

# **JAE Report 2021**

The background of the lower half of the page is an abstract, high-tech digital image. It features a dense, glowing network of blue and white lines and dots, resembling a complex data structure or a futuristic cityscape at night. The colors are primarily blue and white, with some hints of purple and orange in the darker areas.

**Technology to Inspire Innovation**



Global Corporate Slogan

# Technology to In

JAE focuses on technological development and product creation that inspire customer's innovation

## Contents

### Value Creation of the JAE Group

History .....	03
Business Domains and Role in Society .....	05
Value Creation Model .....	07

### Strategies, Business and Financial Results of the JAE Group

Message from the President .....	09
Medium-term Management Plan .....	13
Business Overview and Strategy .....	15

Research & Development and Product Creation .....	19
Financial and Non-financial Highlights .....	21

### ESG of the JAE Group

Environment .....	23
Society .....	25
Governance .....	27
Corporate Data .....	33

## Corporate Philosophy

# “Explore, Create and Practice”

In response to the boundless, changing needs of society, our duties are never-ending exploration and creation. Business enterprise must essentially be like the earth as it spins and revolves through the boundless universe, in the midst of incessant change.

**Exploration** and **creation** are born in an environment of freedom and independence, and raised by relentless quest and actions which vigorously transcend barriers and difficulties.

**Practicing** this principle and further making contributions to society; this more than anything is the goal of our business, and the source of our development.

# aspire Innovation

## Basic Management Policy

JAE has promoted global business expansion based on the consolidated management of the JAE Group including all its subsidiaries; enhancement of global marketing and product development capabilities; and innovation of product quality and product creation, in order to gain a high level of trust as partners with its worldwide customers.

### Companies covered under the report

Japan Aviation Electronics Industry, Limited and 26 Group companies  
(Of which, 18 are consolidated subsidiaries)

### Reporting period

Fiscal 2020 (from April 1, 2020 to March 31, 2021)

Where required to provide the most recent information or compare with past performance, information pertaining to dates outside the stated period is also included.

### Published

October 2021

### Note

The plans, strategies, results forecasts and targets for the Company and its consolidated subsidiaries noted in this report are forecasts and targets as of the date of publication, and include risks and uncertainties. Note that actual results may differ greatly from the forecasts and targets, etc. based on various factors.



## History

Japan Aviation Electronics Industry (JAE) was founded not long after World War II in 1953, and its name reflects our aspiration to take on challenges in the field of the aviation electronics.

Since that time, we have steadily developed the business by leveraging our commitment to product creation, technology development, and global marketing, guided by our corporate philosophy of “Explore, Create and Practice” and our global slogan of “Technology to Inspire Innovation.”

Going forward we will continue to create innovation to resolve social issues and contribute to achieving a better society.



Founder Minoru Numoto

As the first president of Japan Aviation Electronics Industry, he received an order to repair a single transformer for a fee of five dollars after he began the business, and went on to win an annual contract in the face of fierce competition, as well as concluding a technology agreement with a major overseas company after he personally attended top-level negotiations. As demonstrated in these and other successes, his foresight and his outstanding ability to action laid the foundation for the company as it is today. As president and as chairman, he took responsibility for the management of the company for more than 20 years, and established its basic approach as a corporation, which was his another significant achievement. On the occasion of the 20th anniversary of our founding, then-chairman Numoto set out the corporate philosophy of “Explore, Create and Practice” with the aim of ushering in the next phase of development for the business, and these concepts have been passed down unbroken to the present day.

## JAE's history and revenues over time

## AUG. 1953

Commenced business with the head office in Minato-ku, Tokyo within Nippon Electric Company, Limited (present NEC Corporation)

## AUG. 1954

Factory was built in Kawasaki City, Kanagawa Prefecture (within NEC's Tamagawa Plant)  
Commenced repair and overhaul services for aviation electronics equipment



The factory as it was in 1954 (within Tamagawa Plant)

## AUG. 1955

Commenced manufacturing of connectors and solenoids, under the technical license agreement with US-based Cannon Electric Co.



Connectors

## APR. 1961

Akishima Factory (present Akishima Plant) is completed, and production is transferred from the Tamagawa Plant in Kawasaki City



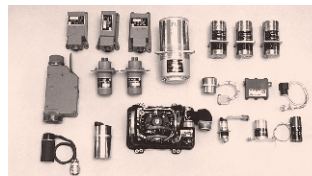
Akishima Plant in around 1964

## MAY 1961

Head office moved to Shibuya-ku, Tokyo

## AUG. 1961

Commenced manufacturing of autoflight systems, fuel meters, liquid oxygen quantity indicators, gyro-devices and other equipment for the F-104J under the technical assistance agreement with US-based Honeywell



Gyro components

## DEC. 1963

Developed and started sale of train car coupler for Japanese National Railways' Shinkansen (present JR)

## APR. 1973

JAE stock is listed on the Tokyo Stock Exchange, the Second Section

## MAR. 1977

Established Zet Marketing Company (present JAE Electronics, Inc.) in the US, state of California, as the Company's first overseas subsidiary



Zet Marketing Company at the time it was established

## SEP. 1980

JAE stock is listed on the Tokyo Stock Exchange, the First Section

\* Figures from fiscal 1953 to fiscal 1981 represent non-consolidated performance  
Figures from fiscal 1982 onward are for a consolidated performance

1953

1960

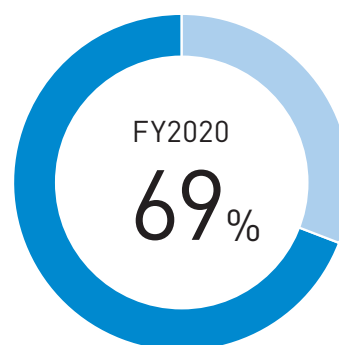
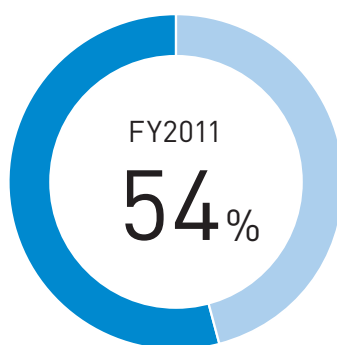
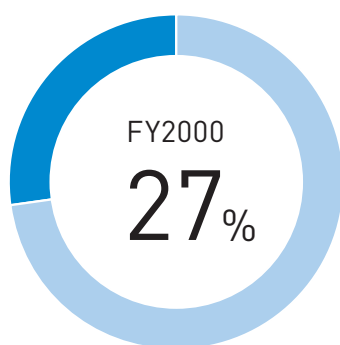
1970

1980



## Overseas sales ratio

■ Overseas ■ Domestic



JUN. 2004

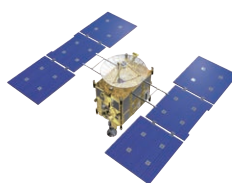
Started forestry program, "JAE Group Forest"



JAE Group Forest (Okutama Town, Tokyo)

JUN. 2010

Asteroid probe "Hayabusa" adopted our servo accelerometer returned to the earth



Asteroid probe "Hayabusa" ©JAXA

MAR. 2019

JAE has signed agreement with Industry-Academia Collaboration Research Consortium with Institute of Industrial Science, The University of Tokyo

FEB. 2020

Named one of the Derwent Top 100 Global Innovators (for the third time) in 2020

JAN. 2009

Honored with an Emmy Award for contributing to the popularization of HDMI™ technology



Emmy award trophy

JAN. 2012

Developed and started sales of "TC230 Series" capacitive touch panel for automotive

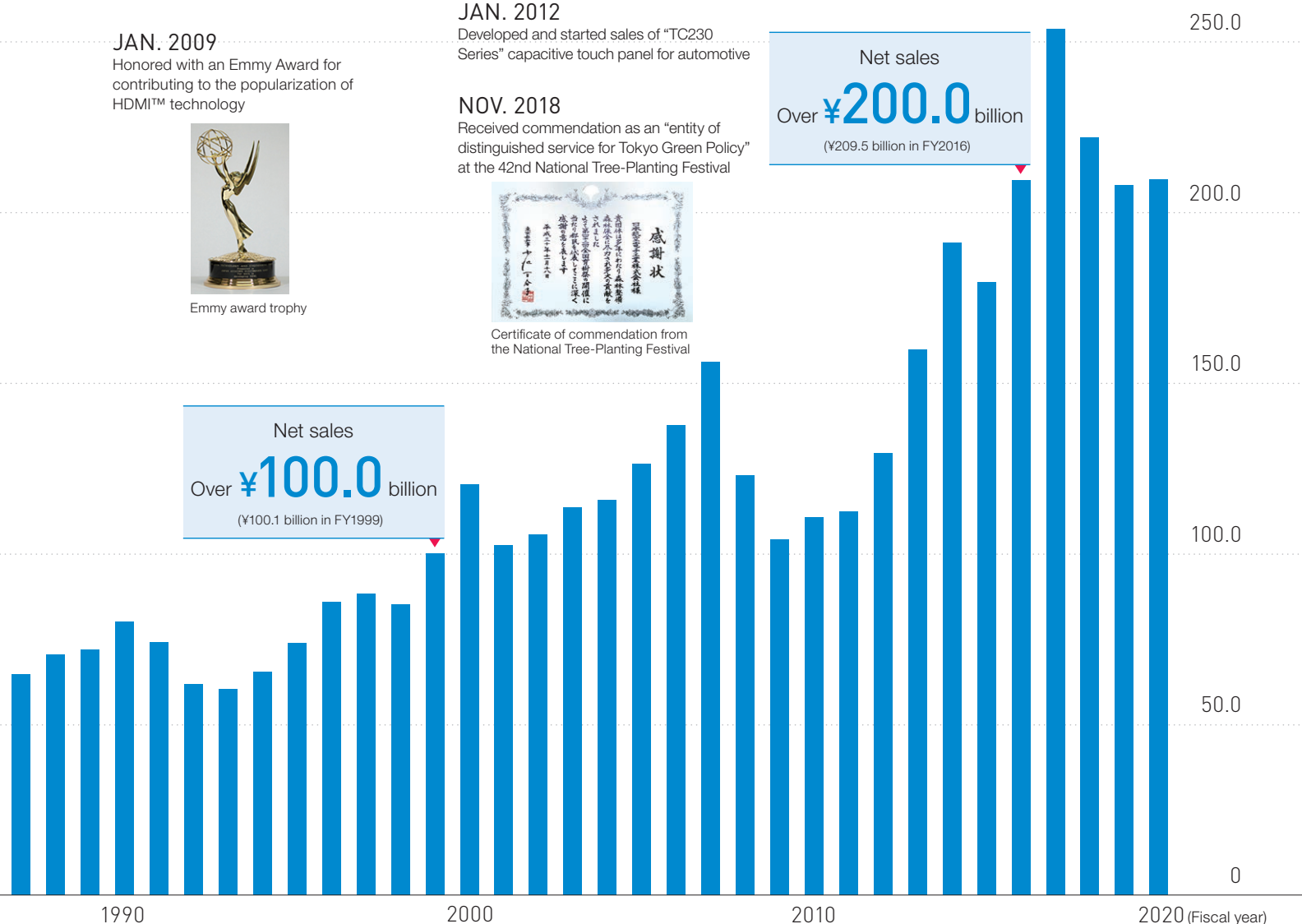
NOV. 2018

Received commendation as an "entity of distinguished service for Tokyo Green Policy" at the 42nd National Tree-Planting Festival



Certificate of commendation from the National Tree-Planting Festival

Net sales (Billions of yen)



# Creating the future through “CONNECTION” technology

With three major business lines, we remain committed to providing the global market with innovative and creative technology and products.

Net sales (Consolidated)  
¥209.7 billion  
(FY2020 results)

89%

5%

6%

## Connector Business

Connectors are key devices that provide links for electrical and optical signals. We, with advanced and reliable “CONNECTION” technology, support the evolving IoT-oriented society.



### Automotive



Automotive Digital Camera Connectors



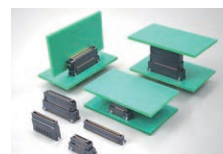
Self Rejecting AK2 Squib Connectors



### Industrial and Infrastructure



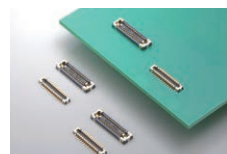
One-touch/ Screw Mating Compatible Circular Waterproof Connectors



Floating Connectors



### Mobile Devices



0.3mm Pitch Ultra-compact Stacking Type Connectors with Power Supply Terminals



USB Type-C® Connectors



### Wireless



Compact and High-performance Antennas



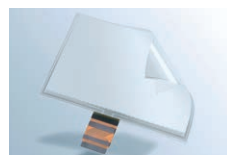
Mounting Image of Compact and High-performance Antennas

## User Interface Solutions Business

We develop products for “connecting people and equipment” focused on input device technology and provide optimal solutions tailored to users and environments in which they are used.



### Automotive



Capacitive Touch Panel for Automotive (Film Type)



Capacitive Touch Panel for Automotive (Glass Type)



### Industrial and Medical



Teaching Pendant



Panel Unit for Diagnostic Ultrasound System

## Aerospace Business

Since JAE's inception, we have pursued “Motion Sensing & Control (technology to detect and control movement),” and been providing high-precision and high-reliability products that can operate under severe environmental conditions from deep sea to outer space using that technology.



### Industrial, Infrastructure and Automotive



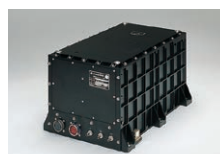
MEMS-IMU



High-Brightness Liquid Crystal Color Display



### Defense and Space



Inertial Measurement Unit for Launch Vehicle



Accelerometer



The JAE Group is working to create social value through co-creation with customers in five domains, and contributing to solving social issues through its business activities, while fulfilling its responsibilities as a member of society.

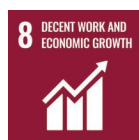


## SUSTAINABLE DEVELOPMENT GOALS

Solution of social issues through business activities

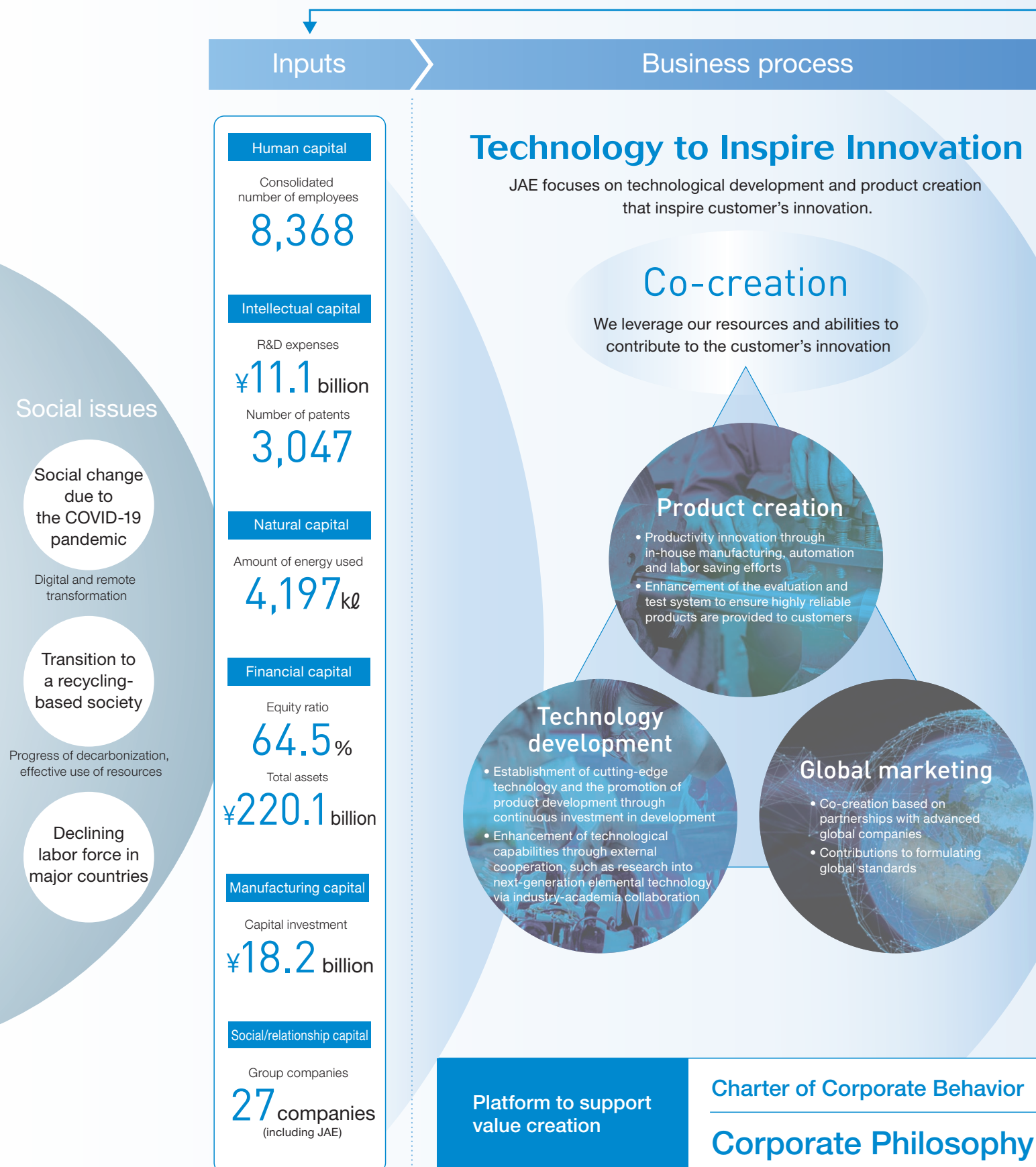


Business activities as a responsible social member



## Value Creation Model

In preparation for achieving an “environmentally friendly mobility and IoT-oriented society” in accordance with its corporate philosophy of “Explore, Create and Practice,” the Japan Aviation Electronics Group is seeking to promote its basic management policy and to achieve the goals of its Medium-term Management Plan (FY2021 - FY2025), in order to contribute to the resolution of social issues in five different domains.





By innovating productivity through the comprehensive use of in-house manufacturing, automation and labor saving efforts, and providing unique products through the development of cutting-edge technology to meet customer needs, we achieve with the customer innovations that contribute to society, and lead to enhanced corporate value.

## Outputs

### Connector Business

Examples of products in which our technology is utilized

- Smartphones, PCs
- Automotive
- Industrial robots

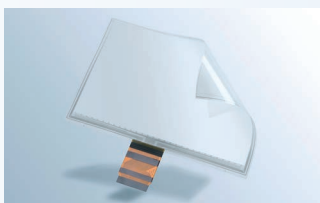


USB Type-C® Connectors

### User Interface Solutions Business

Examples of products in which our technology is utilized

- Automotive
- Industrial equipment
- Medical equipment



Capacitive Touch Panel for Automotive

### Aerospace Business

Examples of products in which our technology is utilized

- Semiconductor production equipment
- Automotive
- Aircrafts
- Rockets



MEMS-IMU

## Outcomes

### Social value

#### Connected Society

Healthy and comfortable society where the people in the world are connected with each other



#### Safe Mobility

Safe and secure mobility society



#### Clean Energy

Society with environmentally friendly energy



#### Industrial Innovation

Efficient and safe production activities



#### Air, Space and Ocean

Frontier exploration in air, space and ocean



### Economic value

FY2025 goal  
Net sales **¥300.0** billion

FY2025 goal  
Ordinary profit **¥30.0** billion

<https://www.jae.com/en/csr/>

“Explore, Create and Practice”

## Message from the President



Japan Aviation Electronics Industry, Limited  
President (Representative Director)

**Tsutomu Onohara**

**Amid this period of great transformation, we will further strengthen our technology development capabilities and manufacturing technologies and aim to grow as a company while contributing to society through our business.**

### Concerning the Publication of This JAE Report

In 2020, our society and lifestyle underwent great change amid the spread of COVID-19. There was rapid acceleration of the progress of remote and digital transformation in various domains, as highlighted by teleworking, etc. Also this year, in addition to the continuing progress of IoT, pushed forward by the penetration of 5G services and the further advancement of network technologies, we witnessed changes to the medium- to long-term business environment surrounding the JAE Group, including acceleration in the shift toward electric vehicles caused by strengthening commitment to decarbonization against the backdrop of climate change.

Considering these changes in the environment, we decided to publish our first integrated report with the purpose of strengthening everyone's understanding on our Group's vision and the initiatives JAE is pursuing to achieve growth through offering solutions for social issues. In recent years, it is becoming increasingly important to win the understanding of our stakeholders by providing them a wide range of disclosures on not only financial information but also qualitative non-financial information. We believe that this report will help boost our information disclosure efforts while further enhancing communication.



## JAE's Corporate Philosophy, Strengths, and Challenges

### Corporate Philosophy “Explore, Create and Practice.”

These words that we present as JAE's corporate philosophy are a quote from JAE's founder, Minoru Numoto. I think these three words deeply express the spirit of our founder who started from scratch to launch new operations. The Company's corporate philosophy begins with the following statement: “In response to the boundless, changing needs of society, our duties are never-ending exploration and creation.” This philosophy remains just as relevant today where we are witnessing society undergo great change, and it's still alive as a common conceptual pillar of business activity for all our employee.

### Global Corporate Slogan “Technology to Inspire Innovation”

JAE's global slogan is for expressing the Group's vision to customers while sharing the aspiration of this vision with the entire Group, and was selected after soliciting proposals from Group employees from both Japan and overseas. The Company, which mainly manufactures and sells product components, must engage in joint creation with device manufacturers, our customers, in order to provide value to society. Therefore, this slogan carries our wish to contribute to the unique product development of our customers through the technology we develop, and through this co-creation, to provide value to society. Accordingly, as our slogan accurately expresses the JAE Group's aspirations and is in line with our corporate philosophy of “Explore, Create and Practice,” we continue to treat it respectfully as an expression of the value that we should provide.

### Initiatives for Sustainability

The JAE Group will follow its corporate philosophy to provide value for the realization of a sustainable society. In keeping with this idea, we have been early on pursuing initiatives for the environment, which we position as one of our important management themes. We state “Harmony with the Environment” as one of the principles of “JAE Group Charter of Corporate Behavior” and give ample recognition to the impact of our business activities on the environment. We have been promoting environmental management aimed at the formation of a sustainable recycling-based society through initiatives to solve the various problems facing the natural environment, such as measures for global warming and the conservation of biodiversity. In addition, we are

working on reducing the environmental impact of our business activities and developing and providing products that contribute to the popularization and expansion of green energies through developing and providing environmentally friendly products.

### Strengths and Challenges of the JAE Group

Our greatest strength is our cutting-edge technology development and the accumulated fundamental technologies and knowhow in product creation, which we perform in-house inside the JAE Group. In our cutting-edge technology development, we leverage our internal resources and capabilities to optimally design products that meet the needs of the market and our customers. In the area of connectors for smartphones, downsizing and densification of connectors are accelerating along with the trend of smaller devices and larger batteries. Using our tremendous technological capabilities, we come up with designs that cater to both the demands for miniaturization and the ease of assembly for our customers. Moreover, in terms of our focusing on in-house product creation (product engineering operations), for example, when it comes to manufacturing of smartphones, for which mass-scale production lines need to be established within short timelines, we are able to satisfy such needs, and have provided mass supply of quality products within the limited available time. The JAE Group has established systems and structures to promote the acquisition of technical qualifications and to pass down of technical capabilities so that we can maintain and improve our fundamental technologies.

At the same time, we consider it to be our constant challenge to improve our technology development capabilities and speed in the future to respond to the ever-advancing performance and technical standards required of our products, and improve our productivity to accommodate further miniaturization and growing complexity. We also acknowledge that responding to the changes in society and achieving growth on a global scale are also important challenges. Moreover, our experience during the COVID-19 pandemic has made us painfully aware of how important it is to optimize global supply chain. Going forward, we continuously aim to solve various issues by accelerating technological innovation and development through industry-academia cooperation and collaboration with other companies in order to better respond to the market needs brought about by social change.

## Message from the President

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### Looking Back on Fiscal 2020

Operating in the COVID-19 pandemic, whose impact grew increasingly severe from the beginning of fiscal 2020 onward, the JAE Group thoroughly implemented infection control measures and carried out business operations with the safety of employees, families and related personnel positioned as the foremost priority. Implementing working from home practices, ensuring social distancing on the production lines, and conducting remote operations for launching mass production on overseas bases, etc., even under an environment never before experienced, we fulfilled our responsibilities to supply as a manufacturer. In terms of business results, there were a significant negative effects on business results in terms of both production and demand, with certain JAE manufacturing plants, including those in the Philippines and Mexico, enduring restricted operations and certain production activities of our customers getting suspended in the first quarter of the fiscal year. However, after the second quarter, there was a recovery in demand in key markets, such as our mainstay Connector Business, and business results recovered thanks to improved management efficiency obtained through cost-cutting measures and strengthened in-house operations.

JAE products are used in a wide range of devices, and they are being adopted also in the products that are increasingly under demand due to changes in society. Due to the impact of COVID-19, it became difficult for normal production schedules to be met and production slowed down, while the supply chain also experienced a state of confusion due to restrictions on modes of transportation. Under such conditions, we harnessed the combined efforts of all departments in the JAE Group, and with every employee grasping our immense responsibility, we did our best to manufacture and supply our products. Afterwards, when operations recovered from the peak of the COVID-19 crisis, demand surged for automobiles, smartphones, tablets, etc. and we feel that we made a contribution to society through fulfilling our responsibility as a supplier to our customers in those markets. As a further accomplishment amid this, thanks to the emergency response taken by the related departments, including the manufacturing plants, to manufacture the connectors used in ventilators, which needed to be produced in haste because of COVID-19, we contributed to the front line of medical care by fulfilling our responsibility as a supplier.

### Medium-term Management Plan

In fiscal 2021, we have commenced a five-year Medium-term Management Plan with fiscal 2025 as the final year. In 2020, while the world was significantly impacted by the COVID-19 pandemic, greater attention was given to environmental issues such as the pursuit of carbon neutrality, and broad-scale penetration of 5G began. Our new Medium-term Management Plan clearly states the JAE Group's vision for growth, along with our management targets and growth strategies in such a period of great transformation in society and markets.

Under the new Medium-term Management Plan, for which we used the catchphrase "Creating value to realize an 'environmentally friendly mobility and IoT-oriented society,'" we take the basic stance of contributing to society through our business activities and pursuing the provision of value to society using JAE technologies through co-creation with manufacturers who are our customers. The penetration of 5G in the mobile devices market, the trend toward CASE\* in the automotive market, and demand for smart factories and labor saving solutions in the industrial and infrastructure

market are all bringing about a great technological transformation. In fact, the most important themes for the JAE Group is how to provide the technological responses to these new trends and how to provide timely supply of such products demanded by the world. We have defined five domains in which the JAE Group can contribute to solving issues faced by society: Connected Society, Safe Mobility, Clean Energy, Industrial Innovation, and Air, Space and Ocean. In those domains, we are proceeding with technological development and collaboration with customers. Moreover, while pursuing new growth from new domains, such as our antenna business, which we launched in December 2020, we aim to achieve net sales of ¥300.0 billion and ordinary profit of ¥30.0 billion in fiscal 2025.

From now on, every individual in the JAE Group will be combining forces to move toward achieving the Medium-term Management Plan's targets. While providing timely reporting of our progress, we will strive to achieve growth by meeting the expectations of all our stakeholders.

\* CASE: Acronym standing for Connected, Autonomous, Shared, and Electric





## Pursuing the provision of value to society using JAE technologies through co-creation with customers

### To Our Stakeholders

As our business environment undergoes great change, I believe it is time to once again reflect on our basic philosophy, our origin, and on our global slogan, and to move ahead with our focus on product creation, technology development, and global marketing. While creating value for society by using our “CONNECTION” technology to meet the needs of our customers, we will fulfill our social responsibilities to all our stakeholders, encompassing our customers, shareholders, investors, business partners, and

society on a local level by following our Medium-term Management Plan.

Moreover, we shall also contribute to the achievement of SDGs through engaging in co-creation with customers in our business activities, and through our responsible corporate activities as a member of society. We ask all our stakeholders for their continual support going forward.

## Medium-term Management Plan (FY2021 - FY2025)

The business environment in which JAE operates is in a period of great transformation, as reflected by the progress toward global decarbonization, the penetration of 5G (5th Generation Mobile Communication System) and the various changes occurring in society as a result of the COVID-19 pandemic.

Amid these changes, JAE has announced the Medium-term Management Plan, which commits to contributing to society in its business activities through its products and technology development capabilities and aims to achieve growth as a company.

### Basic Policy

Creating value through technologies under the slogan “Technology to Inspire Innovation,” to realize an environmentally friendly mobility and IoT-oriented society connected by 5G

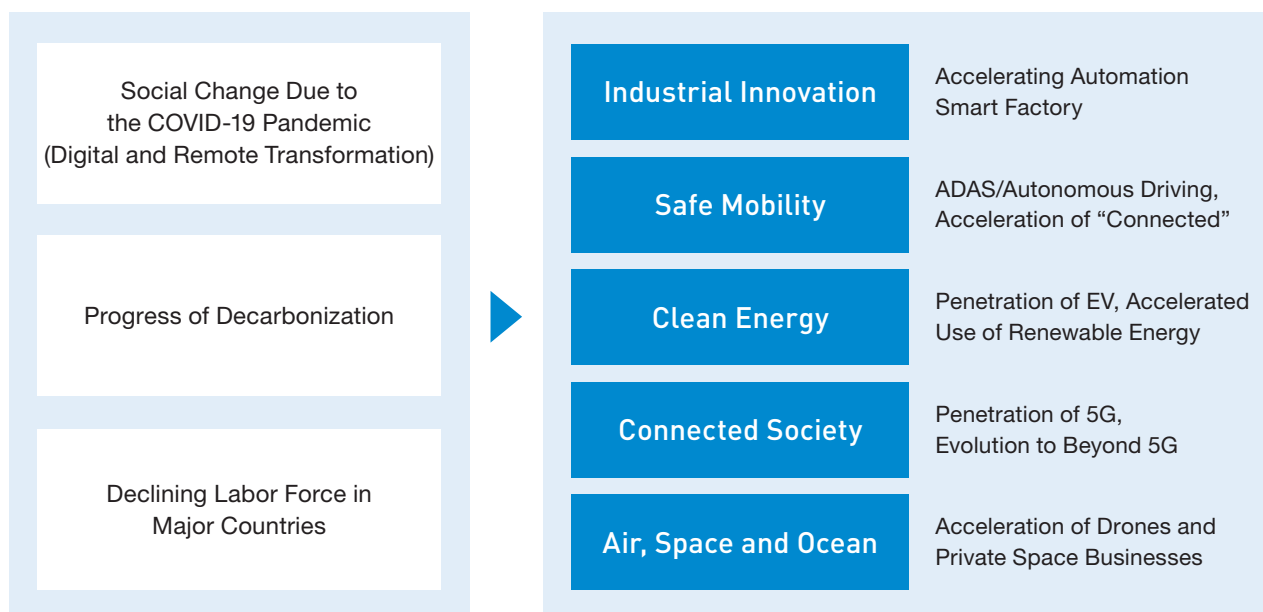
### Basic Strategy

- Achieve growth by capturing changes in the 3 focused markets and strengthen technology development capabilities and product creation
- Plan growth toward 2025 by combination of growth in 3 core businesses and launching of new business domain

We shall identify the market changes and advancements in technology in the “3 focused markets” of automotive, industrial and infrastructure, and mobile devices, and aim for global growth by strengthening technology development capabilities and product creation, which are JAE's core strengths. In addition to aiming for growth in these 3 markets in the “3 core businesses” of connectors, user interface solutions, and aviation, JAE will also develop new business domains, such as the antenna business on page 16.

## Domains Where JAE Can Contributes to Resolving Social Issues

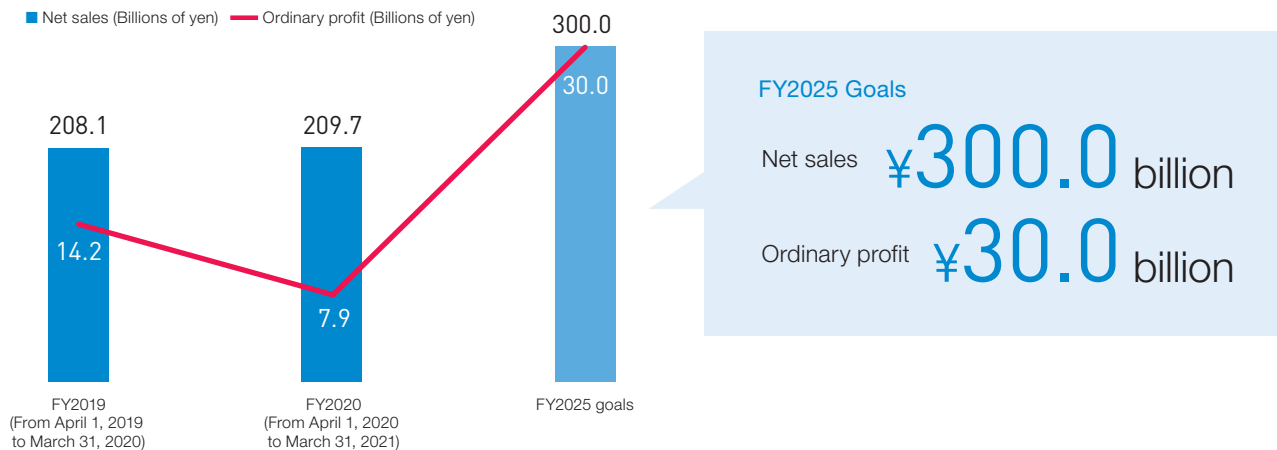
New social issues and needs have emerged, including those due to the COVID-19 pandemic, such as the accelerated progress of digital and remote transformation; those due to climate change, such as the progress of decarbonization; those related to declining labor forces in major countries; etc. In response to these changes, JAE aims to create social value using its products and technology development capabilities in the five domains, including Industrial Innovation, Safe Mobility, and Clean Energy. For example, in the domain of Mobility (automotive), the digitalization and IT adoption in cars is advancing through a great transformation by CASE, and in the domain of Industry, factory automation and the networking of machine tools is advancing through the shift toward smart factories. We believe such advancements are widening the scope of domains in which JAE can apply its knowhow, particularly in the areas of high-speed transmission technology, reliability and environmental resistance.



## Medium-term Management Goals

First, we will achieve record-high sales and profits\*, and aim for the fiscal 2025 goal.

\* Net sales of ¥253.9 billion in FY2017/Ordinary profit of ¥23.2 billion in FY2014



## Technology Development Strategy

As part of our technology development strategy in the medium-term growth area, in the Connector Business, we will enhance various simulation technologies, such as high-speed transmission and thermal analysis, to improve the development speed by predicting the performance in the upstream process of development, as we expect required products to further grow complexity in the future.

In addition, we will promote the development of fundamental technologies and advanced products, including the establishment of a company-wide cross-sectional team for 5G/6G and participation in external organizations.

In order to speed up and improve the level of these technology developments, we will also strengthen our cooperation with external organizations.

We have been strengthening our optical and wireless technologies through collaboration with NEC Corporation, and we will continue and expand our industry-academia collaboration with Institute of Industrial Science, the University of Tokyo, which has been underway since 2019, to raise the level of our technology development capabilities and R&D human resources.

## Product Creation Strategy

We will aim for sustainable growth and increase sales, while at the same time improving the efficiency of product creation by promoting “smart factory and innovation of product creation.”

In particular, we plan to innovate our manufacturing facilities for board-to-board connectors for the mobile device market, significantly reducing the manufacturing time, cost, and size of new facilities and improving the efficiency of capital investment.

We will also work to reduce transportation costs and mitigate BCP risks by strengthening our global supply chain, an issue that has become clear with the spread of COVID-19.

Therefore, in the automotive market, we will continue to study the establishment of new production sites, etc., in order to diversify cable harness production and to ensure local production for local consumption.

## Investment for Future Growth

### Production Facilities Investments

Increase production and facility efficiency, and increase sales by 1.4 times with the investment at the same level as in the past

#### Production Facilities Investments

\* Excluding production infrastructure



### Production Infrastructure Investments

Consider expansion of existing production sites to increase output and new site to strengthen global supply chains

#### Production Infrastructure and M&A Investments

\* Production Infrastructure Investments: Plant acquisition / expansion, etc.





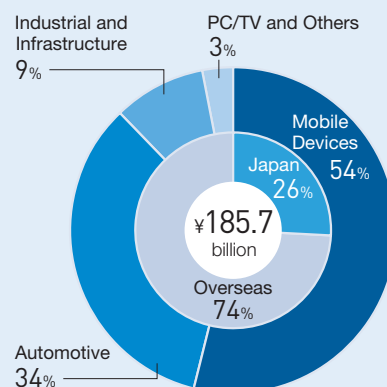
## Business Overview and Strategy

## Connector Business

The Connector Business manufactures and sells connectors used in a wide range of fields. These include: products for mobile devices, which center on smartphone components; automotive connectors in infotainment-related applications such as in-vehicle cameras, as well as in body/powertrain areas such as engine ECUs; products for industrial & infrastructure uses such as for machine tools, communications network devices and others; parts for notebook PCs; parts for flat panel televisions.

## Business Results for Fiscal 2020

At the beginning of the fiscal year the impact of the spread of COVID-19 led to disappointing results for the first quarter. However, in addition to the support provided by resurgent demand in the automotive market from the second quarter onwards, demand picked up in the mobile device and industrial markets, resulting in year-on-year growth in sales.



## Competitive Advantage

JAE responds to wide-ranging customer needs by leveraging a comprehensive array of technical capabilities, such as miniaturization technology for internal smartphone connectors that combine reduced size with good workability, or the high level of safety performance required for connectors used in vehicle airbags, or the know-how needed to create waterproof, oil-resistant and vibration-resistant components for industrial equipment used in harsh environments. In addition, we are able to provide a stable supply of high-quality products to customers by utilizing our production engineering accumulated through in-house manufacturing to promote automation and labor-saving in the form of internally developed high-speed automatic assembly equipment, establish high-volume production setups in a short time, and provide integrated in-house manufacturing systems that operate 24 hours a day, seven days a week. Moreover, by actively participating in organizations responsible for drafting various standards, not only have we been able to take a leadership role in standardizing connectors such as USB Type-C® and HDMI™, but we are also able to contribute to innovation by customers through leveraging our global marketing approach to provide proposals at an early stage.



In 2009, JAE received a Technology & Engineering Emmy Award from the National Academy of Television Arts & Sciences in relation to its contributions as a company to the development of the HDMI™ connector standard. HDMI™ connectors are used in a variety of familiar electronic products as a standard component of high-speed video transmission interfaces, and JAE's DC04 Series has been adopted for a wide range of audiovisual equipment, including digital televisions.



By focusing production on in-house manufacturing, JAE has accumulated internal production engineering, and is proceeding to shift manufacture inside the company not only for products, but also for the equipment and molds used in production at 11 development/manufacturing sites both in Japan and overseas. JAE has built an integrated production structure that spans the Group as a whole. Group companies Meiyu-Giken Co., Ltd. and JAE Fuji, Ltd. specialize in the manufacture of production equipment and molds respectively, while JAE Hirosaki, Ltd. and JAE Yamagata, Ltd. use these internally sourced equipment, together with high-speed automated machinery, to perform fully automated production of ultra-miniature, high-precision connectors for smartphones.

2020 overall sales ranking for  
connectors

No. **8** in the world

Automotive market connector  
sales ranking

No. **5** in the world

Telecom/datacom market connector  
sales ranking

No. **4** in the world

Source: Bishop & Associates, Inc.

## Growth Strategy of the Medium-term Management Plan

Our goal is to grow more quickly than the market as a whole by maintaining our position in the cutting-edge market for mobile devices while expanding at double-digit rates in automotive and industrial

### Automotive

In preparation for ADAS/autonomous driving, JAE has leveraged the strengths in high-speed transmission that it has cultivated in the ICT market, as well as its track record in supplying automotive camera connectors to European vehicle manufacturers, to expand adoption of its products among major Japanese automakers.

With regard to electric vehicles, in fiscal 2020 we reorganized the engineering departments and are taking steps to improve the competitiveness of our product development by strengthening marketing, product planning, and underlying technology development capabilities.

We aim to achieve high growth rate by promoting deployment of our ADAS/infortainment products to major customers, by expanding the use of our EV products globally, such as among Japanese and Chinese automakers, and by propelling the development of next-generation technology.

### Industrial and Infrastructure

Having worked to expand sales primarily in the domestic FA/machine-tool markets, we have won a high share of the market for servomotor connectors at major domestic customers. We will achieve further growth by capturing demand related to automation and robotization in overseas markets such as China.

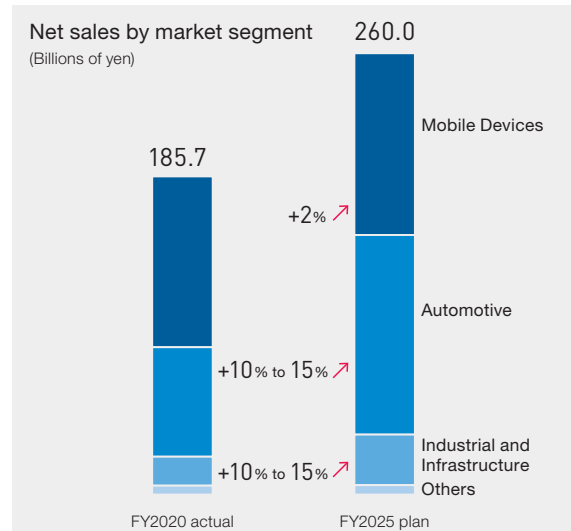
In the telecom/datacom market, our efforts to expand sales for domestic 5G base stations have resulted in higher market share. Going forward, we will strengthen our technology development structure for optical connectors in order to seize the growth opportunities created by the expansion of Japanese manufacturers into the global base station market.

In the market for electric power infrastructure, we are expanding the variety of EV charging plugs we offer for use in EV charging stations, both in Japan and in Europe. Going forward, we will work to develop products based on the CHAdeMO 3.0 standard, which was jointly created by Japan and China, move forward with the building of a global production structure, and promote further expansion in overseas markets.

### Mobile Devices

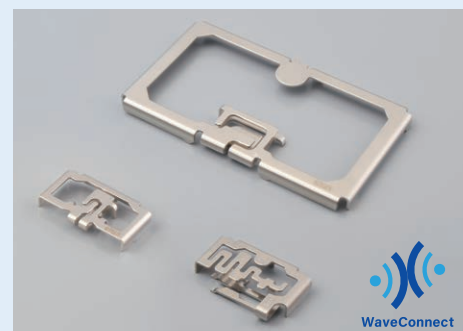
In addition to leveraging the tailwind of higher functionality generated by the spread of 5G devices to raise our share in the smartphone market, we will roll out products for a wide range of other equipment, such as tablets, smart watches, and wireless earphones.

Primarily in board-to-board connectors, where we have one of the highest market shares globally, we intend to raise our share further by launching new products to address the need for better noise suppression in applications such as next-generation communications modules for smartphones. In order to support this growth, we plan some 60% increase in production capacity by fiscal 2025 for board-to-board connectors used in mobile devices.



### New business domain: Antennas

By utilizing our high-precision machining capabilities in combination with technology from NEC Corporation, we succeeded in developing and commercializing a compact and high-performance antenna that features the world's smallest size in those with the same level of antenna performance. Driven by the increase in speed and capacity enabled by 5G, recent years have seen the spread of IoT (in which a variety of objects are connected to the internet) and of connected cars, and expectations for high-quality wireless communications are rising. In response to such needs, in addition to our originally launched components for Wi-Fi equipment, in March 2021 we revealed products for private LTE and private 5G, and going forward we will continue to expand our range of targeted products and markets.



AN01 Series

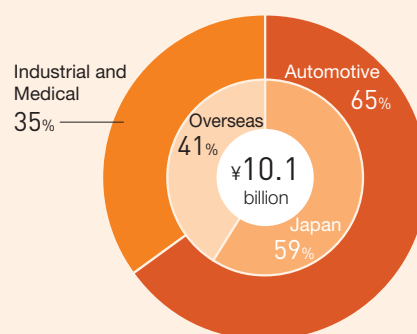
## Business Overview and Strategy

## User Interface Solutions Business

The User Interface Solutions Business manufactures and sells products for automobiles, such as automotive capacitive touch panels, and products for industrial and infrastructure uses, such as various types of touch panel monitors and operation panels for industrial machinery and medical equipment.

## Business Results for Fiscal 2020

Sales increased year on year due to the expansion of production of film type sensors in the automotive field, and the increase of demand for operation panels for machine tools and industrial robots in the industrial field.



## Competitive Advantage

We have worked on the development of capacitive sensors used for “touch input” for many years, progressed in the development of the automotive market ahead of other companies, and contributed to the improvement of the usability of automotive displays. In addition, in response to the increase in size of displays and the diversification of design needs, we developed the “FLEXCONVERT®” brand as a core technology by combining printing, adhesion, etc. technologies with superior materials as represented by film-type metal mesh sensors made using the Company’s proprietary printing methods. We will reform our manufacturing processes through this, and realize a flexible response to user interface needs that will become more diversified and sophisticated in a wide-range of markets.

## Growth Strategy of the Medium-term Management Plan

Expand scope to ¥20.0 billion by fiscal 2025 through the differentiation of touch panels for specific applications

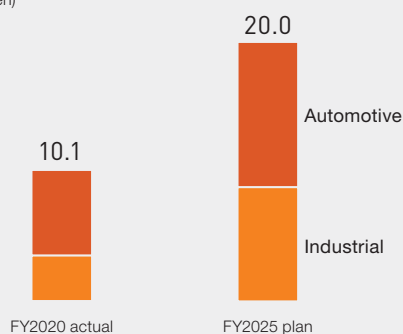
## Automotive

For the automotive market, we have proposed new technologies, such as metal mesh sensors, film-type sensors, etc. thus far, ahead of competitors, obtained adoption and expanded sales. Going forward, amid the expansion of needs for the size increase of automotive panels in line with the increase of the amount of information due to shift to IT for cars and cars becoming more connected, we will develop products that differentiate themselves through touch sensor sensitivity and design.

## Industrial

We expect that operating switches in the industrial market, such as those for FA, machine tools and semiconductor manufacturing equipment, will switch to touch panels. Using the adoption by major Japanese customers as a step, we aim to establish production systems and begin mass production, and expand adopted products by advancing the development of products that respond to environmental resistance needs that are specific to the industrial market, such as oil, noise and vibration.

Net sales by market segment  
(Billions of yen)



## Technology brand “FLEXCONVERT®”

Through the development of “FLEXCONVERT®,” a printing-technology-based converting technology\*, we will respond flexibly to the diversified, sophisticated user interface and needs.

\* Technology to integrate various element technologies, such as high-resolution fine line printing, bonding different materials, coating and laminating, to create new value



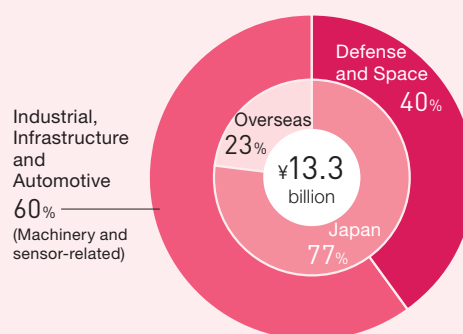


# Aerospace Business

The Aerospace Business manufactures and sells electronic equipment for defense and space, such as flight control equipment, inertial navigation systems and radar altimeters, and products for industrial machinery, infrastructure and automobiles, such as damping and drive equipment for semiconductor manufacturing equipment, sensor packages for oil drilling and automotive rotation angle sensors.

## Business Results for Fiscal 2020

Sales of products for defense and space were in line with the previous fiscal year, but sales decreased year on year for the business as a whole due to a significant decrease in demand for products for oil drilling in the industrial field.



## Competitive Advantage

We have constantly focused on cultivating aviation space electronics technology since the Company's founding, retained technological capabilities that are top class globally, and produced inertial sensors (gyroscopes, accelerometers), which are key devices, and applied products through our proprietary development.

Furthermore, with our technological capabilities that realize responses in harsh environments, such as those with vibrations, impacts and extreme temperatures, which have been cultivated over many years in the defense and space market, we have created and provided highly accurate and highly reliable products by broadly deploying these technologies even in private demand markets, and flexibly responding to customers' needs.

## Growth Strategy of the Medium-term Management Plan

Grow and expand scope to ¥20.0 billion by fiscal 2025 by taking advantage of the semiconductor super cycle and capturing demand for autonomous and remote operation

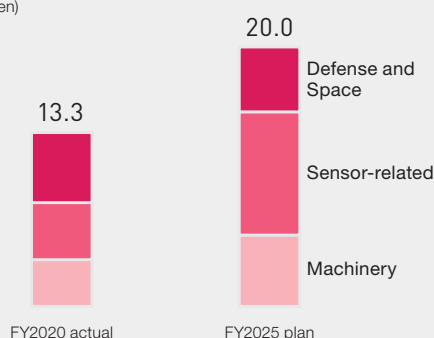
### Machinery

The adoption of linear motors for semiconductors and liquid crystal exposure equipment has been increasing at domestic equipment manufacturers. As the semiconductor market is in a super cycle, we will take this opportunity to capture demand by expanding our target area from exposure equipment to include test equipment and transportation equipment, and proceed with the further expansion of the adoption of linear motors by proposing speed increases through the use of linear motors for increasing performance needs of equipment.

### Sensor-related

We are currently evaluating prototype equipment with compact-type inertial measurement units (IMU) for detecting movement and collecting and supplying control information for autonomous and remote operation of construction machinery and agricultural equipment. Going forward, we will aim for growth by expanding sales of mass production equipment, which will get into full swing.

Net sales by market segment  
(Billions of yen)



### New business: Develop new markets, such as industrial drones

We have carried out the development of flight control equipment for aircraft and unmanned aircraft for many years, and using the technologies cultivated through this, we have begun to develop flight controllers for industrial drones. Going forward, amid the expectation of practical utilization of drones, flying cars, etc. used for logistics and the inspection and measurement of infrastructure, anticipation for highly reliable, domestically produced flight controllers is increasing, and we will respond to this demand.



## Research & Development and Product Creation

### Research & Development

#### ■ JAE Group's Approach to R&D

Based on the corporate philosophy of “Explore, Create and Practice” since the Company's founding, the JAE Group has worked on R&D in order to open new doors that will realize innovation for society and customers as a technology and product creation company. We will contribute to realizing an “environmentally friendly mobility and IoT-oriented society connected by 5G” through our connection technology, which meets the needs for high-speed communication, high currents and a super compact size, user interface technology and motion sense & control technology. Moreover, with regard to fundamental technologies that will support growth, we work on R&D with the aim of shifting toward smart factories and innovating manufacturing technologies.

#### ■ Product Development Center

The Product Development Center carries out R&D for business potential research and planning that aims to develop new business domains, collaborative R&D between departments that contributes to each business department's future business vision, and R&D of fundamental technologies that contribute to strengthening production engineering at existing businesses. For business potential research and planning, we listen to the opinions of future users by actively participating in exhibitions, an academic society, etc., and attempt to create new businesses out of areas that are not growing in existing businesses. For collaborative R&D between departments, we aim to propose new products and to anticipate customer requests by identifying basic research technological issues within problem solving on-site. For R&D of fundamental technologies, we aim to fuse applied research for product creation, which departments have promoted, with scientific knowledge that we have discovered before anyone else in the world.

#### ■ Connector Business

The Connector Business advances research in order to develop connector products that can be used even more comfortably and securely by customers. To accomplish this, the Connector Business conducts research into the acceleration of next-generation communication connectors, the increase of current for EV connectors, the reduction of size and thickness of connectors for mobile devices, the increase of functionality, such as active fiber cables, and the creation of new value, such as smart textile connectors, as well as promotes analysis and evaluation with the principal objectives of extending the life of connectors and increasing reliability, such as through designs resistant to electromagnetic waves and noise.

#### ■ User Interface Solutions Business

The User Interface Solutions Business matches customer needs with our technology through marketing activities to identify R&D themes and promote R&D activities for switches, sensors and overlays (covers), which are core technologies. In addition, the Product Development Center will strengthen the basis of “FLEXCONVERT®,” which is our user interface solution technology brand, through cooperation with universities and companies that have excellent materials technologies, in addition to R&D that responds to increasingly diversified and sophisticated needs.

#### ■ Aerospace Business

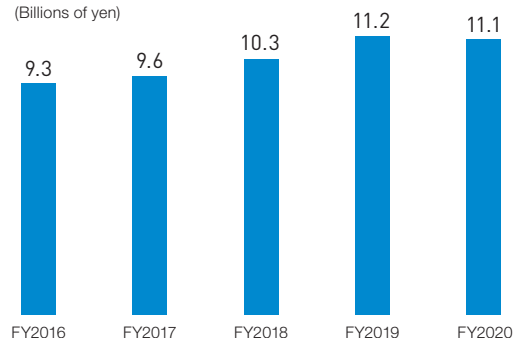
The Aerospace Business's business domain is “motion sense & control,” and it handles the four core technologies of “highly precise motion sensing,” “highly reliable motion control,” “precise mechatronics” and “resistance to extreme environments.” We carry out R&D that focuses on reliability and environmental resistance in order to play an active role in the defense and space market, semiconductor manufacturing equipment market and oil drilling market in addition to the expanding autonomous driving market for drones, construction machinery, etc. going forward.

We actively carry out R&D investment.

Over the past five years, we have allocated around ¥10.0 billion per year for R&D, which has led to the products that will help us grow going forward, such as high-current EV connectors and 5G-compatible connectors. Going forward, we will proactively continue R&D for growth areas.

#### Research and development expenses

(Billions of yen)

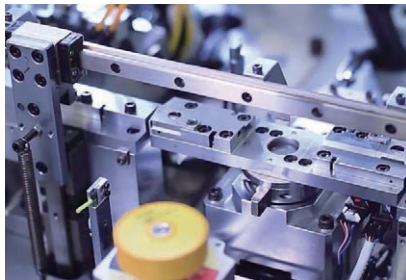


## Product Creation

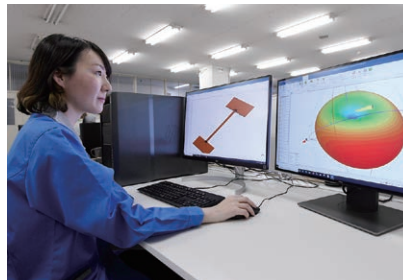
The JAE Group promotes “product creation technology innovation” to be recognized as the number one partner for our customers. Fully utilizing the integrated production system of in-house manufacturing, the sectors of design, production engineering and manufacturing are always making a concerted effort to improve customer satisfaction in terms of

# Quality, Cost, Delivery

which are the most essential points for a product creation company.



Automatic assembly machine



Element analysis



Integrated Evaluation & Test Laboratory

## Innovation of production efficiency by in-house manufacturing, automation and labor saving efforts

We have established a robust production system, by operating JAE designed labor-saving, automated assembly machines 24 hours a day, 7 days a week at main factories in Japan such as JAE Hiroasaki and JAE Yamagata, and by thoroughly promoting in-house product creation. We are constantly taking on the challenge of “higher manufacturing speed” for each production step from equipment manufacturing and product processing include turning, molding, stamping and plating as the basic technologies for this to product assembly.

## We are striving for high quality and to be easy to work with for customers

We pursue high quality and ease to work with from the new product development phase by utilizing material analysis, high-speed transmission evaluation and other fundamental performance tests, design verification, FMEA analysis and workmanship evaluation. In addition, we follow a diversified approach for defect prevention in the manufacturing process including production in a clean room, quality improvement activities ... all these contribute to offering reliability to our customers.

## Enhancement of the evaluation and test system to ensure highly reliable products are provided to customers

We are strengthening and enhancing our evaluation and test system in order to fully respond to the ever higher demands for quality and reliability from our customers. In addition to an anechoic chamber for electromagnetic compatibility (EMC) evaluation, the Integrated Evaluation & Test Laboratory was completed in May 2016, where more than 100 units of testing equipment, including combined environmental reliability test systems and vibration test devices are installed. This laboratory conducts environmental testing with even greater precision and efficiency by applying thermal and humidity stress, and mechanical testing by applying vibration and shock, and thus enables us to supply customers with reliable products.

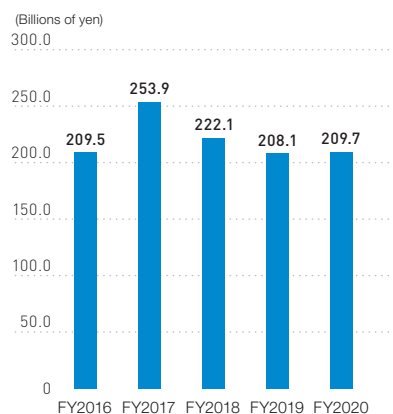
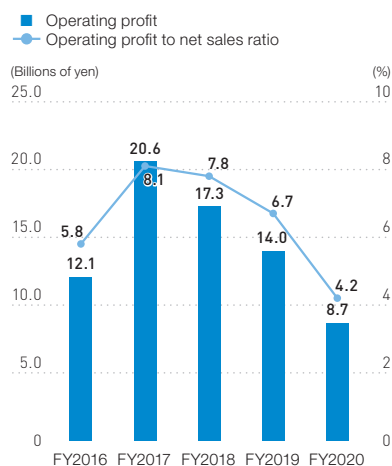
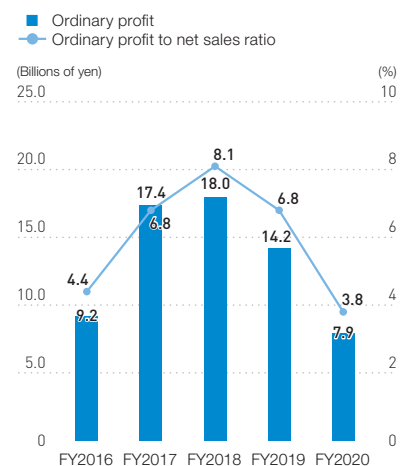
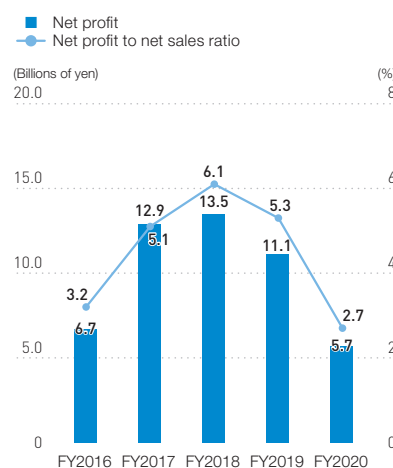
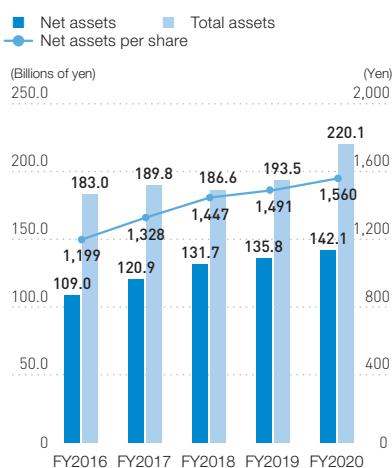
## Strengthen manufacturing technologies of overall JAE Group

As part of strengthening manufacturing technologies, the JAE Group established the “Global Techno-Center” in April 2005 with the aim of handing down technology and skills, and has carried out Group-wide skill guidance at the Company’s Akishima Plant and overseas subsidiaries. The Techno-Center was established independently in each domestic and overseas production subsidiary and it currently hands down technologies and skills. Furthermore, we used the 60th anniversary of the Company as an opportunity to introduce a financial incentive system for acquiring “National Trade Skill Testing” certificates, and not only provide incentives, but also proactively have developed a training and guidance system for obtaining qualifications.

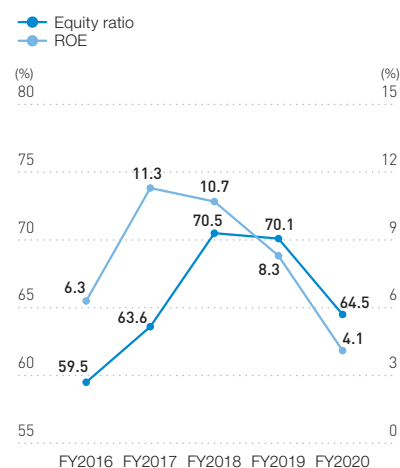


## Financial and Non-financial Highlights

Net sales

Operating profit/  
Operating profit to net sales ratioOrdinary profit/  
Ordinary profit to net sales ratioNet profit/  
Net profit to net sales ratioTotal assets/Net assets/  
Net assets per share

Equity ratio/ROE



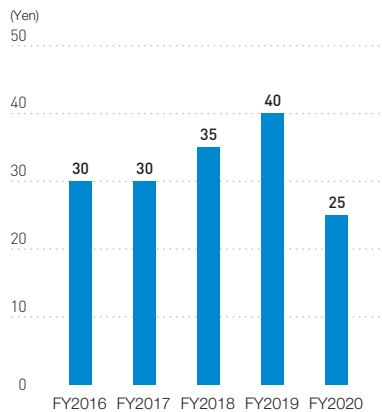
(Note) The figures for fiscal 2017 are presented after retrospective application as the Company has applied the following accounting standard, etc. from fiscal 2018.

"Ministerial Order Partially Amending the Regulation for Enforcement of the Companies Act and the Regulation on Corporate Accounting" (Ministry of Justice Order No. 5 of March 26, 2018) issued in accordance with the "Partial Amendments to Accounting Standard for Tax Effect Accounting" (Accounting Standards Board of Japan (ASBJ) Statement No. 28, February 16, 2018)

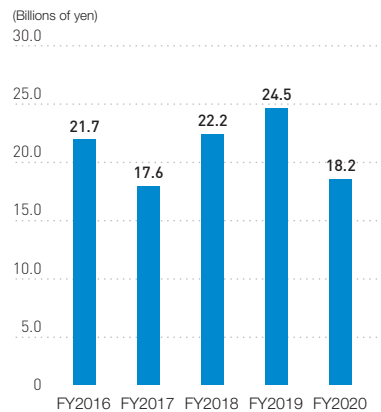
With regard to changes in the calculation method of retirement benefit obligations, changes to the accounting method were carried out from fiscal 2020, so figures for fiscal 2019 are presented after retrospective application.

Greenhouse gas emissions, waste emissions/recycling rate: Domestic Group results.

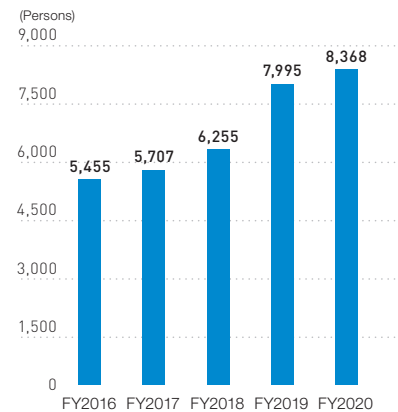
Dividends per share



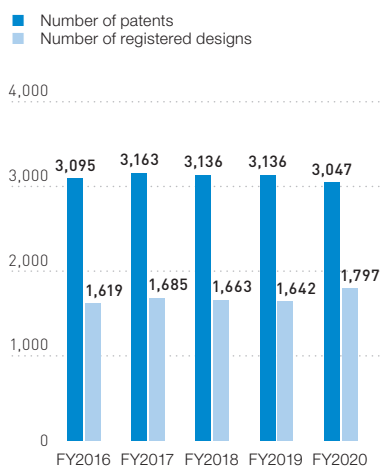
Capital investment



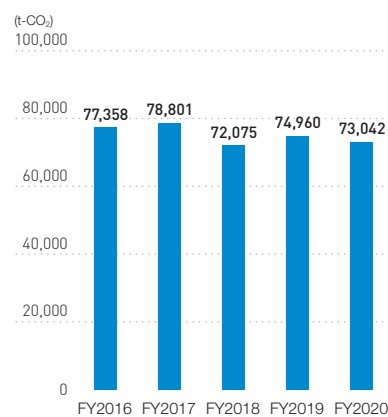
Number of employees



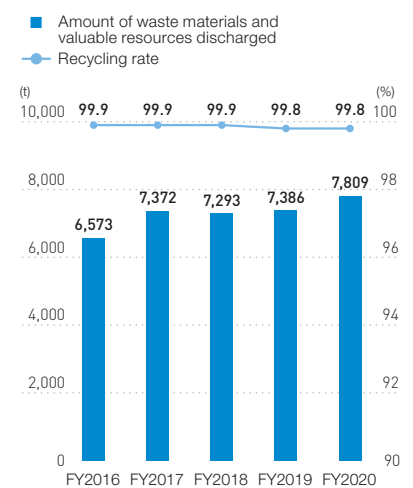
Number of patents/  
Number of registered designs



Greenhouse gas emissions



Waste emissions/Recycling rate



## Environment

### JAE Group Charter of Corporate Behavior

Based on our corporate philosophy, "Explore, Create and Practice," Japan Aviation Electronics (JAE) Group will continue to expand efforts to maintain a fair profit, increase corporate value, and contribute to the creation of sustainable growth in society. At the same time, as a good corporate citizen, we will abide by relevant laws and rules, and fulfill social responsibilities toward customers, stockholders and investors, business partners and other related persons in the community at large.

- |   |  |
|---|--|
| 1. Fair and Honest Corporate Activities                 | 2. Pursuit of Customer Satisfaction                      |
| 3. Disclosure of Corporate Information                  | 4. Harmony with the Environment                          |
| 5. Harmony with Society                                 | 6. Respect of Human Rights                               |
| 7. Respect for Employees' Individuality and Personality | 8. Management of Intellectual Properties and Information |

### Approach

The JAE Group Charter of Corporate Behavior declares our commitment to "harmony with the environment," and we fully embrace the ESG perspective. We respect the natural environment and work hard to ensure that everything we do is environmentally friendly. In addition to taking measures against global warming, we recognize that it is important to grow sustainably while working toward the realization of a recycling-based society through various environmental activities. Therefore, we will not just expand our conventional measures, but also take bold action to implement new environmental initiatives in order to realize a prosperous, sustainable society.

For specific reports on environmental activities, please see our Environmental Report.

► Our Environmental Report can be found here: <https://www.jae.com/en/csr/eco/report/>

### Basic Philosophy

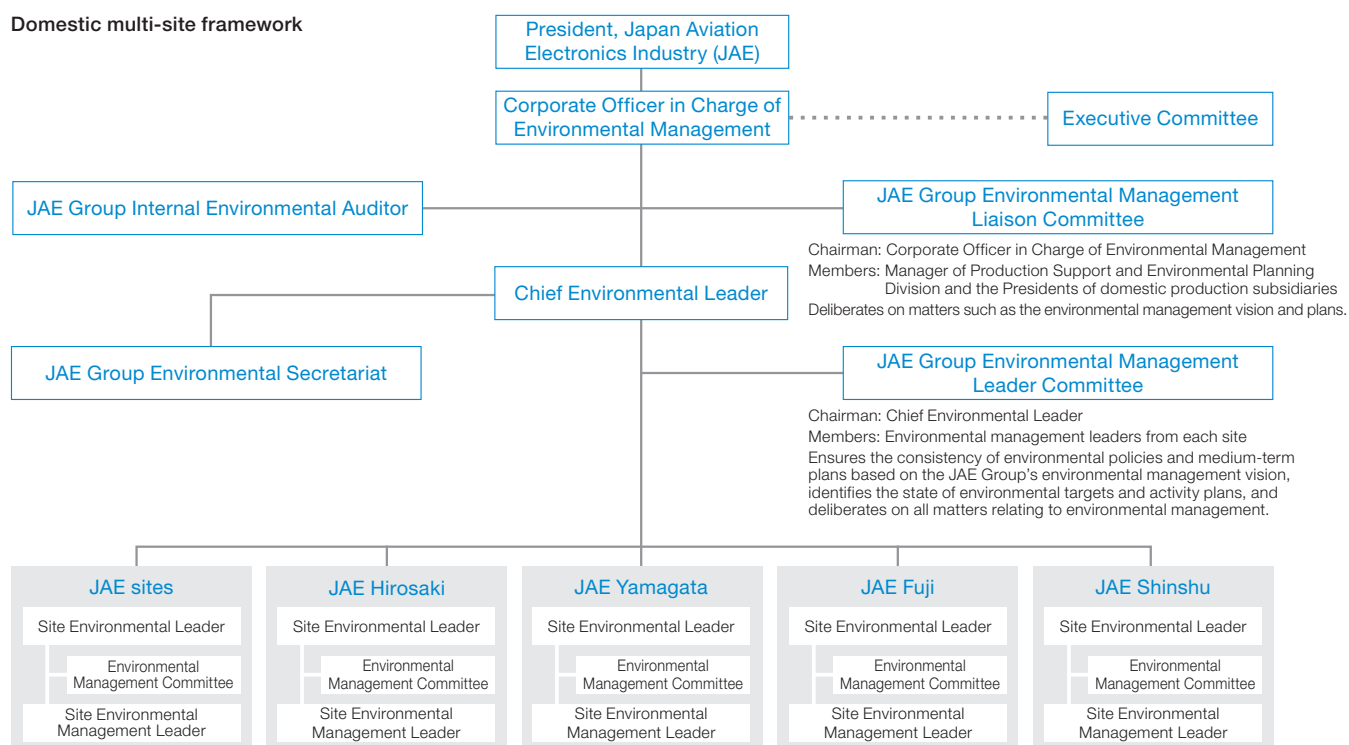
The JAE Group will, as a good corporate citizen, contribute to the attainment of a prosperous, sustainable, recycling-based society by fulfilling its corporate social responsibility through environmentally friendly business activities and respect for the natural environment and biological diversity.

► Our Basic Guidelines can be found here: <https://www.jae.com/en/csr/eco/policy/>

### Environmental Management System

The JAE Group pushes ahead with its daily environmental conservation activities using an environmental management system built in compliance with the ISO 14001 standard. The acquisition of ISO 14001 certification is being promoted globally, and certification has already been acquired for all domestic multi-sites and overseas production sites.

#### Domestic multi-site framework



## Measures against Global Warming

We have positioned measures against global warming as a top priority issue and we have been working steadily to conserve energy. Going forward, in addition to further energy conservation efforts, we also plan to become carbon neutral, and we have adopted science-based greenhouse gas emissions reduction targets (SBT) as the main indicators for the Company. Initiatives toward these will include considering the optimal approach for the energy we purchase, which is the main driver of our CO<sub>2</sub> emissions, whether that is renewable energy use or private power generation.

In regard to specific energy conservation measures as part of our measures against global warming, we are implementing measures according to three main themes. These are environmental awareness training, production-related measures, and measures at plant facilities.

### ■ Environmental awareness training

We provide environmental education to equip employees with the knowledge about the environment needed at each level and function. In addition to this general education, we also offer separate training programs unique to each unit of environmental management activities.

We are also raising awareness through various events (Environment Month, Warm Biz and Cool Biz initiatives, energy-saving “Lights Down” campaign, etc.)

### ■ Production-related measures

We are carrying out measures such as improving the energy efficiency of molding machines and press machines, and reusing packing trays.

### ■ Measures at plant facilities

We are carrying out measures such as reducing power loss by replacing transformers in substations, installing inverter equipment for air conditioners, and switching to LED lighting.

## Status of response to SBT

The JAE Group has received SBT 1.5°C certification from SBTi as part of the NEC Group. The Akishima Plant has received third-party verification of its GHG emissions (scopes 1 and 2) data (fiscal 2020).

We will continue to ensure the accuracy of our calculations and improve the efficiency of our calculation methods.

## Effective Use of Resources

The JAE Group makes effective use of resources by reducing general waste through the consumption of less paper, while promoting recycling and sale of valuable resources through the exhaustive sorting of waste, such as scrap plastic and metal.

We achieved our target of a 99% recycling rate in fiscal 2004. Following this, we have continued to advance activities and in fiscal 2014, we achieved a rate of 99.8%. Since fiscal 2015, our target has been a rate of 99.5% or higher and in fiscal 2020, we recorded a rate of 99.8%. We seek to sell valuable waste such as plastic and metal waste and work to reduce costs for waste treatment. The sale of valuable waste contributes to resource saving and the reduction of CO<sub>2</sub> over the life cycle of products. The JAE Group aims to achieve even higher rates of sales.

## JAE Group Forest

To restore and preserve forests, we established the JAE Group Forest in fiscal 2004 as a symbol of our environmental management. To help build a prosperous, sustainable society, we are promoting environmental awareness by giving Group employees forest preservation experiences in planting trees and pruning undergrowth\*. It is also a place that contributes to the absorption of greenhouse gas (CO<sub>2</sub>) and replenishment of the watershed.



Annual CO<sub>2</sub> absorption by Japanese cypress and broadleaf trees: Approx. 5.3t-CO<sub>2</sub>  
Estimated annual watershed replenishment: Approx. 5,320m<sup>3</sup>

\* Thus far, 787 Group employees have planted trees, cleared underbrush where saplings grow, and placed nets to protect against damage from deer. Work was also done to remove vines that were impeding tree grow by clinging to trunks and branches.



## Society

### Respect of Human Rights

JAE Group Charter of Corporate Behavior states that “JAE Group will respect human rights in every corporate activity and not condone discrimination or the employment of child labor or forced labor in the workplace.” Specifically, JAE Group is committed to observing the principles and rules stated below.

► Our initiatives regarding human rights can be found here: [https://www.jae.com/en/csr/human\\_rights/](https://www.jae.com/en/csr/human_rights/)

### Human Resources Development

Our basic view on human resources development is to “grow as a company by ensuring each individual can fully demonstrate their capabilities and to enable each employee to create an enriching life.”

#### ■ Self-Assessments and Training Systems

We have designed a two-way management system where employees set their own targets and commit to them together with their supervisor. The goal of this is to support our employees to be ambitious and for self-development.

#### ■ Training

We offer programs such as training by job level that provides knowledge tailored to an employee’s experience and role, and training for different skills which deepens specialist knowledge. These programs aim to maximize an individual’s skills.

We also use e-learning systems that fit to diverse workstyles as well as establish learning environments to enable live classes to be taken online.

Types of training	Description	
Training by job level	Training for new employees, training for mid-career employees	• Provides understanding of concepts such as the Company’s policies, management situation, job knowledge, in accordance with the requirements of roles and functions at each job level
	Training for new assistant managers/team leaders	• Development of management skills
	Training for new managers, subordinate development	
Training for different skills	Training for engineers and technicians	• Development of advanced knowledge and technical skills
	Training for administrative and sales staff	• Encourages the acquisition of “National Trade Skill Testing” certificates to improve manufacturing technologies
Training for knowledge and skills	Training for management methods, training for quality management	• Diverse management methods
	Training for language, training for international business	• Strengthens English ability and cross-cultural understanding to work globally
Self-development	Correspondence education and e-learning	• Encourages effort and a self-improvement mindset (includes subsidy systems)
	Self-development workshops	

### Employee-friendly Work Environments

We work on providing flexible work environments where employees are able to choose their own workstyles to maximize work-life balance and to create a workplace worth working for.

#### ■ Remote Work

We introduce a remote work system to improve work efficiency and productivity and ensure a work-life balance for employees. Combining remote work with on-site work encourages flexible workstyles that enable employees to choose where they work.

We are also advancing the use of digital tools as part of “the new-normal workstyles,” and going forward, we will establish IT environments to enable appropriate communication to be maintained even outside of traditional workplaces.

#### ■ Flexible Working Hours

We have shortened core work times of our pre-existing flextime system and expanded the amount of flexible time to establish flexible work environments that fit the lifestyles of each individual employee.

#### ■ Work with Childcare and Nursing Care

We provide various systems that help employees balance work with childcare and nursing care, such as shortened working hours for childcare and nursing care, special leave that can be taken when an employee’s child is ill or injured or when a family member needs nursing care, and childcare and nursing care leave systems.

## Diversity

### ■ Promotion of Women's Participation and Advancement in the Workplace

We are engaged in establishing work environments that promote women's participation and advancement in the workplace and expanding the recruitment and development of female human resources.

We have taken various measures to support the balancing of work with childcare and as a result, many women are returning to work following childbirth and childcare leave. The average length of service for women is 17.5 years, roughly the same as for men, and we are building environments that enable employees to continue working with the Company.

We have also been actively recruiting women, including steadily raising targets for the ratio of women recruits during the regular recruiting of new graduates as an initiative to raise the ratio of women. In addition to this, we have been carrying out selection-based training that deliberately cultivates women so they can take on important roles in a range of fields, and we have been expanding the areas in which they can actively participate in each workplace.

### ■ Persons with Disabilities

We strive to make work fulfilling for employees with disabilities by considering the circumstances of each individual's disability and employing them in a field where they can excel, and by establishing employee-friendly work environments.

As a company, we will continue to actively employ people with disabilities and fulfill our social responsibilities by expanding employment opportunities.

### ■ Global Human Resources

We have overseas production bases and work with customers all over the world, which requires us to recruit globally minded human resources.

We are diversifying our workforce to strengthen operations by actively recruiting diverse personnel regardless of nationality, particularly in technical, sales, and business staff divisions.

## Employee Health and Safety

We strive to realize safe, employee-friendly work environments, and securing the health and safety of employees has been positioned as one of the Company's management priorities.

### ■ Safety Measures

We have built a comprehensive health and safety management system and work to advance health and safety measures at each workplace and to share information. As part of our safety measures, we protect our employees and properties by carrying out safety training for every employee and a mandatory assessment every time new equipment is installed.

### ■ Health of Our Employees

In order to maintain and enhance the health of employees, we have established a Health Care Center, which provides active follow-up on the results of regular health checks and health consultations by physicians and health nurses.

We are also focusing on mental health and in addition to providing a physician for consultations, we have also introduced a service by an external specialist company to create a framework where employees can receive counseling at any time. Furthermore, to prevent COVID-19, we are advancing initiatives that aim to ensure the safety and health of our employees in work environments, including thoroughly using disinfectants, installing partitions in areas such as cafeterias, and in July 2021, providing vaccinations at workplaces.

## CSR Procurement

In order to respond to the demands of society, we believe it is necessary to cooperate with business partners and speedily develop CSR initiatives throughout the supply chain. In March 2015, the JAE Group issued the first edition of its CSR Procurement Guidelines. In September 2021, we issued the fifth edition which includes the addition of content on supplier management initiatives in response to social demands regarding CSR seen in recent years and other factors.

In addition, we identified the initiatives related to ensuring business continuity in the supply chain and created the Supply-Chain BCP Guidelines (in Japanese only) at the same time.

- ▶ Our CSR Procurement Guidelines, basic policy for procurement, JAE Group Responsible Minerals Procurement Policy, Green Procurement Guidelines, and Supply-Chain BCP Guidelines (in Japanese only) can be found here: <https://www.jae.com/en/corporate/materials/>



## Governance

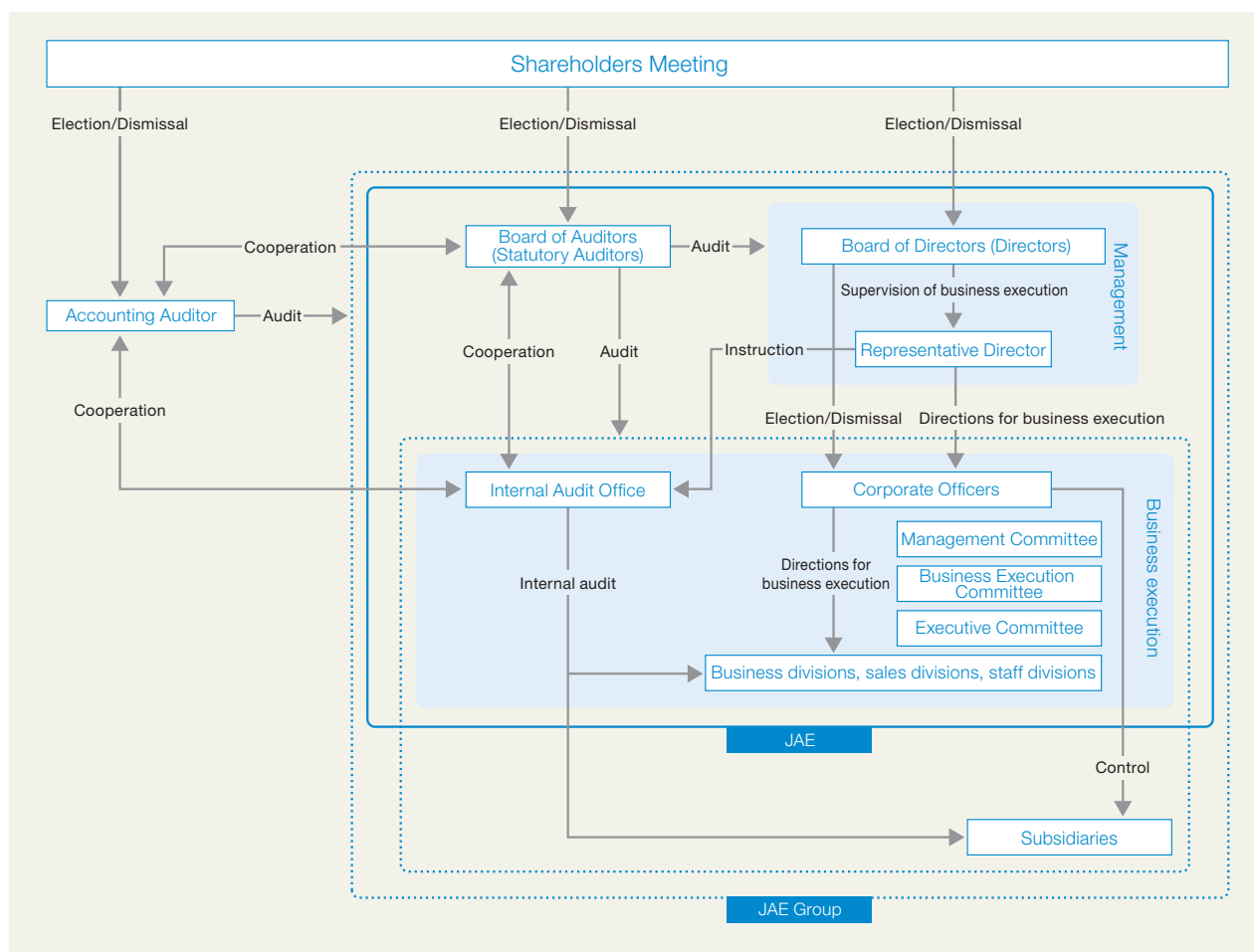
### Corporate Governance

#### ■ Basic views

We believe that corporate governance means abiding by relevant laws and rules and fulfilling our social responsibilities to stakeholders, including shareholders, customers, business partners, and communities, with the aim of maintaining fair profits, increasing corporate value, and contributing to the creation of sustainable growth in society through corporate management based on our corporate philosophy of “Explore, Create and Practice.”

#### ■ Corporate governance framework

We have built a corporate governance framework that enables swift decision making and agile management by establishing a Board of Directors comprising nine Directors (including five Directors who also serve as Corporate Officers and four non-executive Directors, three of whom are outside Directors), Management Committee mainly comprising five Directors who also serve as Corporate Officers, and the Business Execution Committee and the Executive Committee comprising Corporate Officers and executive members. These management structures serve as a body for making management decisions and carrying out business execution and internal controls. We have also adopted a Board of Auditors system comprising two full-time Statutory Auditors and two outside Statutory Auditors and we have established an Internal Audit Office (five staff members) as an internal controls division.



### Policy and Process for Nominating Officers

Regarding Directors and Statutory Auditors, as our policy, we nominate candidates who possess outstanding character and insight based on abundant experience and a track record and who can fully carry out the roles and responsibilities of a Director or Statutory Auditor, regardless of whether they are from inside or outside the Company. Regarding inside Directors, we nominate candidates who have abundant knowledge and experience concerning our business field. Regarding outside Directors, we nominate candidates who are highly knowledgeable of their professional field. Regarding Statutory Auditors, we nominate candidates who have appropriate knowledge related to areas such as law, finance, and accounting. Based on this policy, candidates for Directors and Statutory Auditors are decided on by the Board of Directors from candidates proposed by the Representative Director, following an advance explanation to independent outside Directors.

## Officer Remuneration System

Our policy for determining the content of remuneration, etc. for individual Directors, (the “Determination Policy”) has been set as follows. The Determination Policy was decided by a resolution of the Board of Directors.

### 1) Basic policy

When determining remuneration for individual Directors, as the Company's basic policy, we take into consideration appropriate level based on the position and performance of each Director. Specifically, remuneration for Directors comprises remuneration to be paid monthly as fixed remuneration, director bonuses as performance-linked remuneration, and share acquisition rights as share option remuneration (“Share Options”). However, remuneration for non-executive Directors (part-time), including outside Directors, only comprises monthly remuneration.

### 2) Policy regarding the setting of amounts for basic remuneration, etc. (monetary remuneration) for individual Directors

(Includes policy for timing and conditions for paying remuneration, etc.)

Monthly remuneration for Directors is paid as a fixed amount set in consideration of appropriate levels and based on standards including whether said Director has representation rights, their position, and other factors, within the scope of a total monthly remuneration amount that has been approved at the Shareholders Meeting. Additionally, a portion of monetary contribution for the shareholding association has been set as part of the monthly remuneration for Directors (full-time) based on a resolution of the Board of Directors. A set amount of money is contributed to the association in accordance with position as remuneration for the purpose of purchasing the Company's shares.

### 3) Policy regarding the determination of the content of and methods for calculating amount of performance-linked remuneration and non-monetary remuneration

(Includes policy for timing and conditions for paying remuneration, etc.)

For director bonuses, which have been positioned as performance-linked remuneration, performance results such as consolidated ordinary profit and consolidated net profit for the relevant fiscal year have been set as standards with a view to reflecting performance over a single fiscal year. The overall amount, which is determined in consideration of factors such as the number and position of Directors, is proposed to and approved by the Shareholders Meeting. The amount allocated to individual Directors is decided based on each Director's position and performance in their area of responsibility. It is paid at a set time each year. Share Options are awarded within the scope of the annual remuneration amount that has been approved at the Shareholders Meeting. The number to be awarded is determined in accordance with each Director's position with the purpose of raising morale and motivation to improve performance of the Company and awarded at a set time each year.

### 4) Policy regarding the determination of the ratios of the amount of monetary remuneration, amount of performance-linked remuneration and amount of non-monetary remuneration for each individual Director's remuneration

Monthly remuneration, director bonuses, and Share Options are calculated based on the policies outlined above within the scope that has been approved at the Shareholders Meeting.

### 5) Matters regarding the determination of the content of remuneration, etc., for individual Directors

The determination of the allocation of monthly remuneration and director bonuses within the amount of remuneration for each Director has been entrusted to the Representative Director at a meeting of the Board of Directors on the precondition that it will be determined based on the policies outlined above. For Share Options, the number to be awarded is determined by the Board of Directors based on the policies outlined above.

Remuneration, etc. for Statutory Auditors comprises monthly remuneration only. The amount is determined through discussion among Statutory Auditors within the scope of a total monthly remuneration amount that has been approved at the Shareholders Meeting. Additionally, a portion of monetary contribution for the shareholding association has been set as part of the monthly remuneration for Statutory Auditors (full-time). The remuneration includes a set amount of money to be contributed to the association as remuneration for the purpose of purchasing the Company's shares.

## Relationship with NEC Corporation and Ensuring the Rights of Minority Shareholders

NEC Corporation (“NEC”) effectively holds 50.92% of the Company's voting rights. NEC is our parent company.

We maintain a healthy business relationship with the NEC Group, which is an important customer, but our dependence rate on business transactions with them is minimal. Also, one director from NEC serves concurrently as a non-executive Director of the Company, and the advice and opinions of said Director, which are based on abundant knowledge and experience, are reflected in the Company's management. While management is carried out taking into consideration the opinions of said Director, we also receive supervision and advice from three independent outside Directors and audits from two independent outside Statutory Auditors, ensuring that we make our own independent decisions as a company.

Furthermore, in the memorandum of understanding made by the Company and NEC when NEC made a takeover bid for the Company, it was agreed by both the Company and NEC that the Company's shares shall remain listed, the Company shall carry out independent management as a listed company, NEC shall hold no more than 51% of voting rights of the Company, and that NEC shall give full consideration to the exercising of rights by minority shareholders of the Company. This was made clear in the Company's announcement of expression of opinion concerning the takeover bid by NEC issued on November 28, 2016.

Based on the above, it is recognized that the independence of management decision making and business activities at the Company has been secured.



## Governance

### Compliance

#### ■ Legal Compliance Initiatives

1. We have formulated the JAE Group Charter of Corporate Behavior and Code of Conduct to ensure thorough compliance with laws, regulations, and the Articles of Incorporation. The President also gives a speech on the "Compliance Day."
2. We have established an internal reporting system as a whistle-blowing system for instances in which action that violates laws, regulations, or the Articles of Incorporation is discovered.
3. The Company has built a system to ensure financial reports are created in an appropriate manner in accordance with laws, regulations, etc., and the trustworthiness of these reports, and this system is continuously evaluated and corrected when necessary.
4. In regard to undue demands from antisocial forces, we ensure the safety of directors and employees by dealing with these demands as an entire organization and in cooperation with external experts. We resolutely refuse any connections, including business dealings, with such antisocial forces.

### Risk Management

#### ■ Initiatives

The management of risks that could lead to losses is carried out by the respective divisions responsible in accordance with the type and nature of said risks. Each responsible division formulates rules for the management of risks that could lead to losses, builds a management structure, and carries out education and other initiatives.

The Internal Audit Office evaluates the severity of risks that could lead to losses, as well as the effectiveness of the management structure and other preparations by each division, and strives to detect and prevent such risks.

#### ■ Business Risks

Impact of COVID-19	Although there is concern about a decline in demand and impact on production systems due to factors such as another rise in infections caused by variant strains, we will strive to ensure sales and profits by stabilizing production through measures such as strengthening our ability to respond to demand trends and carrying out production activities in multiple locations.
Dependence on the mobile devices market	In the mobile devices market, which is subject to severe fluctuations in demand, it is possible that a sudden decline in demand for smartphones and other products will have an impact on the JAE Group's business results, but we are working to strengthen our ability to respond by shortening production lead times and making production facilities more efficient.
Overseas development	As we are developing production and sales locations overseas, there is a possibility that economic trends and the political and social situations in each country and exchange rate fluctuations will have an impact. We are strengthening our ability to respond to changes in demand, carrying out production activities in multiple locations, and using forward exchange contracts to hedge against exchange rate fluctuations.
Impact of the competitive environment and price decreases	The further intensifying and prolonging of market competition accompanying decreases in product prices may impact business results by shrinking our market share and causing a decline in profit margins, but we are working to secure profit margins through cost cutting and the introduction of new products.
Prices and procurement of raw materials	To counter risks including difficulties procuring from suppliers due to factors such as sudden changes in demand, increases in costs caused by a rise in purchase prices, and a decline in competitiveness due to delays to deliveries, we are working to stabilize procurement through measures including cultivating overseas suppliers, reducing procurement costs, and utilizing dual source procurement.
Disposal of production equipment and facilities	To counter the risk of losses on disposal of production equipment and facilities due to causes such as obsolescence accompanying the shortening of product lifecycles, we are thoroughly working to utilize production facilities effectively through measures such as depreciating by the economic life and developing equipment that can be converted for other uses.
Securing human resources	In order to realize product development and develop as a global business, we need to secure and retain exceptional employees. To counter the risk of difficulties securing sufficient human resources, we are carrying out measures such as enhancing human resources systems and improving operational efficiency.
Impact of natural disasters, etc.	In order to ensure we can maintain stable supplies of products even in the event of reductions or stoppages to production activities due to damage to equipment and personnel or the immobilization of logistics functions caused by a large-scale natural disaster or the like, we have established back-up systems for facilities and information systems.

■ Directors, Statutory Auditors and Corporate Officers (As of June 23, 2021)

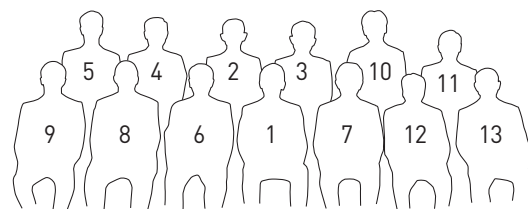


## Directors

- |  |  |  |
|--|--|--|
| 1 Tsutomu Onohara<br>President (Representative Director) | 2 Minoru Urano<br>Director                           | 3 Tetsuya Nakamura<br>Director                     |
| 4 Seiji Murano<br>Director                               | 5 Masayuki Muraki<br>Director                        | 6 Shiro Hirohata<br>Director (Outside Director)    |
| 7 Shuichi Kashiwagi<br>Director (Outside Director)       | 8 Reiichiro Takahashi<br>Director (Outside Director) | 9 Motoo Nishihara<br>Director (Part-time Director) |

## Statutory Auditors

- |  |   |
|--|---|
| 10 Yasutoshi Ogino<br>Statutory Auditor<br>(Full-time Statutory Auditor) | 11 Tatsuo Shibuya<br>Statutory Auditor<br>(Full-time Statutory Auditor) |
| 12 Jin Takeda<br>Statutory Auditor<br>(Outside Statutory Auditor)        | 13 Keiji Kabeya<br>Statutory Auditor<br>(Outside Statutory Auditor)     |



## Corporate Officers

President Tsutomu Onohara*	Executive Vice President Minoru Urano*	Senior Vice President Tetsuya Nakamura*
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Associate Senior Vice Presidents

Seiji Murano*	Kokichi Sasao	Toru Kono	Masahide Wakuri	Takashi Kosaka
Tsuneo Hashimoto	Masayuki Muraki*	Masahiro Matsuo	Shunichi Naganuma	Noritaka Hiyama
Yasuhiro Nose	Kazuhiko Aoki	Shingo Nanao	Noriyuki Konishi	Yoshifumi Kubota

Directors are indicated by an asterisk (\*)

## Governance

### Message from Outside Directors

The seven years since I was appointed as an outside director of the Company have passed quickly. Over this period, I have had discussions with the other directors and participated in the Company's management decision making, from the point of view of compliance which is a fundamental part of our business activities. In fiscal 2020, we faced an unprecedented situation due to the COVID-19 pandemic, but I feel that the Board of Directors was able to make decisions in an appropriate and timely manner.

We recently announced the Company's Medium-Term Management Plan, so in order to meet our management targets within a greatly changing business environment, in addition to steadily implementing growth strategy, it is also important that we deal swiftly with various management and business risks that emerge. I will use my experience to date to contribute to the management of the Company, particularly in regard to risk management and compliance.

As an outside statutory auditor of the Company since 2017, I have provided advice to ensure the adequacy and appropriateness of decision making by the Board of Directors and now I will participate in management from a new standpoint as an outside director. I intend to leverage my insight as a lawyer and my specialist knowledge and experience in the corporate law, corporate governance, and risk management fields in the management of the Company.

Currently, expectations of companies in terms of ESG are growing, and I feel that outside directors should play a significant role by participating in management from an objective, neutral standpoint. I will do my best to contribute to helping the Company fulfill its social responsibilities to stakeholders, including customers, shareholders, investors, business partners, local communities, and employees, by complying with relevant laws and regulations as a good corporate citizen.

Overseas sales account for about 70% of the Company's total sales, so it goes without saying that global business development is important to our growth in the future. However, the international situation is constantly changing, and the opportunities created by global development also come with inherent risks. We are now in a time of particular turbulence in regard to global political and economic frameworks, so we need to take an even broader perspective when considering the future of our business activities.

Thus far, I worked at the Ministry of Foreign Affairs, including many years in overseas postings, so I was always involved in global political and economic movement. I recognize that I am expected to use the experience and knowledge gained from this in the development of the Company. I will fulfill my duties as an outside director by providing advice from an objective, neutral standpoint based on my insight into international circumstances and economies.

Outside Director

#### Shiro Hirohata



##### Career summary

Apr. 1976 Joined National Police Agency  
 Jan. 1999 Chief, Tochigi Prefectural Police Headquarters  
 Jan. 2003 Chief, Fukuoka Prefectural Police Headquarters  
 Sep. 2006 Director-General, Kinki Regional Police Bureau  
 Jul. 2007 Retired from National Police Agency  
 Sep. 2007 Director, Japan Road Traffic Information Center  
 Apr. 2012 Vice Chairman  
 Jul. 2013 Advisor, Meiji Yasuda Life Insurance Company  
 Jun. 2014 Outside Director of the Company (current position)  
 May 2015 Chairman, UTMS Society of Japan

Outside Director

#### Shuichi Kashiwagi



##### Career summary

Apr. 1980 Qualified & Registered as Attorney-at-Law in Japan (Daini Tokyo Bar Association)  
 Oct. 1999 Board Member, Japan Commercial Arbitration Association (current position)  
 May 2007 Vice Chairman, Japan Federation of Lawyers Cooperatives  
 Jan. 2009 Managing Partner, KASHIWAGI SOGO LAW OFFICES  
 Jun. 2010 Outside Audit & Supervisory Board Member, NAIGAI CO., LTD.  
 Apr. 2016 Auditor of Daini Tokyo Bar Association  
 Apr. 2016 Outside Director (acting as Audit and Supervisory Committee Member), NAIGAI CO., LTD. (current position)  
 Jan. 2017 Outside Statutory Auditor of the Company  
 Jun. 2021 Outside Director (current position)

Outside Director

#### Reiichi Takahashi



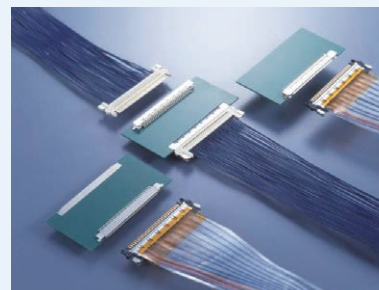
##### Career summary

Apr. 1980 Joined Ministry of Foreign Affairs  
 Nov. 2007 Minister, Deputy Chief of Mission, Embassy of Japan in Korea  
 Jan. 2011 Ambassador Extraordinary and Plenipotentiary to Afghanistan  
 Sep. 2012 Director-General of the International Peace Cooperation Headquarters, Cabinet Office  
 Jan. 2015 Consul-General of Japan in New York (Ambassador)  
 Dec. 2018 Ambassador Extraordinary and Plenipotentiary to Australia  
 Jan. 2021 Retired from Ministry of Foreign Affairs  
 Mar. 2021 Advisor, HAZAMA ANDO CORPORATION (current position)  
 Jun. 2021 Outside Director of the Company (current position)

## TOPICS

### The Company's Response to Novel Coronavirus Disease (COVID-19)

Following the spread of COVID-19, the JAE Group has been advancing measures to prevent infections and ensure business continuity. In principle, employees stationed to Head Office, administrative offices, and sales offices have been working from home and we have been maintaining operations at production locations under thorough anti-infection measures in order to fulfill our responsibilities as a supplier to customers. In addition to responding to an increase in demand for products for the tablet PCs and smartphones required to adapt to a global shift to remote working, we have also swiftly responded to emergency demand for connectors for ventilator LCD displays in the U.S. and provided a supply.



FI-X Series connectors

### Donation of CO<sub>2</sub> Reduction Credits to the Tokyo Metropolitan Government

JAE has donated 12,314t worth of CO<sub>2</sub> reduction credits based on the Cap-and-Trade Program to the Tokyo Metropolitan Government ("TMG") in support of "Zero Emission Tokyo," an initiative by the TMG to make Tokyo a city that does not emit CO<sub>2</sub>. These credits were generated through efforts by boosting the efficiency of energy utilization and introducing highly-efficient equipment in our Akishima Plant, a facility covered by the program.



Certificate of Appreciation from the Tokyo Metropolitan Government

### JAE Philippines honored with the prize "Hall of Fame for Outstanding Employer" by Philippines Economic Zone Authority

JAE Philippines, a manufacturing base of the Connector Business, received the award "Hall of Fame for Outstanding Employer" from The Philippine Economic Zone Authority. The award "Outstanding Employer" is conferred on a prominent company operating in the Philippine Economic Zone, appreciated for excellent achievement in respect of creation of new jobs, welfare of employees, and good labor-management relations. JAE Philippines, in this field, has won this honor three times in the past, in 2014, 2017 and 2019. Also in 2020, JAE Philippines was highly appreciated for its prominence and was awarded "Hall of Fame for Outstanding Employer": the award conferred only to the three time winners of Outstanding Employer.



Trophies awarded since 2014

### Strengthened BCP at JAE Hiroasaki by Establishing Water Barrier Walls to Prevent Large-Scale Flooding

At JAE Hiroasaki, Ltd., our largest production location in Japan, we have established water barrier walls to prevent large-scale flooding as part of efforts to enhance business continuity planning (BCP). The walls surround the company's entire site at a height of three meters and have a total length of around 1,200 meters. In the event of a large-scale flood, they will prevent water from entering the plant, enabling operations to restart swiftly after a disaster. Also, picture panels have been installed at six locations along the wall to exhibit artworks by students at elementary and junior high schools in Hiroasaki with the aim of connecting with and contributing to the local community.



The water barrier wall at JAE Hiroasaki



## Company Outline

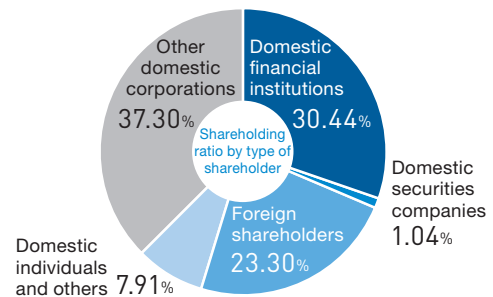
### Corporate Data

Company Name	Japan Aviation Electronics Industry, Limited
Establishment of Business	August 20, 1953
Head Office	21-1, Dogenzaka 1-chome, Shibuya-ku, Tokyo
Capital	¥10.69 billion
Stock Exchange Listing	Tokyo Stock Exchange, First Section Securities Code: 6807
Main Business	Manufacturing and sales of connectors, user interface solutions (touch panels, touch panel monitors, panel units), and aerospace equipment (electronic devices, parts, and applied products for air and spacecraft).

### Shares of the Company (as of March 31, 2021)

Total number of shares authorized	350,000,000 shares
Total number of outstanding shares (including 1,345,707 treasury shares)	92,302,608 shares
Number of shares per share unit	100 shares
Number of shareholders	5,643

### Shareholdings by Type of Shareholder



### Major shareholders (top 10 shareholders)

Name of shareholder	Equity investment in the Company	
	Number of shares held (shares)	Shareholding ratio (%)
NEC Corporation	32,491,671	35.72
Custody Bank of Japan, Ltd. (NEC Corporation Retirement Benefit Trust Account re-entrusted by Sumitomo Mitsui Trust Bank, Limited)	13,800,000	15.17
The Master Trust Bank of Japan, Ltd. (Trust account)	3,415,800	3.76
Custody Bank of Japan, Ltd. (Trust account)	3,153,000	3.47
JPMBL RE UBS AG LONDON BRANCH COLL EQUITY	2,468,236	2.71
GOLDMAN SACHS & CO. REG	2,045,877	2.25
STATE STREET BANK AND TRUST COMPANY 505103	1,427,556	1.57
Custody Bank of Japan, Ltd. (Trust account 9)	1,037,600	1.14
CHARLES SCHWAB FBO CUSTOMER	995,200	1.09
MSIP CLIENT SECURITIES	966,141	1.06

(Notes) 1. The Company also holds 1,345,707 treasury shares which have been excluded from the list of major shareholders and calculation of shareholding ratios shown above.

2. The 13,800,000 shares held by Custody Bank of Japan, Ltd. (NEC Corporation Retirement Benefit Trust Account re-entrusted by Sumitomo Mitsui Trust Bank, Limited) are trust assets held in a trust established by NEC Corporation at said bank. Voting rights for said shares are held by NEC Corporation in accordance with the trust contract.

## Global Subsidiaries

### Head Office/ Bases in Japan

#### Head Office

21-1, Dogenzaka 1-chome, Shibuya-ku, Tokyo

#### Head Sales Office

1-19, Aobadai 3-chome, Meguro-ku, Tokyo

#### Plants/ Branch Offices/ Sales Offices

- Akishima Plant  
1-1, Musashino 3-chome, Akishima-shi, Tokyo
- Osaka Branch Office  
9-1, Edobori 1-chome, Nishi-ku, Osaka-shi, Osaka
- Chubu Branch Office  
25-18, Nishi-machi 4-chome, Toyota-shi, Aichi
- Sendai Sales Office  
3-10, Honcho 2-chome, Aoba-ku, Sendai-shi, Miyagi
- Utsunomiya Sales Office  
1-7, Higashi Syukugo 3-chome, Utsunomiya-shi, Tochigi
- Fukuoka Sales Office  
1, Gokusho-machi 1-chome, Hakata-ku, Fukuoka-shi, Fukuoka

#### Subsidiaries in Japan

- JAE Hirosaki, Ltd.  
5-1, Oaza Seinofukuro 5-chome, Hirosaki-shi, Aomori
- JAE Yamagata, Ltd.  
4102-6, Aza Takadaishinden, Oaza Izumita, Shinjo-shi, Yamagata
- JAE Fuji, Ltd.  
8154-35, Uenohara, Uenohara-shi, Yamanashi
- JAE Shinshu, Ltd.  
800, Kamikatajiri, Matsukawa-machi, Shimoina-gun, Nagano
- Meiyu-Giken Co., Ltd.  
2-1, Katayama-cho, Fukui-shi, Fukui
- JAE Hakko, Ltd.  
1-1, Sakae-cho 6-chome, Tachikawa-shi, Tokyo
- Nikko Logistics, Corp.  
10-40, Musashino 2-chome, Akishima-shi, Tokyo
- Hirosaki Hakko, Ltd.
- JAE Business Support, Ltd.
- JAE Foods, Ltd.

### Overseas bases

#### Asian Area

- JAE Taiwan, Ltd.
- JAE Wuxi Co., Ltd.
- JAE Wujiang Co., Ltd.
- JAE Shanghai Co., Ltd.
- JAE Hong Kong Ltd.
- JAE Dongguan Service Co., Ltd.
- JAE Philippines, Inc.
- JAE Singapore Pte Ltd.
- JAE Korea, Inc.

#### North American Area

- JAE Oregon, Inc.
- JAE Tijuana, S.A. de C.V.
- JAE Electronics, Inc.
- JAE Houston, LLC

#### European Area

- JAE Europe, Ltd.

## Connect to Our Website

<https://www.jae.com/en/>



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connectors

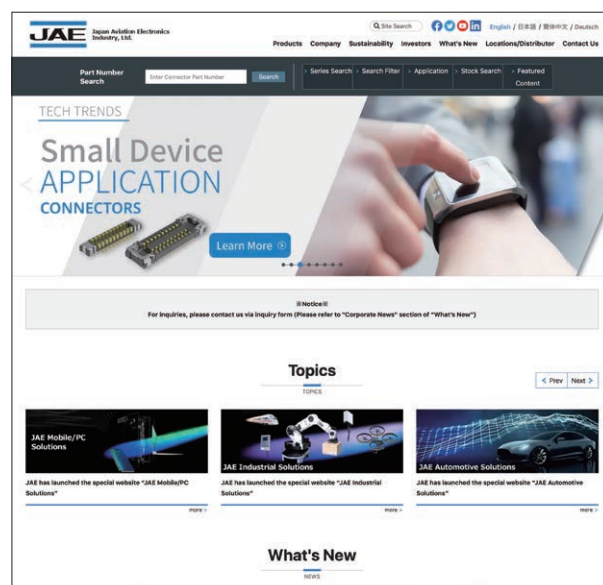
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Investors

<https://www.jae.com/en/ir/>

CSR

<https://www.jae.com/en/csr/>





## **Japan Aviation Electronics Industry, Limited**

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