management and the formulation and promotion of management strategies to realize the Group's growth strategy		Management experience as a representative director or officer in a company
Overseas business experience	Requires overseas business management experience, and knowledge and experience of an overseas business environment to respond to global business development		Experience as a representative of overseas subsidiary, head of overseas business division, or executive officer
Business strategy	As the Company's business area is a niche and highly specialized market based on power electronics technology, this position requires a high level of knowledge in such area as well as experience in executing business strategies		Executive in charge of business division, head of division and person with equivalent experience as senior management
R&D and production	Requires knowledge and experience to develop safe, secure, and high-quality products and realize integrated production from design to production		Executive in charge of R&D and production division, head of division and person with equivalent experience as senior management
Finance and accounting	Requires accurate financial reporting, efficient management of invested capital, and knowledge and experience to enhance shareholder returns		Executive in charge of accounting and finance division, head of division, person with equivalent experience and person with experience in auditing firm, etc.
Legal affairs and compliance	Requires knowledge and experience in legal affairs and compliance fields to ensure effective corporate governance and improve the effectiveness of the Board of Directors.		Experience as executive in charge of legal affairs and compliance, head of division, and person with experience in a law firm, etc.



## Corporate governance system chart



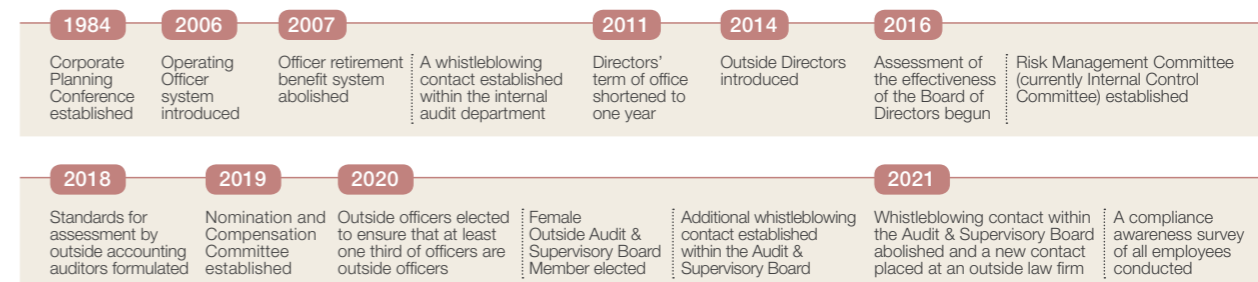
## Basic stance on corporate governance

Our stance on corporate governance is based on our management principles. We believe that our top priority is the ensuring of the effectiveness of our corporate governance through the creation of a highly transparent and efficient management system that meets the needs of society in consideration of the shareholders' interests.

## Characteristics of the corporate governance system

- Outside Directors make up at least one third of the Board
- The Nomination and Compensation Committee is established voluntarily

## Actions for improving corporate governance



## Nomination and Compensation Committee

We established the Nomination and Compensation Committee in November 2019. Its objectives are to nominate Directors and Audit & Supervisory Board Members and to increase the independence, transparency and objectiveness of the Board of Directors' functions regarding Directors' remuneration and other matters. The committee will enhance our accountability and corporate governance. To ensure the fairness and transparency of the committee, an advisory body focused on decisions regarding the nomination of prospective Directors and Audit & Supervisory Board Members and on Directors' remuneration, the committee deliberates about these matters and reports to the Board of Directors. Since December 2021, an Independent Outside Audit & Supervisory Board Member has been taking part in deliberations on remuneration for officers as an observer.

### Composition of the Committee

- The committee consists of at least three Directors selected by the Board of Directors.
- Independent Outside Directors make up half of the committee or more.
- The committee is chaired by a person selected from among the Independent Outside Directors.
- Meetings of the committee are attended by an Outside Audit & Supervisory Board Member as an observer.

### Current committee members

<b>Chair</b>	
Akira Uno	Independent Outside Director
<b>Members</b>	
Koichi Ina	Independent Outside Director
Hajimu Yoshimura	Representative Director & President
Masaki Fujiwara	Director
<b>Observer</b> (for deliberations on remuneration for officers only)	
Kazuhiro Egawa	Independent Outside Audit & Supervisory Board Member

### Deliberations of the committee

The committee had four meetings in FY2021. Each of them was attended by all the committee members. To increase the transparency and fairness of election and remuneration for officers, it worked to clarify the officer election procedures and discussed the basic policy and system concerning remuneration for officers as well as remuneration for individuals and other issues and sent its advice to the Board of Directors. For FY2021, it also discussed the view-point of successor planning, specified what knowledge, experience, skills and expertise are required for officers to ensure that the Board of Directors would have a wellbalanced composition.

Date of meeting	Nomination	Remuneration for officers
April 22, 2021	Proposal regarding election of Directors by the General Meeting of Shareholders	Performance-based remuneration for Directors and remuneration for individual Directors
August 25, 2021	Viewpoint of successor planning and skill matrix	-
December 27, 2021	Prospective officers	Basic policy on remuneration for officers, amounts of remuneration for officers, structure of remuneration for officers and different systems
January 27, 2022	Appointment of officers for FY2022 and skill matrix	-

## Criteria for appointment and dismissal of officers

### Appointment criteria

<b>1</b>	Such person has an excellent personality, knowledge and management sense, and is familiar with managerial issues.	<b>6</b>	As for a candidate for Outside Director/Outside Corporate Auditor, such person satisfies the Company's criteria for judgment of independence.
<b>2</b>	Such person has a superior ability to make analysis and judgment objectively from a company-wide perspective.	<b>7</b>	The appointment of such candidate for Director maintains the diversity of experience and expertise, has the Board of Directors exercise its function most efficiently and effectively, and brings a balance so that management is supervised throughout the Company.
<b>3</b>	Such person can state his/her opinion positively from a company-wide perspective.	<b>8</b>	The appointment of such candidate for Corporate Auditor brings a balance among knowledge, experience and expertise. At least one Corporate Auditor has considerable knowledge in finance and accounting.
<b>4</b>	Such person can secure time and effort required to properly perform his/her duties and responsibilities as Director/Corporate Auditor.		
<b>5</b>	Such person satisfies statutory eligibility requirements for Director/Corporate Auditor.		

### Dismissal Criteria

<b>1</b>	Cases where a material fact in violation of laws, regulations or the Articles of Incorporation is found.	<b>3</b>	Cases where the corporate value is significantly damaged by a failure to perform duties.
<b>2</b>	Cases where a significant deviation from the appointment criteria is found.	<b>4</b>	Cases where an event occurs that makes appropriate execution of duties difficult.

## Criteria for independence

Outside Officers to whom none of the following conditions applies can be "Independent Officers."

<b>1</b>	Person who performs or has performed duties of the Group	<b>4</b>	Consultant, accountant, tax accountant or lawyer who earns money or other assets over 10 million yen (average of the past three years) in a year from the Group other than director's remuneration
<b>2</b>	Person who performs duties of a major business partner of the Group (customer or supplier whose transaction amount exceeds 1% of the annual consolidated sales in the latest business period) or its parent company or important subsidiary	<b>5</b>	Member of the audit firm which performs an accounting audit of the Group or staff who has been directly engaged in audit of the Group
<b>3</b>	Person who performs duties of a financial institution which is essential to the Group's funding and cannot be replaced and on which the Group relies, or other major creditor or its parent company or important subsidiary	<b>6</b>	Person who performs duties of a major shareholder, a major shareholder organization or its group whose shareholding ratio is more than 10% in the Company's latest shareholder registry
		<b>7</b>	Person who satisfied conditions <b>2</b> through <b>5</b> above in the past three years or a partner/relative within the second degree of kinship of a person listed in <b>1</b> through <b>6</b> above

## Activities of Outside Officers

		Status of attendance at Board of Directors' meetings	Status of main activities	
Outside Directors	Akira Uno	Attended 15 of 15 meetings	<ul style="list-style-type: none"> <li>At the Board of Directors, he actively made remarks and proposals on the basis of his deep insight into financial affairs and abundant experience and knowledge as a member of management in many companies.</li> <li>As chairman of the Nomination and Compensation Committee, he played important roles such as presiding over the proceedings, nominating Directors and other personnel, discussing remuneration and drafting reports.</li> </ul>	
	Koichi Ina	Attended 15 of 15 meetings	<ul style="list-style-type: none"> <li>At the Board of Directors, he actively made remarks and proposals with the use of his abundant experience and knowledge as a member of management at a leading Japanese carmaker.</li> <li>He served as a member of the Nomination and Compensation Committee. He discussed nomination of Directors and other personnel and remuneration and played a significant role in submitting reports to the Board of Directors.</li> <li>At the time of factory inspection, he gave advice based on his extensive experience and knowledge as an engineer.</li> </ul>	
		Status of attendance at Board of Directors' meetings	Status of attendance at Audit & Supervisory Board meetings	Status of main activities
Outside Audit & Supervisory Board Members	Kazuhiro Egawa	Attended 15 of 15 meetings	Attended 13 of 13 meetings	<ul style="list-style-type: none"> <li>At the Board of Directors and at the Audit &amp; Supervisory Board, he played vital roles by, for example, making remarks mainly from his expert viewpoint as a lawyer.</li> <li>He conducted visiting inspections of factories and subsidiaries in Japan.</li> <li>He has been taking part in deliberations on remuneration for Officers at the Nomination and Compensation Committee as an observer since December 27, 2021.</li> </ul>
	Eriko Nashioka	Attended 15 of 15 meetings	Attended 13 of 13 meetings	<ul style="list-style-type: none"> <li>She played important roles at the Board of Directors and at the Audit &amp; Supervisory Board as she made remarks as appropriate chiefly from her expert standpoint as a certified public accountant and with the use of her knowledge on environmental accounting and others related to sustainability.</li> <li>She conducted visiting inspections of factories and subsidiaries in Japan</li> </ul>

## Officer remuneration system

We have formulated a policy regarding the determination of remuneration for officers and the method for calculating it. It is as follows.

- The officer remuneration system must be intended to promote our continuous growth and medium- and long-term increase of our corporate value. It must encourage officers to perform their duties to their utmost abilities in accordance with our Group vision and to contribute to the improvement of financial results.
- On the basis of the data collected by outside research bodies, remuneration for officers will consist of base remuneration, which is a fixed amount for individual posts, and performance-based remuneration, to ensure that the sound incentives matched with the Directors' duties will serve their intended functions.
- Remuneration for Outside Directors and for inside and outside Audit & Supervisory Board Members will consist solely of base remuneration, as they are independent from the execution of business and variable performance-based remuneration is not appropriate for them.

### Process of deliberation and determination of remuneration for officers

<b>Matters regarding a resolution of the General Meeting of Shareholders on remuneration for officers and others</b>	A resolution on monetary remuneration for Directors was passed at the ordinary General Meeting of Shareholders for the 74th term that took place on June 27, 2008, establishing an annual upper limit of 300 million yen, excluding the employee wages of any Director who is also an employee. Resolution on the monetary compensation for Audit &	Supervisory Board Members was adopted by the ordinary General Meeting of Shareholders for the 59th term that took place on June 28, 1993 to set an annual upper limit of 40 million yen.
<b>Stance on performance-based remuneration</b>	The performance indicator for performance-based remuneration is consolidated operating profit ratio, chosen because it is the most important performance indicator related to the evaluation of performance during the fiscal year under review. We calculated performance-based remuneration by multiplying the standard amount for the specific post by the coefficient appropriate to the consolidated operating profit ratio.	The amount of performance-based remuneration for Directors is discussed by the Nomination and Compensation Committee in accordance with the consolidated operating profit ratio for the fiscal year under review and reported to the Board of Directors. The Board of Directors determines the amount of performance-based remuneration for Directors in accordance with the report from the Nomination and Compensation Committee.
<b>Matters regarding determination of remuneration for individual officers and others</b>	Base remuneration for Directors for the fiscal year under review is the fixed remuneration for specific posts under the Regulations on Remuneration for Directors and has been discussed by the Nomination and Compensation Committee on the basis of officer remuneration data surveyed by an outside research body. The determination of remuneration for individual Directors is delegated to Hajimu Yoshimura as Representative Director & President, on the basis of the resolution of the Board of Directors. The Representative Director & President will determine remuneration in accordance with the amounts of remuneration for individual Directors reported after deliberations by the Nomination and Compensation Committee within the limit on total remuneration in accordance with other resolutions that	have been adopted at the General Meeting of Shareholders. The reason this duty has been delegated is that we believe the Representative Director & President can appropriately determine the remuneration for individual Directors in consideration of our overall financial results and other facts. The Nomination and Compensation Committee reviews the appropriateness of the determination of remuneration under the delegated authority prior to decisions coming into effect. Remuneration for Audit & Supervisory Board Members is determined through deliberation among them within the limit for the total remuneration for Audit & Supervisory Board Members as determined by a resolution passed at the General Meeting of Shareholders.

## Evaluation of the effectiveness of the Board of Directors

The Board of Directors evaluates its own overall effectiveness to increase its effectiveness and the corporate value of the Group. This evaluation includes the Directors and Audit & Supervisory Board Members. The results of the evaluation for FY2021 are summarized as follows.

<b>Date</b>	From December 27, 2021 to February 25, 2022
<b>Method</b>	Questionnaire survey 52 questions about the composition, roles, and operations of the Board of Directors, their determination of strategies and orientation, the internal control system and other matters
<b>Summary of evaluation results</b>	<ul style="list-style-type: none"> <li>High marks were generally given to roles and services played by Board of Directors members, leadership of the chairperson and the culture of the Board of Directors.</li> <li>There still remained some problems with monitoring of management resources and with the successor development plan.</li> <li>In comparison with the evaluation in the previous fiscal year, the improvement in supervision of remuneration for Directors and in the Nomination and Compensation Committee gained high marks. On the other hand, the improvement in information offering to Outside Officers was poorly rated and remained to be addressed.</li> </ul>
<b>Measures for increasing effectiveness</b>	<p>In response to the evaluation results mentioned above, we will implement measures listed below.</p> <ul style="list-style-type: none"> <li>Increase opportunities of discussing medium- and long-term strategies, policies and ESG actions at the Board of Directors</li> <li>Regularly organize meetings of information exchange among Outside Officers and meetings of opinion exchange between the President and Outside Officers</li> </ul>

## Evaluation of effectiveness of the Audit & Supervisory Board

In FY2021, the Audit & Supervisory Board conducted a self-evaluation on its effectiveness for the purpose of assessing its functions, roles, actions and effectiveness.

<b>Date</b>	From December 27, 2021 to February 25, 2022
<b>Method</b>	Questionnaire survey Evaluation in a total of 18 items on a four-grade scale
<b>Evaluation results</b>	The self-evaluation concluded that the Audit & Supervisory Board functioned effectively in FY2021.
<b>Future initiatives</b>	The full-time Audit & Supervisory Board Member and the internal audit department share monthly reports on internal audits and business audit reports. A liaison meeting between the Audit & Supervisory Board Members and the Audit Department takes place per month for sharing information about their respective auditing activities. However, there was no opportunity of direct information exchange between Outside Audit & Supervisory Board Members and the internal audit department. We have hence decided to hold a liaison meeting including Outside Audit & Supervisory Board Members regularly and to ensure sharing of monthly reports and other materials produced by the internal audit department.



Comment from Independent Outside Director

I hope for continuous growth as a manufacturer

Apart from matters for resolution, the Company's Board of Directors receive monthly results and plans about orders and sales and reports on the state regarding priority tasks from the Sales Division. It also receives from the Corporate Planning Division, the Engineering Research and Development Division, the Semiconductor Manufacturing Division and the Power Supply System Manufacturing Division periodical reports on their respective current statuses and future action policies.

The Board of Directors is run under the leadership of its Chairperson. All its members make frank remarks and engage in free discussions based on their respective expertise and skills as well as the experience they have accumulated. I feel that they are a great help to managerial judgments, sound decision-making and consideration of future directions with diverse views taken into account.

The Nomination and Compensation Committee is chaired by an Independent Outside Director. It ensures logical objectivity

and transparency in terms of the stance and implementation of appointment and remuneration for officers.

Since I am from the manufacturing sector, I visit our factories on a regular basis. I strongly feel that these factories have a favorable culture, with workers seriously and sincerely practicing their manufacturing duties and swiftly addressing improvements. In view of the factory atmosphere and the state of the Board of Directors, I feel that the Company will achieve further growth in the future as a manufacturing company.

The world is now undergoing drastic changes such as decarbonization and digital transformation (DX). Most companies are facing a struggle for survival. We are making every effort to continuously develop our strengths, to create more competitive products and to become a company that will greatly serve society. I will endeavor to be as closely involved in this activity as possible.



Koichi Ina  
Independent Outside Director

Risk management

Basic stance

As the risks facing businesses are diversifying, the Group identifies the various risks involved in its businesses, constructs a management system for risk prevention and takes actions to minimize the impact of risks. Our basic stance is to respond swiftly and appropriately to respond under the authority of the management team when any risk becomes a reality.

Risk management system

The Group has established the Internal Control Committee chaired by the Director and Executive General Manager of the Corporate Planning Division. To manage and prevent risk, we are working to develop our emergency response capabilities to address emergency situations when they occur. We have established a system for reporting to the Board of Directors as appropriate. The committee discusses policies and specific measures to address risks that are presumed to be involved in the Group's business activities and to instruct individual departments. Concerning quality issues in particular, the quality management departments established in individual divisions will carry out the cross-sectoral management of divisional quality assurance operations to resolve any issues quickly and precisely.

Major risks and response measures

Risks	Details	Response policy and measures
Changes in economic environment	Impacts of economic slowdown and decline in capital investment demand on business performance	<ul style="list-style-type: none"> <li>Sales strategy that does not depend on any specific region or industry</li> </ul>
Business risks	Product defects, delays in product development, suspension of OEM supply and collaboration, rising prices of raw materials, delays in procurement, changes in financial positions of contractors, country risks, competition risks, information security risks and labor shortage	<ul style="list-style-type: none"> <li>Improvement in technology development, quality and maintenance services</li> <li>Manufacturing cost cuts, enhancement in productivity and expense reduction</li> <li>Consideration of alternative procurement for main parts and revision to production contractors</li> <li>Collection of information on country risks</li> <li>Information security enhancement and management of contractors</li> <li>Enhancement of employment system as well as education and training programs</li> </ul>
Environmental risks	RoHS Directive and other environmental regulations and spillage of chemical substances	<ul style="list-style-type: none"> <li>Quality management based on quality management standards that comply with laws and ordinances</li> <li>Chemicals management in strict compliance with standards and procedures</li> </ul>
Financial risks	Impacts of fluctuations in foreign exchange rates and interest rates and a slide in share price on business performance	<ul style="list-style-type: none"> <li>Forward foreign exchange contracts</li> <li>Reduction of cross-shareholding stocks</li> </ul>
Treasury risks	Impacts of impairment in long-term assets, occurrence of retirement benefit obligations, changes in accounting and/or taxation systems on business performance	<ul style="list-style-type: none"> <li>Regular reviews on possibility of collecting the remaining value of assets</li> <li>Regular monitoring of pension asset management at the internal committee for pension asset management</li> </ul>
Natural risks and pandemics	Damage to manufacturing bases and others caused by natural disasters and business suspension due to a pandemic	<ul style="list-style-type: none"> <li>Drills for swift first response to large-scale disasters</li> <li>Formulation of a business continuity plan (BCP)</li> <li>Encouragement of commuting off rush hours and working from home</li> </ul>

Compliance

Basic stance

The Group's corporate philosophy is universal to the Group and the basis of its business operation and standards of conduct. We are convinced that the Group's corporate value will be increased by developing a corporate culture that values compliance and by building sound business foundations as a company winning trust from society.

Our mission is to create a product needed by society. No matter how society changes, the customer-first principle is the starting point of business. Customer satisfaction leads to continuous corporate development. We will think from the standpoint of customers to create products that are safe, secure and reliable in a bid to serve social development together with customers. In pursuit of harmony and mutual prosperity with the global environment and local communities, we also endeavor to remain a company that makes fair and proper transactions globally and that earns the trust of society.

The Group has adopted the Sansha Electric Manufacturing Group Behavioral Charter for constantly reviewing our business activities with a view to realizing our corporate philosophy.

Main initiatives

Anti-bribery Initiatives

We have developed an anti-bribery and corruption policy. We also observe all anti-bribery regulations in all countries and regions where the Group operates business, including Japan's Unfair Competition Prevention Act and the United States' Foreign Corrupt Practices Act. We will refrain from any conduct that could lead to misunderstanding about collusion with politics and government and strive to build sound and transparent relationships. The Sansha Electric Manufacturing Group Action Policies ban excessive entertainment, stipulating that gifts, entertainment and suchlike to business partners and their officers and employees must not exceed the level that is appropriate according to social norms.

Sansha Electric Manufacturing Group  
Basic Policy for Prevention of Bribery and Corruption  
<https://www.sansha.co.jp/ir/governance.html>



Compliance awareness survey

We conduct a compliance awareness survey in the form of a questionnaire. Its findings are reported to all employees. The Board of Directors reviews of whether or not the Group has a corporate culture that respects the objectives and the spirit behind the Sansha Electric Manufacturing Group Behavioral Charter. The Internal Control Committee endeavors to identify risks on the basis of the survey results and improves educational and awareness-raising activities regarding compliance.

Sansha Electric Manufacturing Group Behavioral Charter

- 1 We contribute to the development of a sustainable society by developing and providing products and services that are useful to society.
- 2 We will address the globalization of business activities and engage in fair, transparent and free competition and in proper commercial transactions.
- 3 We will proactively contribute to society and protect the global environment.
- 4 We will disclose necessary information to society in a timely manner, engage in constructive dialogue with all stakeholders, and strive to maintain and develop relationships of trust.
- 5 We will respect human rights and diversity, ensure a safe and comfortable working environment, and realize comfortable, relaxed and affluence.

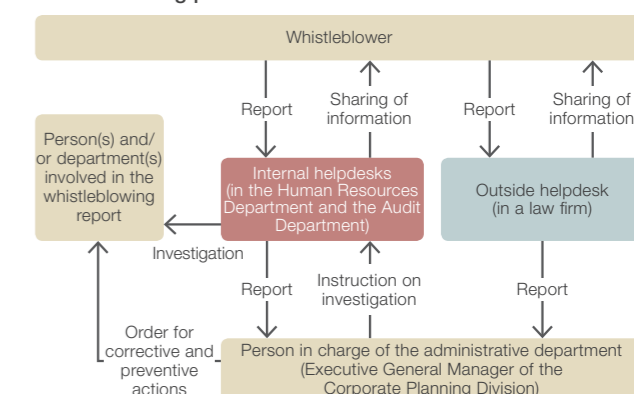
Whistleblowing system

The Group has set up compliance helpdesks (whistleblowing contacts) to be contacted regarding inquiries about compliance and for the reporting of any dishonest conduct. In addition to internal helpdesks, we launched a new one at an outside law firm in October 2021 in order to receive reports and inquiries from group companies including those outside Japan.

Upon inquiry or notification of any dishonest conduct, the Group will investigate the facts and take corrective and preventive actions.

In accordance with the Whistleblower Protection Act and to thoroughly protect whistleblowers, the whistleblowing system prohibits the dismissal or any other disadvantageous treatment of a person for their whistleblowing.

Whistleblowing process flow



## Trends in major financial indicators in the past 11 years

	FY2011 78th business period	FY2012 79th business period	FY2013 80th business period	FY2014 81th business period	FY2015 82th business period	FY2016 83th business period	FY2017 84th business period	FY2018 85th business period	FY2019 86th business period	FY2020 87th business period	FY2021 88th business period
<b>Fiscal year (million yen)</b>											
Net sales	26,393	20,547	23,279	22,113	22,191	20,069	23,717	24,369	21,875	19,436	22,675
Japan	16,811	14,591	16,697	14,943	15,400	13,451	16,026	16,927	15,165	13,462	14,626
Overseas	9,581	5,956	6,582	7,169	6,790	6,618	7,691	7,442	6,709	5,973	8,049
Cost of sales	20,959	15,469	16,708	15,726	16,421	15,652	17,515	17,930	17,281	15,027	17,227
Gross profit	5,434	5,078	6,570	6,387	5,770	4,417	6,202	6,438	4,594	4,408	5,447
Selling, general and administrative expenses	3,528	3,452	4,078	4,085	3,893	4,194	4,727	4,605	4,337	3,992	4,131
Operating profit	1,905	1,536	2,492	2,301	1,876	222	1,474	1,833	256	416	1,316
Ordinary profit	1,858	1,616	2,582	2,289	1,801	217	1,480	1,804	243	441	1,313
Profit before income taxes	1,946	1,231	2,542	2,281	1,710	281	1,471	1,793	290	612	1,320
Profit attributable to owners of parent	1,295	910	1,651	1,506	1,172	126	1,065	1,339	(680)	497	1,147
Capital investment	693	708	3,040	1,011	407	463	734	720	641	359	513
Depreciation	846	846	872	1,056	970	955	977	955	1,030	948	920
Research and development expenses	763	594	664	688	703	511	904	1,305	1,204	1,223	1,250
Cash flows from operating activities	3,837	1,675	621	2,886	1,401	1,844	3,560	746	36	1,729	940
Cash flows from investing activities	78	(617)	(1,858)	(2,244)	(321)	(2,594)	(499)	(658)	(571)	(355)	(317)
Cash flows from financing activities	(1,510)	(960)	334	20	(1,484)	(94)	(1,135)	(961)	(659)	(249)	(1,666)
<b>Segment information (million yen)</b>											
Semiconductor business											
Net sales	8,982	5,341	6,372	7,039	6,103	5,751	7,016	6,816	5,688	5,709	7,791
Segment profit	(97)	(177)	352	859	180	77	657	452	(368)	172	767
Power supply business											
Net sales	17,411	15,205	16,906	15,073	16,087	14,318	16,700	17,553	16,186	13,727	14,884
Segment profit	2,003	1,713	2,139	1,442	1,695	145	817	1,381	624	244	548
<b>As of the end of fiscal year (million yen)</b>											
Cash and cash equivalents	5,575	5,879	5,212	6,204	5,654	4,966	6,820	5,963	4,659	5,870	5,026
Interest-bearing debt	2,701	1,936	1,560	1,832	1,001	1,150	200	100	-	-	-
Total assets	24,260	23,633	27,602	28,007	26,169	25,725	27,817	28,532	24,051	24,846	27,146
Net assets	13,005	14,069	16,756	18,665	18,421	18,248	19,314	19,952	18,489	19,336	19,810
<b>Per-share data (yen)</b>											
Earnings per share	102.44	72.01	114.75	100.80	79.29	8.71	73.48	93.44	(48.22)	35.42	83.30
Net assets per share	1,028.54	1,112.74	1,121.30	1,249.11	1,271.07	1,259.14	1,332.69	1,410.77	1,316.15	1,376.49	1,541.90
Dividends per share	12.5	15.0	15.0	17.0	23.0	10.0	20.0	28.0	13.0	15.0	25.0
<b>Financial indicators (%)</b>											
Operating profit/net sales	7.2	7.5	10.7	10.4	8.5	1.1	6.2	7.5	1.2	2.1	5.8
Return On Assets (ROA)	5.2	3.8	6.4	5.4	4.3	0.5	4.0	4.8	(2.6)	2.0	4.4
Equity ratio	53.6	59.5	60.7	66.6	70.4	70.9	69.4	69.9	76.9	77.8	73.0
Return On Equity (ROE)	10.4	6.7	10.7	8.5	6.3	0.7	5.7	6.8	(3.5)	2.6	5.9
Dividend payout ratio	12.2	20.8	13.1	16.9	29.0	114.8	27.2	30.0	-	42.3	30.0
Total shareholder return	73.2	96.3	104.4	110.4	100.7	93.4	269.5	155.0	97.1	153.7	155.0
Ratio of dividends to net assets	1.2	1.3	1.3	1.4	1.8	0.8	1.5	2.0	1.0	1.1	1.7
<b>Shares and share prices</b>											
Total number of issued shares	12,650,000	14,950,000	14,950,000	14,950,000	14,950,000	14,950,000	14,950,000	14,950,000	14,950,000	14,950,000	14,950,000
Total number of treasury shares	5,851	6,046	6,541	7,099	457,099	457,099	457,099	807,120	902,122	902,122	2,102,122
Share price at the end of period (yen)	457	590	627	648	563	506	1,615	853	469	817	800
Price earnings ratio (PER)	4.46	8.19	5.46	6.43	7.10	58.09	21.98	9.13	-	23.07	9.60
Price book-value ratio (PBR)	0.44	0.53	0.56	0.52	0.44	0.40	1.21	0.60	0.36	0.59	0.52

## Consolidated balance sheets

(million yen)

Assets	FY2020	FY2021	Liabilities and net assets	FY2020	FY2021
	87th business period	88th business period		87th business period	88th business period
Total current assets	18,594	20,819	Current liabilities	4,806	6,905
Non-current assets			Non-current liabilities	703	431
Property, plant and equipment	5,282	5,259	<b>Total liabilities</b>	5,509	7,336
Intangible assets	156	143	Shareholders' equity	18,879	18,795
Investments and other assets	812	924	Accumulated other comprehensive income	457	1,014
Total non-current assets	6,251	6,326	Total net assets	19,336	19,810
<b>Total assets</b>	24,846	27,146	Total liabilities and net assets	24,846	27,146

## Consolidated statements of income

(million yen)

	FY2020	FY2021
	87th business period	88th business period
Net sales	19,436	22,675
Cost of sales	15,027	17,227
Gross profit	4,408	5,447
Selling, general and administrative expenses	3,992	4,131
Operating profit	416	1,316
Ordinary profit	441	1,313
Profit before income taxes	612	1,320
Total income taxes	115	173
Profit	497	1,147
Profit attributable to owners of parent	497	1,147

## Consolidated statements of comprehensive income

(million yen)

	FY2020	FY2021
	87th business period	88th business period
Profit	497	1,147
Other comprehensive income	490	557
Comprehensive income	988	1,704
Comprehensive income attributable to owners of parent	988	1,704

## Consolidated statements of cash flows

(million yen)

	FY2020	FY2021
	87th business period	88th business period
Net cash provided by (used in) operating activities	1,729	940
Net cash provided by (used in) investing activities	(355)	(317)
Net cash provided by (used in) financing activities	(249)	(1,666)
Effect of exchange rate changes on cash and cash equivalents	86	198
Net increase (decrease) in cash and cash equivalents	1,211	(844)
Cash and cash equivalents at beginning of period	4,659	5,870
Cash and cash equivalents at end of period	5,870	5,026

## Stock and shareholder data (as of March 31, 2022)

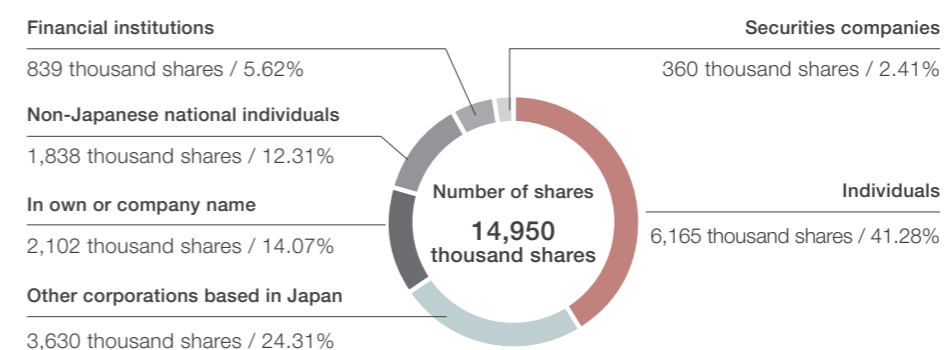
Stock exchange listing	Tokyo Stock Exchange Standard Market (securities code 6882) *as of April 4, 2022
Administrator of shareholders' register	Sumitomo Mitsui Trust Bank, Ltd
Number of shares issued	14,950,000
Number of shareholders	7,278

## Major shareholders (ten largest shareholders)

Name	Number of shares held (unit: thousands)	Shareholding ratio (%)
Panasonic Corporation	2,164	16.85
Miyashiro Limited Liability Company	758	5.90
BNY GCM CLIENT ACCOUNT JPRD AC ISG(FE-AC)	614	4.78
Employee Shareholding Association of Sansha Electric Manufacturing	394	3.07
Kunio Shikata	330	2.57
The Senshu Ikeda Bank, Ltd.	314	2.44
Sumitomo Mitsui Banking Corporation	280	2.18
Yukiya Morita	242	1.88
Hideo Shikata	228	1.78
DFA INTL SMALL CAP VALUE PORTFOLIO	206	1.61

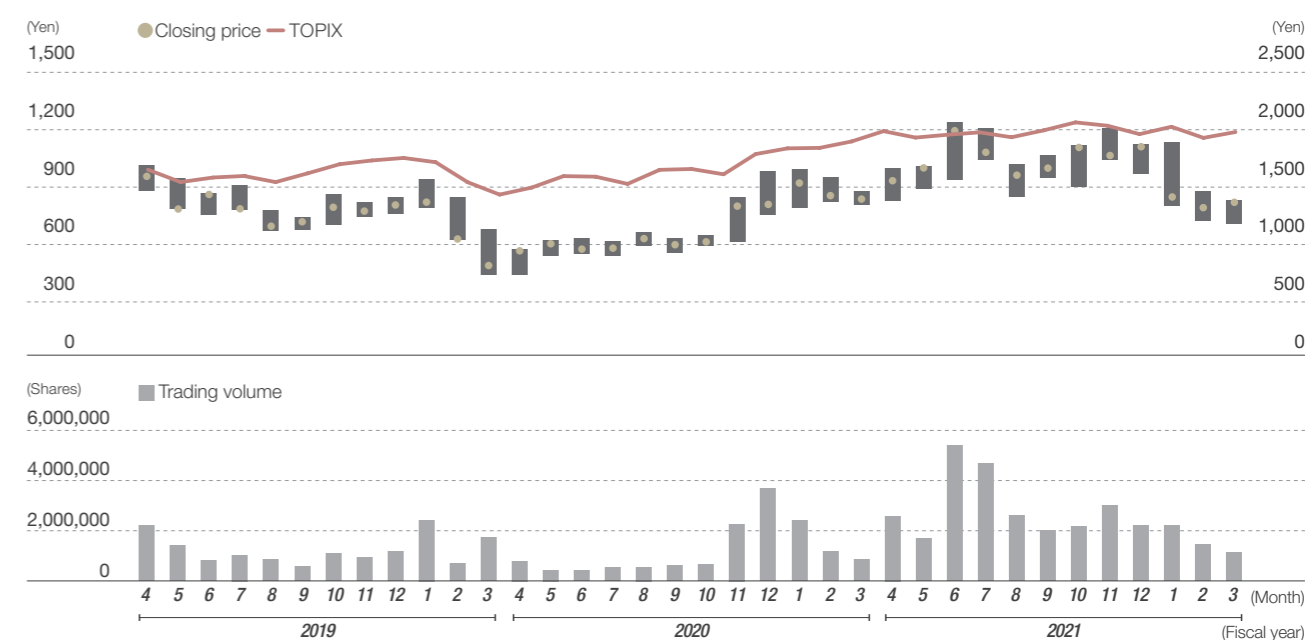
(Notes)  
1. The number of shares held is rounded down to the nearest thousand.  
2. Sansha Electric Manufacturing Co., Ltd. owns 2,102,122 treasury shares, but excluded itself from the list of major shareholders.  
3. The shareholding ratio is calculated disregarding treasury shares and rounding to three decimal places.  
4. Panasonic Corporation changed its company name to Panasonic Holdings Corporation on April 1, 2022.

## Distribution by type of shareholders



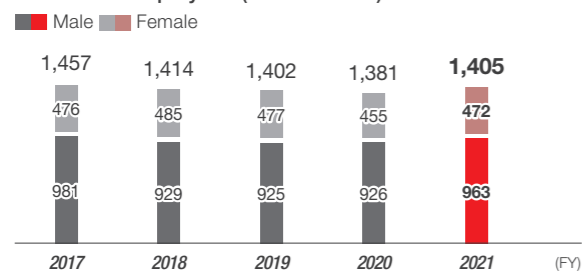
(Notes)  
1. The number of shares held is rounded down to the nearest thousand.  
2. The shareholding ratio is calculated disregarding shares of less than one trading unit and display by rounding to three decimal places.

## Monthly trends in share price and trading volume

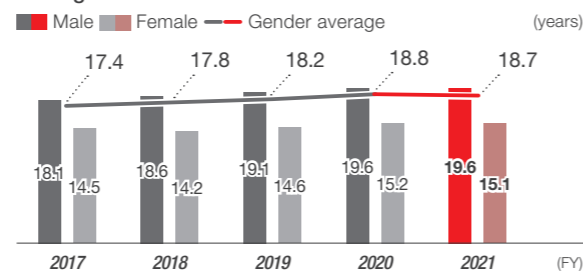


## Non-financial data

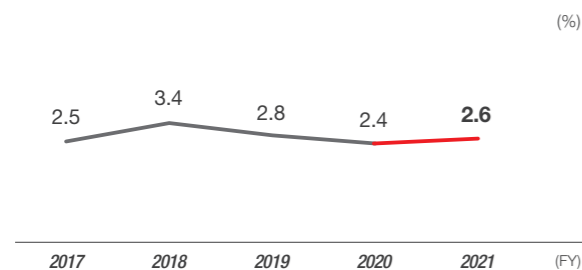
Number of employees (consolidated)



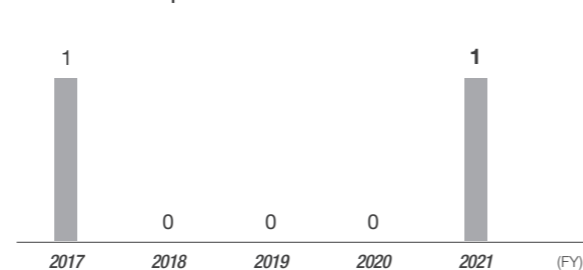
Average duration of service\*



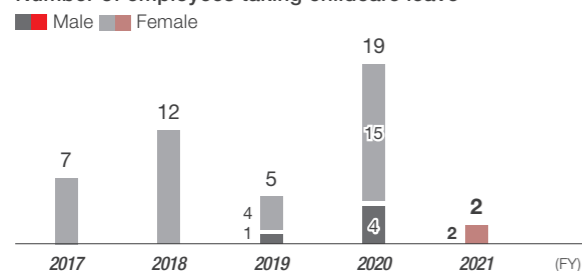
Turnover ratio\*



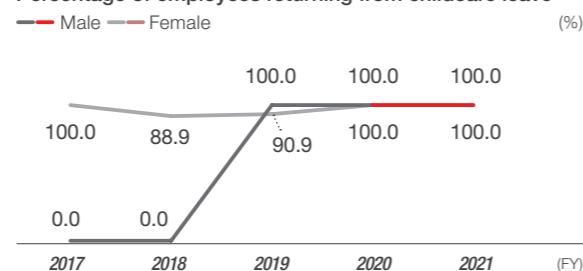
Number of occupational accidents with lost worktime\*



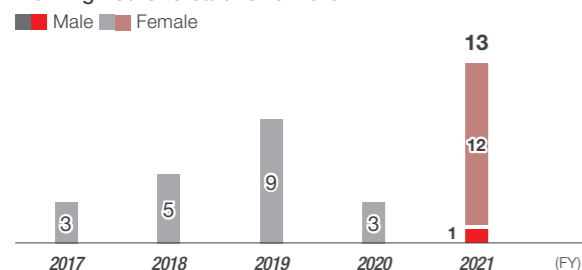
Number of employees taking childcare leave\*



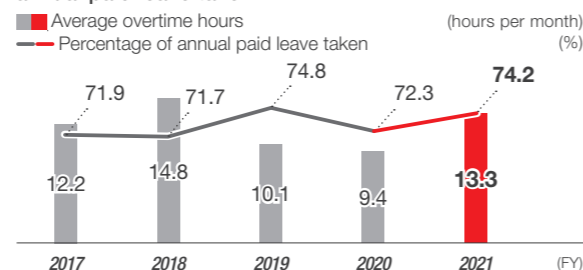
Percentage of employees returning from childcare leave\*



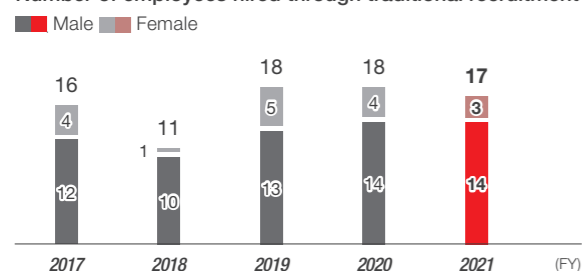
Number of employees with shortened working hours to care for children\*



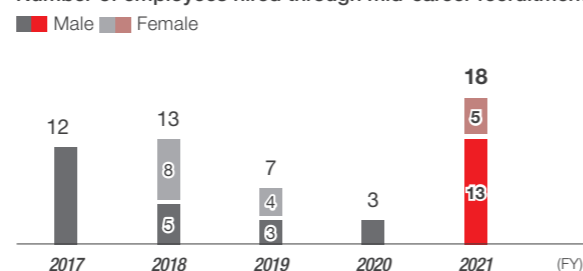
Average overtime hours and percentage of annual paid leave taken\*



Number of employees hired through traditional recruitment\*



Number of employees hired through mid-career recruitment\*



\* Sansha Electric Manufacturing Co., Ltd. and its group companies based in Japan

## Company outline (as of March 31, 2022)

Company name	Sansha Electric Manufacturing Co., Ltd.
Date of foundation	March 8, 1933
Date of incorporation	April 28, 1948
Headquarters location	3-1-56, Nishiawaji, Higashiyodogawa-ku, Osaka 533-0031 Japan
Capital	2.7 billion yen
Number of employees (consolidated)	1,405 (901 in Japan, 504 overseas)
Branches, sales offices and other offices	Tokyo, Aichi, Fukuoka, Ishikawa, Finland, South Korea and Taiwan
Plants and laboratories	Osaka, Shiga and Okayama

### Consolidated subsidiaries

Japan	SANSHA SOLUTION SERVICE CO., LTD. (Osaka)
	SUWA SANSHA ELECTRIC CO., LTD. (Nagano Prefecture)
	OSAKA DENSO INDUSTRY CO., LTD. (Osaka)
Overseas	SANREX CORPORATION (USA)
	SANREX ASIA PACIFIC PTE. LTD. (Singapore)
	SANREX LIMITED (Hong Kong)
	SANSHA ELECTRIC MFG. (SHANGHAI) CO., LTD. (China)
	SANSHA ELECTRIC MFG. (GUANGDONG) CO., LTD. (China)
	DONGGUAN EASTERN ELECTRONICS CO., LTD. (China)



### SanRex Report survey

We welcome your feedback and suggestions on this report.

<https://www.sansha.co.jp/eng/ir/integrated.html>

### Editorial policy

The SanRex Report is edited for the purpose of reporting to its stakeholders, in an easy-to-understand manner, the Sansha Electric Manufacturing Group's efforts towards continuous growth and medium- and long-term value creation. For more detailed information and figures, please see our website.

### Scope of reporting

Sansha Electric Manufacturing Co., Ltd. and its nine consolidated subsidiaries. However, the applicable scope of reporting is specified on a case-by-case basis if it differs from the above.

### Period covered

Fiscal year 2021 (from April 1, 2021 to March 31, 2022)

### Contact for inquiries

Public Relations Department  
Phone: +81-6-6321-0321 (switchboard number)  
sanrex-ir@sansha.co.jp

### Disclaimer

This report contains plans, strategies and forward looking statements such as financial outlooks. They are based on the information available at the time of publication and on certain assumptions that are deemed reasonable. Please note that results may differ from these statements due to a variety of factors.

