



# ***Orientalmotor***

Oriental Motor Report 2023

# Think Motion

## Always Striving to Have Ideas for “Motion”, “Imagination” and “Solutions”



Motors that realize a variety of “motion”. By quickly capturing ever-changing social needs for motion in various fields such as industrial, medical care, food, and transportation, Oriental Motor has been continuing to engage in social and industrial developments, as well as in the activities for sustainable environment conservation. This report introduces various activities that the Oriental Motor Group has been performing through “motion” as an effort to support co-creating better future and providing solutions.

Oriental Motor has established our mission and vision statements in order for us to continually create new value as a company in a constantly changing society as well as further disseminating our global brand, with the aim of being selected by people around the world while achieving sustained growth. Our mission represents the value we provide as a company, and our vision expresses the society we hope to help build.

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## MISSION

To provide support through our motion control systems - via hardware, software and human aspect - for engineers (i.e. our customers) who strive taking the first step to make our tomorrow better. Providing our motion control systems to such engineers enables us to deliver experiences and excitements that not only meet but also surpass their expectations, while allowing us to create value that provides the wow factor around the world.

## VISION

To build a society where people can live a pleasant, secure and sustainable lifestyle through the things we have built together with our customers — both tangible things such as products and intangible things such as systems, technologies and user experiences.

## Policy of Reporting

Oriental Motor annually issues the “Oriental Motor Report” in order to share our sustainable business activities that create value, while responding to social needs. This report explains the activities conducted by the Oriental Motor Group in an easy-to-understand manner for a wide range of stakeholders.

## Scope of Reporting

This report generally covers Oriental Motor Co., Ltd. and its consolidated subsidiaries.

## Term of Reporting

April 01, 2022~Friday, March 31, 2023  
(Partially includes some information other than the term indicated above)

## Issuance Date

June 2023

## Message from the President

# Surpassing Customers Expectations Through Impressive Products and Services

## Looking Back on Fiscal Year 2022

Oriental Motor set all-time record highs for both sales and profits in FY 2022. This was possible thanks to the rising demand for semiconductor manufacturing equipment, and through our proactive capital investments in the electronic components industry. Moreover, investments in medical equipment, which were previously kept low due to the COVID-19 pandemic, have been on an upward trend toward recovery. Amid these changes, products such as our stepper motors and *αSTEP* hybrid control system became more widely purchased, which drove sales growth.

In contrast, we faced tough supply chain challenges during FY 2022 with certain materials such as resin and electronic components, but we were able to maintain supply chain stability through various countermeasures including the use of alternative materials and components. As a result, we were able to devote more efforts in establishing product delivery frameworks that adhere to promised delivery dates regardless of such adverse external factors.

As for the company itself, Oriental Motor successfully improved productivity by 130 % compared with FY 2019, without an increase in the number of employees. This triumph was made possible through efforts such as the introduction of automated production lines and other improvements based

on a three-year plan for production departments. As part of our continuous endeavor, we have set the goal to improve productivity by 145 % by the fiscal year 2025.

## Solving Problems Through Business Operations Rooted in Our Vision and Mission

We gathered members from each department and built a project team in order to establish our corporate mission and vision as our promise to society. In order for Oriental Motor to continue growing together with our partners throughout the world in the decades to come, everyone across the entire organization strives to pursue innovations and embody our mission and vision through corporate activities.

## New Employee Assessment System that Harnesses Their Strengths and Brings Out the Best in All Employees

Our society changes at a dizzying pace from day to day. In order to ensure the sustained growth of Oriental Motor, it is vital that we foster workplaces where each and every employee can fully utilize their strengths. Based on this concept, we re-evaluated and overhauled our existing employee assessment system, and started using the new system from April 2023. We are confident that, through cultivating a positive work environment where each member can play an integral role while growing together as a team, we can bolster our strength as an organization.

President

川人英二

Eiji Kawahito



## Introduction

# Policies Regarding Industrial Safety and Health, the Environment, and Quality

We have established management policies in three areas: industrial safety and health, quality, and the environment. All employees throughout the company—including executives—strive to carry out activities based on these three policies, which serve as the foundations for our business operations.

## Policy of Industrial Safety and Health

Oriental Motor shall recognize industrial safety and health as important issues in all of our activities. All employees at Oriental Motor shall actively pursue industrial safety and health activities to build a "human-friendly company" that ensures people's safety and wellbeing, which refers to both mental and physical health.

### 1.Reducing Risk Related to Industrial Safety and Health

We shall endeavor to prevent disasters and accidents in all of our workplaces through activities such as reductions in hazardous places, thorough enforcement of the 5S approach (sorting, setting-in-order, shining, standardizing, and sustaining the discipline), creation of ideal work environments, fire prevention, and health and wellness promotion in terms of both body and mind.

### 2.Participation of All Employees

To ensure that all employees throughout the company can actively take part in addressing problems related to industrial safety and health, we shall respect the opinions and ideas of all employees and promote information sharing, discussions and similar efforts, primarily under the leadership of the Safety and Health Committee.

### 3.Promotion of Safe Driving

We shall endeavor to prevent traffic accidents during work hours and commuting hours by conducting safe driving promotion activities that raise awareness regarding the necessity of safe driving.

### 4.Legal and Regulatory Compliance

We shall comply with the Industrial Safety and Health Act as well as our company standards. We shall also acquire the necessary qualifications while aiming to create a system that enables our company to grow continually in a sustained manner.

### 5.Industrial Safety And Health Training

We shall continue to train employees through a wide range of industrial safety and health education platforms so that they can acquire knowledge and skills for executing challenging assignments, while also improving employee awareness regarding safety and health.

To accomplish these objectives, we shall establish and operate an industrial safety and health management system, and make continual improvements to this system.

Enacted on July 7, 2004  
Revised on April 1, 2023

## Quality Policy

Oriental Motor shall endeavor to improve product quality by the development and standardization of products that meet customer needs, stable manufacturing, and continuous improvement activities conducted by all our employees based on their own roles within the company.

### 1.Continual Improvements

All our employees shall recognize the importance of quality and continuously improve product quality through a smooth PDCA cycle in each workplace.

### 2.Customer Satisfaction

We shall sincerely listen to customers' voices and reflect their feedback to our products and services, in order to improve customer satisfaction.

### 3.Legal and Regulatory Compliance

We shall comply with social needs, including laws and regulations and agreements with customers and suppliers.

### 4.Quality-related Education

We shall endeavor to emphasize on education for quality as well as originality and ingenuity of our employees, so that we can obtain additional technical skills and improve quality.

To achieve these ends, we shall establish and operate a quality management system, and make continual improvements to this system.

Enacted on January 6, 1994  
Revised on April 1, 2023

## Environmental Policy

Oriental Motor considers issues related to the global environment to be of very high importance, and through environmental conservation measures as part of our business activities, we strive to realize a sustainable society for all.

### 1.Responding to Climate Change

We shall implement measures toward carbon neutrality through means such as introducing renewable energy into business operations and pursuing energy-conserving measures.

### 2.Promoting Resource Conservation and Recycling

Through resource conservation measures, waste reduction and recycling in business operations, we shall promote resource recycling activities.

### 3.Provision of Environmentally Friendly Products and Services

By leveraging our strengths and technologies, we shall actively provide environmentally friendly products and services throughout all product life cycles.

To accomplish these objectives, we shall establish and operate an environmental management system, and make continual improvements to this system. Furthermore, we shall actively disclose information on our environmental activities as part of our efforts to communicate with communities.

Enacted on August 6, 1999  
Revised on April 1, 2023

### 4.Environmental Preservation and Biodiversity Protection in Local Communities

We shall actively engage in environmental and ecosystem protection activities within local communities in order to coexist and operate in harmony with said communities.

### 5.Legal and Regulatory Compliance

We shall comply with social needs, including laws and regulations, and endeavor to prevent environmental pollution.

### 6.Environmental Education

We shall emphasize on environmental education and originality and ingenuity of our employees for further reductions in environmental loads.

## ISO-certified Integrated Management System

Oriental Motor has established an integrated management system based on both ISO 9001 and ISO 14001 standards.

### Acquisition Status of ISO Certifications

	ISO 9001	ISO 14001	ISO 45001
Registration Date	February 23, 2005 *The date on which the Company obtained company-wide certification		December 20, 2019
Renewal Date	February 15, 2023		December 20, 2022
Certified Plants and Offices	Tsuruoka-Chuo Plant, Tsuruoka-Nishi Plant, Tsukuba Plant, Tsuchiura Plant, Takamatsu-Kozai Plant, Takamatsu-Kokubunji Plant, Soma Plant, Kashiwa Plant, Tokyo Branch, Nagoya Branch, and Osaka Branch		Soma Plant
Certification Standards	ISO 9001: 2015	ISO 14001: 2015	ISO 45001: 2018
Certification Authority	General Incorporated Foundation Japan Quality Assurance Organization (JQA)		
Certification Numbers	JQA-QMA15799	JQA-EM7425	JQA-OH0309

# To solve social problems



## Technologies / Product Performance

Product Technology	<b>Bases</b>	<ul style="list-style-type: none"> <li>Electrical / Electronic Engineering</li> <li>Control Engineering</li> <li>Mechanical Engineering</li> </ul>	
	<b>Designing</b>	<ul style="list-style-type: none"> <li>Magnetism</li> <li>Software</li> <li>Circuits</li> <li>Low Loss</li> <li>Structures</li> </ul>	
Production Technology	<b>Analysis / Assessment</b>	<ul style="list-style-type: none"> <li>Structures</li> <li>Fluid</li> <li>Vibration</li> <li>Heat</li> <li>Sound</li> <li>Insulation</li> </ul>	
	<b>Analysis / Measurement</b>	<ul style="list-style-type: none"> <li>SEM</li> <li>Fluorescent X-Ray</li> <li>Spectral Photometer</li> </ul>	
Production Technology	<b>Related Technologies</b>	<ul style="list-style-type: none"> <li>Networks</li> <li>3DCAD</li> <li>Sensors</li> <li>Tribology</li> </ul>	
	<b>Assembly / Automation</b>	<ul style="list-style-type: none"> <li>Windings</li> <li>Adhesives</li> <li>fastening</li> <li>Industrial Robot</li> </ul>	
	<b>Processing</b>	<ul style="list-style-type: none"> <li>Cutting</li> <li>Painting</li> <li>Heat Treatment</li> <li>High-Precision Gear Cutting</li> </ul>	
	<b>Molds</b>	<ul style="list-style-type: none"> <li>Press</li> <li>Die-Casting</li> <li>Resin Molding</li> </ul>	
	<b>Mounting</b>	<ul style="list-style-type: none"> <li>Surface Mounting</li> <li>Image Inspection</li> <li>Lead-Free Soldering</li> </ul>	

High Power

High Efficiency

High Accuracy

Downsizing

Safety

Reliability

Long Life

Design

Low Vibration

Easy Operation

Low Noise

Standardization

Low Heat Generation

Environment

### Motors



### Electric Actuators / Gears



### Drivers / Controllers



### Cooling Fans



## Fulfilling Needs Around the World

### Factory Automation

- Semiconductor Manufacturing Equipment
- Electronic Component Manufacturing Equipment
- Industrial Robot
- Testing Equipment
- Molding Machine
- Washing Machine
- Conveyor Equipment
- Automated Guided Vehicles (AGVs) and Automated Mobile Robots (AMRs)
- Plant Factory



Semiconductor Manufacturing Equipment

### Medical Equipment / Analytical Instrument

- CT Scanner
- MRI Scanner
- Denture Manufacturing Equipment
- Hematology Analyzer
- Electron Microscope
- Pharmaceutical Packaging Machine
- X-Ray Equipment



CT Scanner

### Food Processing / Agricultural Machinery

- Weighing Scale
- Food Processing Equipment
- Sorting Machine
- Seeding Machine
- Packaging Machine
- Foreign Object Inspection Equipment
- Kitchen Instrument
- Bean-jam Enfolding Equipment



Bean-jam Enfolding Equipment

### Traffic and Transit Operation Equipment / Financial Institution Equipment

- ETC Gate
- Counting Device
- Automatic Ticket Gate
- Automatic Ticket Machine
- Seat Rotating Device for Train
- Platform Door
- ATM



ETC Gate

### In Our Daily Lives

- Interactive Exhibition Machines for Amusement Park, Recreational Facility and Museum
- High-Speed Lane of Conveyor Belt Sushi Restaurant
- Surveillance Camera
- Service Robot
- Security Gate
- Solar Power Generation (Power Conditioner)
- Electric Vehicle Charging Station
- Wind Turbine Generation
- Planetarium



Service Robot



Solar Power Generation / Wind Turbine Generation

## To solve social problems

Automation

Productivity Improvement

Scientific Development

Safety / Security

High Efficiency/ Resource Conservation



## Product Development in Response to Customers' Challenges

# Providing Prominent Solutions that Support Various "Motion"

## Featured Products in 2022

We utilize the latest available technologies to develop a wide range of products so that we can continue meeting various customer needs such as compact equipment and high efficiency.

### $\alpha$ STEP AZ Series mini Driver

#### Features

- Compact/Lightweight
- Compatible with both DC-input and battery power sources
- Factory automation network compatible



EtherNet/IP  
PROFINET

### AC Servo Motor

#### AZX Series Battery-free with Absolute Sensor

#### Features

- Usable with same settings as AZ Series
- Offers high torque at high RPM range
- Rated output power available in 400 W and 600 W



EtherNet/IP

### Brushless Motor BLV Series R Type

#### Features

- Compact, lightweight and high power
- High Efficiency
- Stable low-speed operation is possible starting at just 1 r/min.



### Robot Controller MRC01

#### Features

- Offers easy control for self-made robots
- Max. 7 axes for AZ Series
- Operation verification possible via online 3D simulation



### Robotic Joint Actuator RJ Series

#### Features

- Actuator for robotic joints
- Uses right-angle gearhead to save space
- AZ Series included



### Electric Gripper EH Series 3-Finger Type

#### Features

- Enables stable and secure gripping
- Possible to adjust digitally for gripping strength, open / close range, etc.
- AZ Series included



### Rack-and-pinion mechanism LJ Linear Head

#### Features

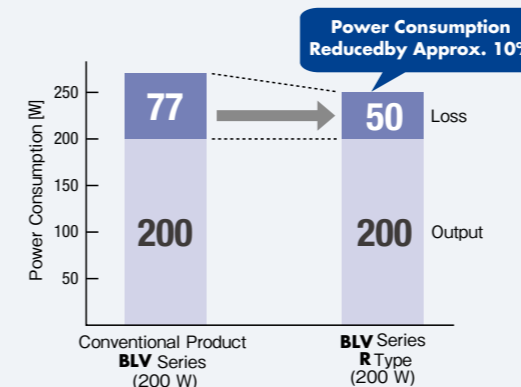
- Rack-and-pinion mechanism LJ Linear Head
- Max. transportable mass 200 kg
- Max. stroke 700 mm



## Featured Technologies in 2022

By conserving natural resources through reducing product size as well as developing high-efficiency products that minimize loss, we contribute to environmental load reduction. Furthermore, we deliver new value that meets customer needs for automation by improving our product expansion that supports customers who build robots on their own for specific applications.

### Brushless Motor BLV Series R Type



#### Technological Capability

For this motor, we optimized magnetic design, achieved high driver efficiency through the adoption of low-power-loss electronic components, and both downsized and lightened the product through increased density in circuit board design.

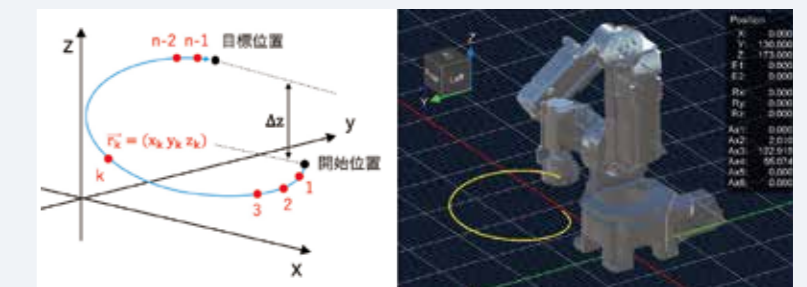
#### Added Value

This compact, lightweight and high efficiency product makes it possible for our customers to downsize their equipment and reduce power consumption during operation.

### Robot Controller MRC01



#### Robot Trajectory Tracking and Online 3D Simulations



#### Technological Capability

In contrast to the approach of controlling each joint through individually assigned motors, our technologies offer trajectory calculations, kinematic calculations and simultaneous control of multiple joints to achieve full control of the robot as a whole. And by leveraging these technologies, we have developed the controllers compatible with DIY robots that come with a wide range of robot configurations.

#### Added Value

Even designers who build their own robots for the first time can enjoy easy and accessible robot control technologies. It's possible for such designers to create and test robot-operation programs without the need for a programmable logic controller, resulting in enabling customers to build their own robotic equipment.

#### Interview

## Products That Are Both Practical and Convenient



By selecting and introducing the most suitable robots for our customers' facilities, we contribute to a wide range of automation needs through our products. Moving forward, we plan to continue developing products that are both practical and easy for customers to use.

Leader, Controller Development Section,  
Controller Equipment Systems Department

Taisei Kondo

## Product Development in Response to Customers' Challenges

### Actual Examples of Recommendations that Solve Customers' Challenges

Oriental Motor develops new products equipped with latest technology in order to respond to industrial challenges, and realizes motion that customers seek.

#### Customers' Challenges 1

- Our control panel is small, so there's no room to install a driver
- We want to operate equipment using a battery as the power source

#### Solutions that Oriental Motor Offers

### $\alpha$ STEP AZ Series miniDriver

While the demand for automation continues increasing in order to carry out simple tasks and to transport workpieces between each process which used to be handled by operators, other types of demands such as equipment downsizing and production line modularization are on the rise as well. The  $\alpha$ STEP AZ Series mini driver is small, lightweight, and compatible with battery-driven operation. Because it offers great features such as distributed layout of drivers, simplified wiring and control panel downsizing, it makes it possible to design even smaller and lighter weight equipment. Moreover, we have expanded our product lineup to be compatible not only with pulse input but also with a diverse range of industrial network protocols such as EtherNet/IP and PROFINET.



AZ Series mini Driver

#### Customers' Challenges 2

- We want to detect speed and position of the motor to improve the reliability of our equipment
- We want to reduce the hassle of procuring parts and labor for the encoder

#### Solutions that Oriental Motor Offers

### Expansion of Built-in Encoder Stepper Motor Product Lineup

We have expanded our 2-phase and 5-phase stepper motor PKP Series by adding the new built-in encoder type. Because each motor comes with a pre-assembled compact encoder, this contributes to overall cost reductions while giving more freedom of equipment design.

As this series integrates a motor with a 1000 P/R resolution encoder to achieve highly accurate position detection, it is increasingly used in industries such as semiconductors and medical devices.



PKP Series

### Products Contributing to Global Environment

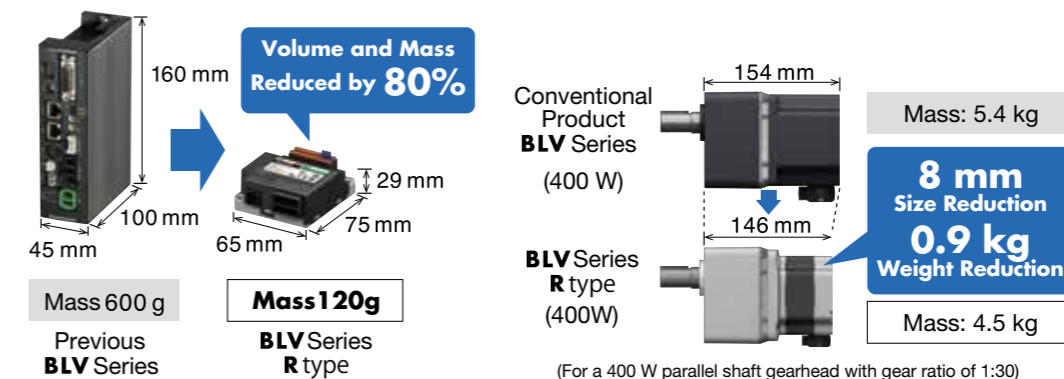
In order to support reducing environmental loads through our products, we provide products that achieve an exceptionally high environmental performance, such as high-efficiency motors that contribute to reduced CO<sub>2</sub> emissions, and low-power-consumption fans that contribute to equipment energy savings.

#### High-efficiency Motors for Compact and Lightweight Delivery Robots with Extended Travel Distance

The BLV Series R Type is a brushless motor with DC power input intended to facilitate equipment downsizing and weight reductions. Decreasing product size and weight enables reduced CO<sub>2</sub> emissions during transport and other applications, Decreasing product size and weight enables to reduce CO<sub>2</sub> emissions during transport and other applications, and a major reduction in driver size contributes to reducing resource requirements. Furthermore, these brushless motors use permanent magnets in their rotors to reduce loss and realize high-efficiency operations.

#### Resource Saving

We have achieved major size and weight reductions for both the motor and the driver.



#### Power Saving

By redesigning the motor structure to mitigate loss, this motor achieves lower power consumption compared with our conventional product. This makes possible to extend travel distance and duration per battery charge, which in turn reduces the number of battery charges required.

#### Low Power Consumption EC Fan and Thermostat for Equipment Energy Savings

By using brushless motors in the EMU Series, power consumption is reduced by approximately 70% compared with the conventional product. (Conventional Product MU Series)

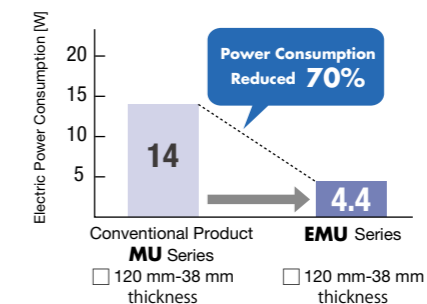
The mass of the fan has been lightened by approximately 45% by using resin in the frame, which contributes to reducing CO<sub>2</sub> emissions during transport as well as resource savings.

In addition, the use of a thermostat cuts down on power consumed by the cooling fan, thus making equipment more energy-efficient overall.

#### EMU Series EC Fan

#### Power Saving

- Power Consumption: 4.4 W
- Expected life: 60,000 hours (2.2 times longer than the conventional product)
- Mass: 0.29 kg (45% reduction compared with the conventional product)
- Wide-ranging voltage specifications: single-phase 100–240 V (50/60 Hz)



#### Thermostat for Fan

#### Power Saving

- This thermostat contributes to reducing power consumption and energy savings by operating the cooling fan only when internal equipment temperature is high and cooling is required.



## Environmental Initiatives

## Activities to Realize Carbon Neutrality

## Activities in Efforts to Realize Carbon Neutral

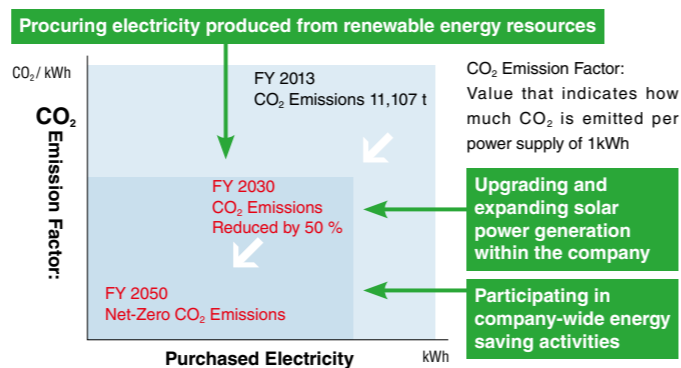
Emission of greenhouse effect gas and depletion of natural resources...In order to tackle these global challenges, Oriental Motor has set two goals for all domestic locations including our affiliated companies; one is to "have net-zero CO<sub>2</sub> emissions associated with the production activities by 2050" and the other is to "reduce CO<sub>2</sub> emissions by 50 % compared with that of FY 2013 by 2030". To achieve these goals, we undertake from both ends of activities that relate to products and business operations.

In regard to the activities related to our products, by developing and producing the compact, long-life and high energy-efficiency products, we can contribute to customers' energy saving and resource saving efforts.

We conduct business activities with these 3 pillars as shown in the right chart.

On top of energy-saving measures in our production operations, we operate based on the strong belief that every worker's diligent efforts to improve operational efficiency at each workplace can lead to reductions in electricity consumption.

Electricity accounts for approximately 90 percent of Oriental Motor's CO<sub>2</sub>



emissions, and by replacing current energy sources with renewable alternatives in a planned manner at all locations, we can expect to have considerable reductions in CO<sub>2</sub> from power consumption. On that account, starting in FY 2023, we plan to make use of renewable energy supplied through solar panels installed on our own facilities.

## Efforts in Solar Power Generation

November 2013, we installed a 750-kilowatt facility at the Soma Plant under the feed-in tariff (FIT) system.

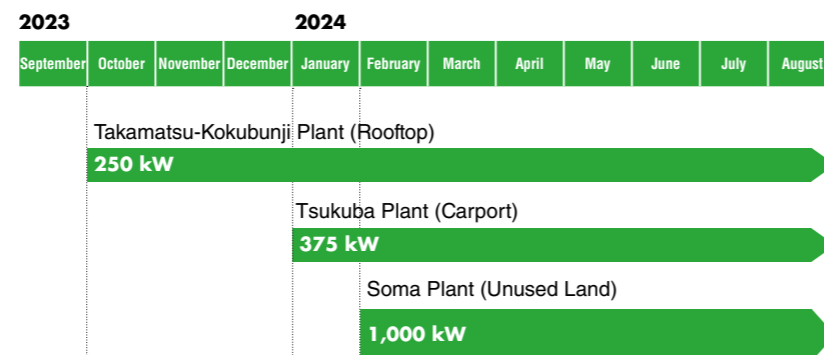
In FY 2022, we began evaluating the potential installation locations along with developing the plan to install the system which utilizes electricity from a renewable energy source, specifically from a solar power generation system that operates with photovoltaic self-consumption.

This solar power system, which is scheduled to commence operations in FY 2023, will be capable of supplying approximately 1.8 million kilowatt-hours of electric power annually, which means our company will use in-house equipment to generate 9.2 % of our required annual electric power.

Moreover, we expect this system to reduce annual CO<sub>2</sub> emissions by 829 t-CO<sub>2</sub>, which is equivalent to 8.8 % of company-wide annual emissions.

From FY 2024 onward, we plan to continue introducing electric power from renewable energy resources into our operations as a means of contributing to global environmental protection and the realization of a sustainable society.

## Solar Power Generation System Deployment Schedule



Existing solar power generation facilities (Soma Plant)

## Actual Example of Environmental Initiatives

## Energy-saving Activities at the Soma Plant

With the company-wide target in pursuit of carbon neutrality, the Soma Plant set a goal to reduce CO<sub>2</sub> emissions by 400 t-CO<sub>2</sub> by FY 2030, which is 50 % of our emissions as recorded in FY 2013. In order to reach this goal, we launched the Carbon Neutrality Project in August 2022 and began pursuing initiatives therein.

As part of energy-saving efforts aimed at reducing electricity consumption, we started by having each department determine the areas in which they could achieve emission reductions, and based on this information we are moving forward with an action plan that is expected to achieve 4.3 t-CO<sub>2</sub> worth of reductions annually.

In FY 2022, we initiated efforts to reduce heat loss in our cathodic electrodeposition furnace. In order to mitigate heat loss from the heater-door area of the furnace, we switched the sealing material from silicone to a heat-resistant glass-fiber, which reduced heat dissipation in a range from 30°C to 60°C and realized a 7,680 kWh annual improvement—equivalent to 3.6 t-CO<sub>2</sub> per year. Moving forward, we plan to leverage what we have learned through these heat-loss elimination efforts to implement the same countermeasures in other parts of the Soma Plant and at other facilities company-wide.

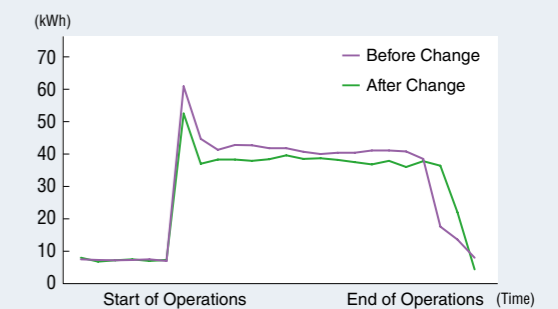
CO<sub>2</sub> emission reductions through a change of sealing material for the cathodic electrodeposition furnace door

Glass-fiber sealing gasket material

Silicone packing seal

Glass-fiber packing seal

## Electricity Consumption on Electrodeposition Line



## Changes of temperature after replacing packing seal for the heater door



Electric heater area

## Interview

## Listening to and Incorporating Others' Ideas



Manager, General Affairs Department  
Kazuhiko Takeuchi

As the leader of environmental measures at the Soma Plant, I'm moving forward with activities aimed at realizing carbon neutrality. When it comes to energy saving activities, we cannot expect immediate, exponential results. Nevertheless, steady and sustained efforts are required to continually reduce electric power usage over time. I try to remain open-minded and flexible as I listen to opinions and ideas submitted by each section of my department, and I give every idea a try to see how it goes. By visualizing the results of each activity, I try to further motivate people throughout the plant to engage in environmental activities.

Power consumption reduction:  
**7,680 kWh / year**  
CO<sub>2</sub> emission reduction:  
**3.6 t-CO<sub>2</sub> / year**

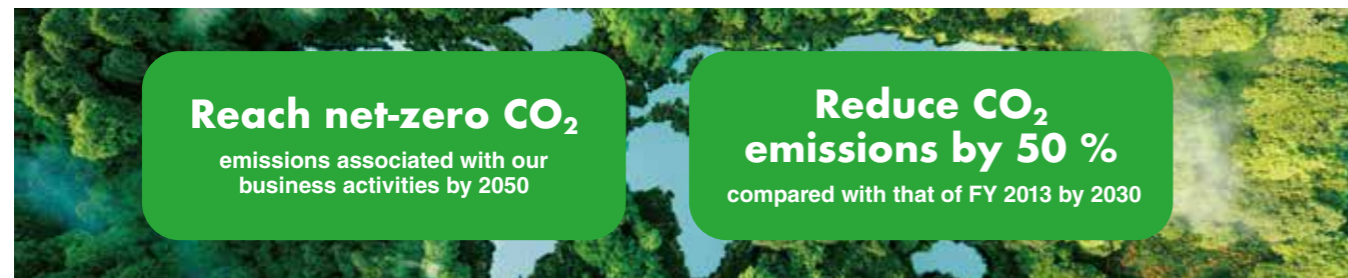


## Environmental Initiatives

## Environmental Management

In order to successfully practice eco-friendly and people-friendly business operations in accordance with the environmental policy, we actively make efforts to reduce environmental loads through corporate activities.

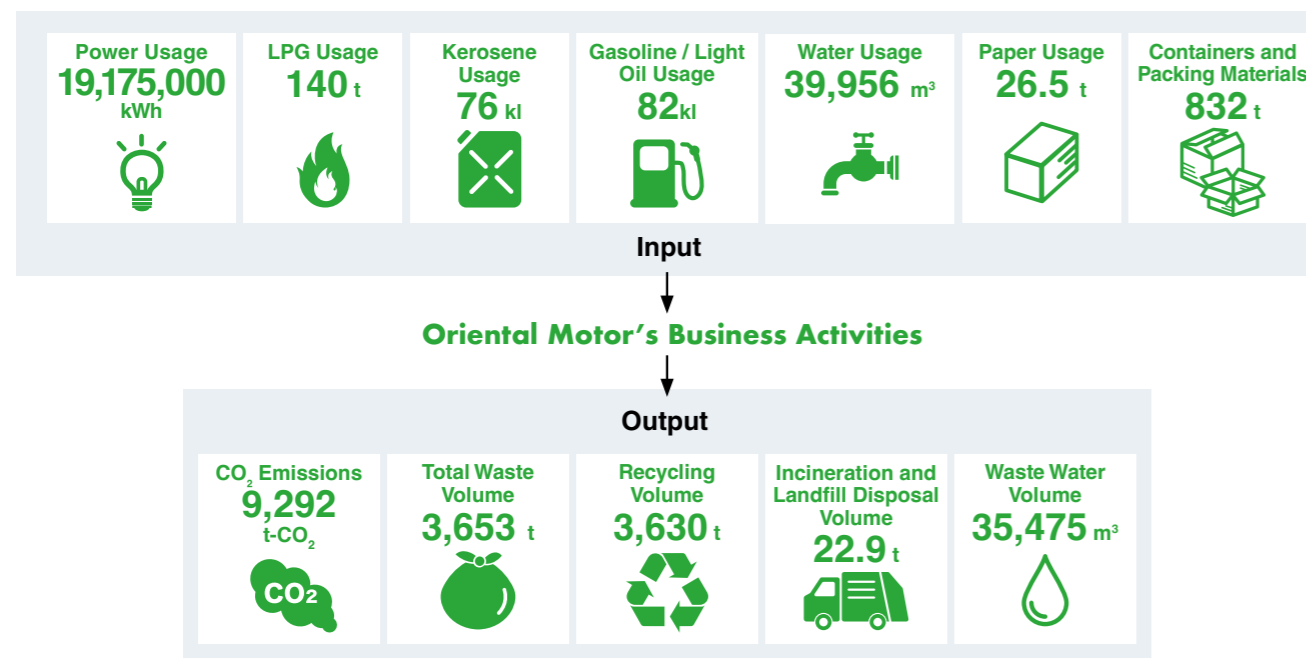
## Carbon Neutral Goals



## Objectives / Achievements of Environmental Activities

	FY 2022 Objectives	FY 2022 Achievements	FY 2023 Objectives
<b>Energy Management</b>	Achieve a reduction rate of 1 % or higher in the 5-year average energy consumption per unit	Actively pursued updates to air conditioning systems, lighting and similar equipment. Improved energy efficiency through productivity improvements and such. Achieve a reduction rate equivalent to 5% of the 5-year average energy consumption base unit	Achieve a reduction rate of 1 % or higher in the 5-year average energy consumption per unit
<b>Waste Management</b>	Continue waste reduction activities. Maintain a recycling rate of 99.0 % or higher at all major domestic production	Total amount of waste discharged: 3,653 t (year-over-year: 99.4%). The grand total of waste discharged at all major domestic production facilities achieved a recycling rate of 99.4 percent	Continue waste reduction activities. Maintain a recycling rate of 99.0 % or higher at all major domestic production

## Environmental Load Data



## \* Scope of Reporting

- Energy-related data (power usage, LPG usage, kerosene usage, gasoline and fuel oil usage, and CO<sub>2</sub> emissions) is derived from domestic Oriental Motor and affiliated company data
- Non-energy-related data is derived from Oriental Motor's main production plants in Japan, which include the Tsuruoka-Chuo Plant, Tsuruoka-Nishi Plant, Tsuchiura Plant, Tsukuba Plant, Takamatsu-Kozai Plant, Takamatsu-Kokubunji Plant, Soma Plant, Kashiwa Plant and Kofu Plant

\* The calculation of CO<sub>2</sub> emissions is referred to the GHG Emissions Accounting and Reporting Manual issued by the Ministry of the Environment and the Ministry of Economy, Trade and Industry.

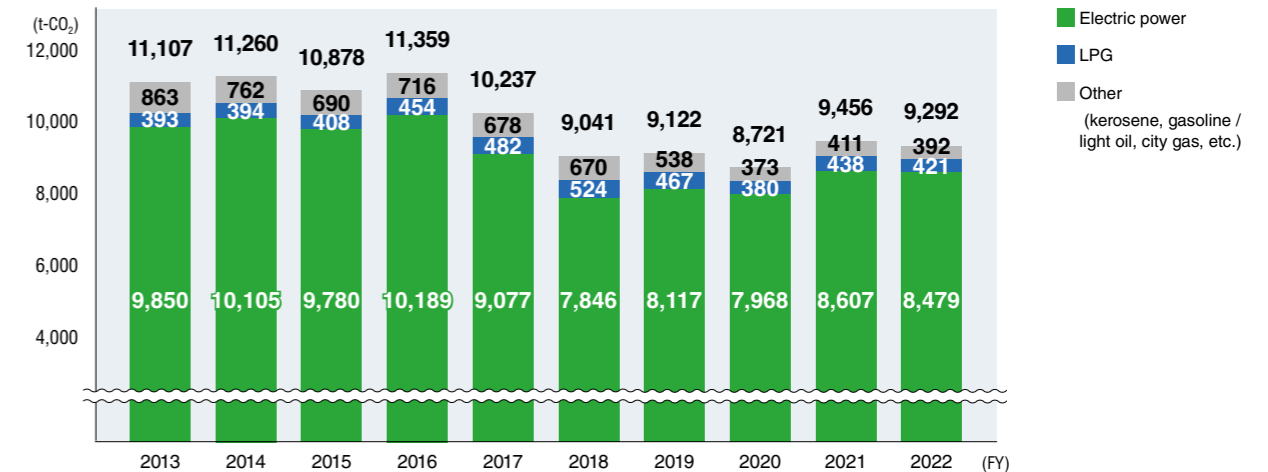
\* The calculation of CO<sub>2</sub> emissions uses the actual emission factors of each electric power company.

## Environmental Performance

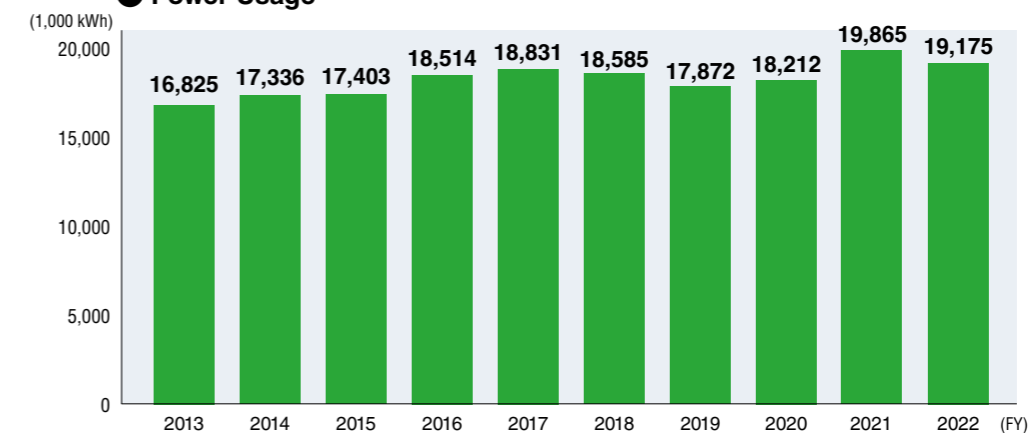
By undertaking efforts such as reducing CO<sub>2</sub> emissions and utilizing the planet's limited resources as efficiently as possible in production operations, we strive to preserve and strengthen the global environment.

① Energy-Related CO<sub>2</sub> Emissions

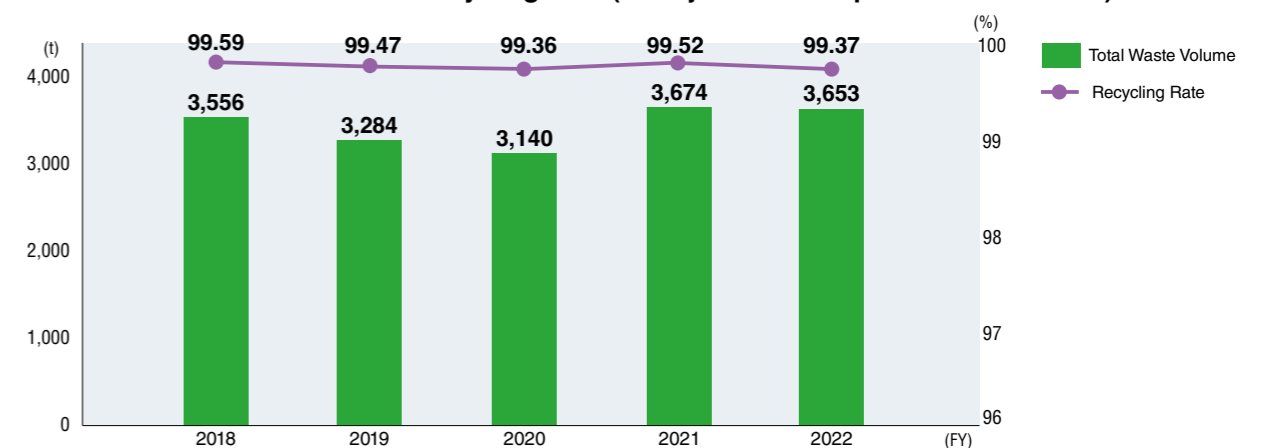
16.3% reduction as of FY 2022 (compared with FY 2013)



## ② Power Usage



## ③ Total Waste Volume and Recycling Rate (at major domestic production facilities)



## Value Creation through Business Activities

# Providing New Value for the Sake of Sustained Growth

## Initiatives for Productivity Improvement

In response to changes in social environments, we are strengthening our production capabilities to ensure timely delivery of our products to customers under all circumstances.

### Maintaining Stable Supply Chain

#### Improving Productivity by 30 % Over 3 Years

In FY 2020, we set the numerical target for all production departments of a 130-percent increase in FY 2022 production capacity compared with that of FY 2019. To this end, we ① promote automation, ② optimize production processes, and ③ conduct TPM Activities. As a result of these efforts, we achieved a productivity improvement of 32 percent in FY 2022 compared with the FY 2019 level.

We have pursued the abovementioned three endeavors not only in manufacturing operations, but in facility maintenance, production startup

operations, production process design and other such operations, in a unified manner involving multiple departments working closely together. Some examples include training multi-skilled workers capable of working with multiple departments in areas such as working style improvements and crisis management, the establishment of follow-up frameworks for manufacturing operations, and acquisition of licenses for in-house production lines. Moving forward, all departments will work together in close coordination to ensure stable supplies of products for our customers.



Automated transport of parts, materials and goods between production stages using automatic guided vehicles (AGVs)

## Launch of an Automated Production Line

Interview

### Achieving Continuous Component Transport on an Automated Line by Using the Self-Manufactured SCARA Robots



Production Technology Department  
Reina Nonaka

In FY 2022, in anticipation of further increases in production volumes for our core product **AZ Series**, we worked on improving production capacity in multiple processes.

Within the absolute sensor adhesion process in particular, we established an automated line that uses SCARA robots equipped with robot controllers developed right here at Oriental Motor, and in May 2022 began utilizing this setup for mass production operations. By having robots handle adhesion work, which was previously conducted manually by human workers, we

were able to reassign two workers to other, more fruitful tasks while also bolstering process productivity.

This represents our first implementation of a production line using self-manufactured SCARA robots to carry out continuous transport of workpieces between facilities. In FY 2022, we began selling our **MRCO1** robot controller, which broadens the range of design possibilities for self-made robots and enables robot introduction in worksites with dimensional restrictions on height, depth and such. Furthermore, the controller makes it easy for anyone to control robots and have them replicate tasks demonstrated by human workers. Moving forward, we plan to install automated lines at various locations, using self-manufactured robots which are operated by the robot controllers.



SCARA robots carry out adhesion work on an automated line. Various considerations were taken into account during exterior design, such as using transparent outer panels to make robot operations easy to see.



A SCARA robot carries out picking for small components. The gripper current value is controlled to tweak gripping force as needed, which prevents damage to components.

## Expansion of TPM Activity

### Deploying Full-scale Efforts Using Leaders at Each Location

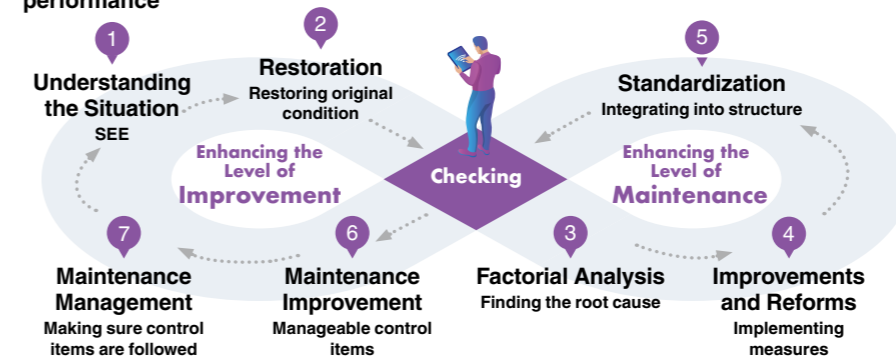
Based on numerical targets established for efforts involving all production departments, we deployed full-scale TPM (Total Productive Maintenance) Activities at all operating locations starting in FY 2022. Objectives for this activity are to reduce production loss, and restore the condition of the production site to where it can fully reach its production potential as it was designed to perform, then improve its production capacity in a sustainable manner by maintaining the condition.

Based on the concepts of “restoration” and “maintaining and sustaining activity”, Oriental Motor establishes goals step by step and proceeds with activities while everyone at each production site actively tries various measures.

Starting in FY 2022, we appointed TPM Leaders at each location. All of these personnel have TPM instructor licenses and serve as leaders in TPM Activities related to schedule management, activity establishment and continuation, cross-

organizational deployment, and other areas. Furthermore, as a means of human resources development, TPM Leaders hold discussions at each stage of the activities and use a level-of-understanding checklist to confirm employee comprehension levels as they proceed. Through continued collaboration with these leaders, we will move forward with TPM Activities at each location, with a primary focus on manufacturing worksites.

The “Number 8 Cycle” approach intended to bolster maintenance and improvement performance



An Independent Maintenance Subcommittee is formed to carry out comprehensive facility and equipment inspections

## Value Creation through Business Activities

### Acquiring Specialized Skills

In support of manufacturing activities, we strive to boost employee skill levels in a manner that gives them a greater sense of purposes and enables personal growth through their work. Through participation in workshops, passing of technical skills tests, and acquisition of certifications for positions such as "Independent Maintenance Technician" and "Adhesion Management Expert," employees work to support Oriental Motor's production operations.

#### Numbers of Applicants Who Passed Technical Skill Tests in FY 2022

(Basic unit: person)

Job Category	Job Name	Grade 1	Grade 2	Grade 3	Total
Machining Process	Machining Center Operations	1			1
	Numerical Controlled (NC) Lathe Operation		1	1	2
Die-Casting	Cold Chamber Die-Casting		2		2
Mechanical Maintenance	Mechanical System Maintenance	1	8	1	10
	Electrical System Maintenance	1	6		7
	Equipment Diagnosis	1			1
Machine Inspection	Machine Inspections			7	7
Metal Heat Treatment	Carburizing, Carbonitriding and Nitriding		2		2
Electronic Device Assembly	Electronic Device Assembly			1	1
Total		4	19	10	33

#### Numbers of Applicants Who Passed the Self-Maintenance Certification in FY 2022

(Basic unit: person)

	Grade 1	Grade 2	Total
Number of Certified Self-Maintenance Technicians	21	49	70

#### Number of Qualified Technicians Who Manage Adhesives

(Basic unit: person)

Number of Applicants Who Became Qualified in FY 2022	7
Total Number of Qualified Technicians	82

### Awards for Independent Maintenance Technicians Exhibiting Outstanding Performance

An "Independent Maintenance Technician" certification is one given by the Japan Institute of Plant Maintenance to manufacturing-field operators who exhibit the required knowledge and skills. In FY 2022, three Independent Maintenance Technicians who displayed outstanding performance in their work received awards. In addition, Oriental Motor received a group award, for which a group award presentation ceremony was held.



Presentation of the award



Group award ceremony theme: "Changing Workplaces through the Cultivation of Independent Maintenance Technicians"

## Collaborative Initiatives with Our Suppliers

### Basic Policy of Procurement

In order to continue providing a stable supply of our products while conducting sustainable material procurement to reduce environmental burdens, it is absolutely necessary to cooperate with our suppliers. We continue doing optimal business with our suppliers in a fair manner, while meeting social needs and complying with laws and regulations.

#### Green Procurement Promotion

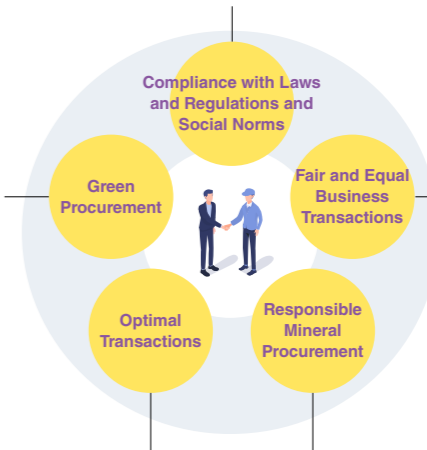
By establishing and operating the management system that corresponds to chemical substance related regulations while considering environmental conservation, we conduct activities for "not including, not using or not producing hazardous substances." Therefore, we request our suppliers to establish a system as well to control chemical substances.

#### Optimal Business Transactions in Accordance with Comprehensive Decision

We conduct business transactions in accordance with decisions holistically made based on quality, delivery, cost, stable supply availability, technological development capability and business stability.

#### Compliance with Laws and Regulations and Social Norms

We comply with trading laws and regulations when conducting procurement activities. In addition, we do not disclose confidential information obtained through trading activities to any third party without permission.



#### Fair and Equal Business Transactions

Regardless of region, scale or experience, we provide every one of our suppliers with a fair and equal opportunity to negotiate. By conducting fair business practices with our suppliers, we build sustained, cooperative relationships while aiming for mutual prosperity and sustainability.

#### Refusal to Trade in Conflict Minerals

Conflict minerals are minerals including tantalum, tin, tungsten and gold from the Democratic Republic of the Congo and other nations in the same region whose mining is funded by armed, violent groups that violate human rights. We work in cooperation with trading partners to investigate the possibility of conflict minerals among their trade products, and strive to avoid the use of such minerals.

### Communication with Our Suppliers

#### Active Conversations with Our Suppliers

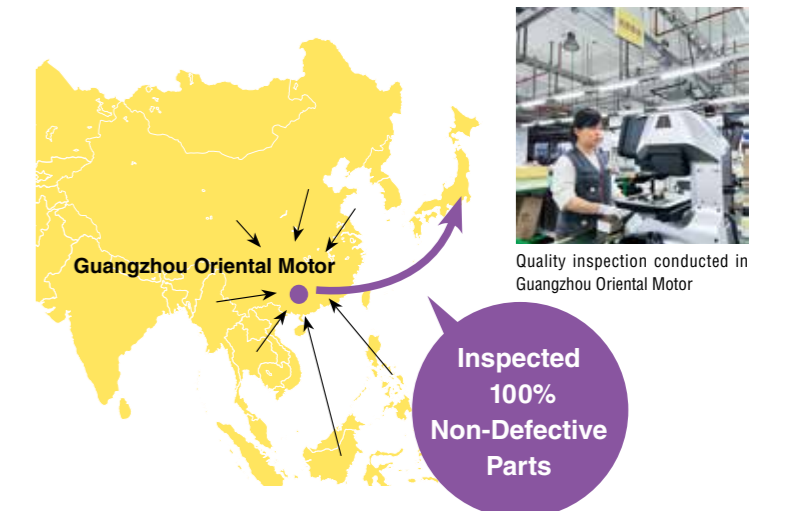
- Sustainably building cooperative relationships by engaging in conversations and exchanging information
- Actively visiting our Suppliers' production facilities to have numerous conversations based on actual materials and actual conditions when we conduct quality improvements, delivery improvements and cost reduction
- Communications which also aim for increasing value of our suppliers
- Conducting technical information exchange events with the goal of improved product development
- Utilization of online communications and software



At technical information exchange events

### Promoting Global Procurement

Market environments have been changing at a global and increasingly rapid pace. Additionally, the importance of maintaining supply chains designed with consideration for supply risks such as natural disasters has also increased in recent years. While improving supply performance in cooperation with our business partners, we are pursuing global procurement operations. Trustworthy relationships with our suppliers are absolutely essential to ensuring global sourcing of raw materials. Having Guangzhou Oriental Motor as our hub, we communicate directly with local suppliers aiming for building a reliable system that supplies parts for which quality is assured locally.



Quality inspection conducted in Guangzhou Oriental Motor

## Value Creation through Business Activities

### Product Safety / Dependability

We establish testing frameworks, develop new standards, and take other such measures to ensure that products are safe and dependable enough for people to use without worry.

#### Product Safety and Testing Framework

Oriental Motor's products are conformable to major safety standards and compliances around the world including Europe, North America and Asia. In order to further ensure safety, the Product Safety Testing Laboratory and EMC Testing Laboratory were established within the Tsukuba Plant.

Operated independently from product development and design departments as a testing facility, the Product Safety Testing Laboratory is managed under ISO / IEC 17025 Laboratory Management System international standards. It is also registered as an accredited testing facility by German third-party association Verein Deutscher Ingenieure (VDI) as well as Underwriters Laboratories (UL). And because this certified third-party laboratory is an in-house testing facility, we are able to carry out component and material testing very quickly, which facilitates more reliable product supplies.



Product Safety Testing Laboratory

#### Conducting Environmental Testing to Enhance Product Reliability

Customers use products in a wide variety of different environments. Product reliability must be verified to enable the successful execution of intended product operations and realize expected product lifespans in user operating environments. In order to meet these customer expectations, we carry out tests that closely replicate envisioned usage environments in terms of temperature, humidity, vibrations and other such factors with the goal of identifying possible malfunction and breakdown factors. In addition, we carry out product improvements based on failure mechanism analysis rooted in fundamental principles in order to bolster product reliability. Through these endeavors, we strive to develop new products that are optimized to usage environments.

##### Major Testing Equipment Owned by Oriental Motor

###### Measurement

- Coordinate measuring machine
- Video measuring machine
- Roundness and cylindrical profile measuring machine
- Surface texture and contour measuring machine

###### Analysis

- Stereo microscope
- Metallurgical microscope
- Scanning electron microscope (SEM)
- Energy dispersive X-ray spectrometer (EDX)
- Fourier transform infrared spectrophotometer(FT-IR)

###### Test

- Compact low and constant temperature chamber
- Motor shaft fatigue testing machine
- Highly accelerated temperature and humidity stress test (HAST)
- Combined temperature and humidity , vibration testing machine
- Thermal shock testing machine
- Salt spray testing machine
- Temperature and humidity chamber
- Drop testing machine



Reliability Testing Laboratory

#### Contributions to Safety and Reliability Standard Development

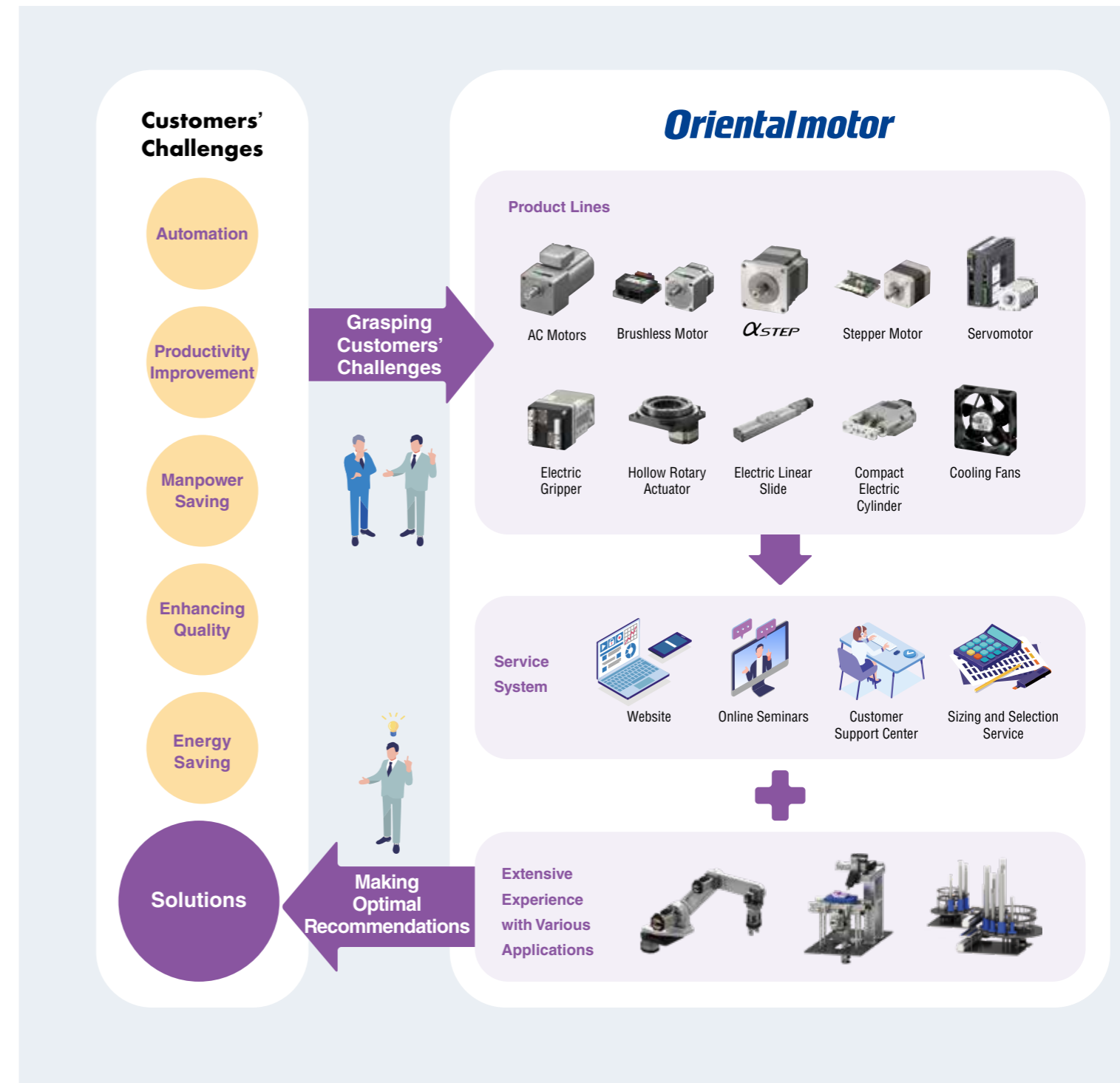
As a company which provides advanced products in support of automation, we understand that it is our responsibility to help build a safer society that offers peace of mind to all. Through our contributions to the development of the following safety and reliability standards, we help solve society's problems through automation while effecting improvements to the safety and reliability of our company's products.

- Electrical safety: UL 1004 series of standards for motors and other rotating electrical machinery
- Functional safety: IEC 61508 functional safety standards, ISO / IEC TR 5469 functional safety and AI system standards
- Dependability: IEC 60050-192 general terminology standards, IEC 61025 fault tree analysis standards, IEC TR 63039 technological-system probabilistic risk analysis standards

### Sales and Support Systems

We contribute to the realization of motion that customers seek by grasping customers' challenges that change with the times and providing solutions pertaining to customers' overall motion.

#### Making Recommendations that Enable "Motion" Sought by Customers



## Value Creation through Business Activities

### Service and Support System to Assist Customers Around the World

In addition to in-person and phone-based communication, we fully utilize online tools in order to deliver excellent customer service. We will continue upgrading and expanding our services in order to satisfy customers across the globe.

#### Online Seminars

From product principle to configuration to how-to-use to application suggestions, we hosted online seminars at each location as a place to offer information. In Japan, we added new 5 courses in FY 2022, in hopes to contribute to a greater number of customers to solve their problems.

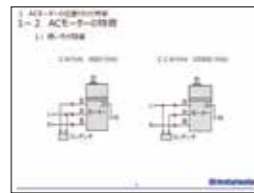
##### Online Seminars Held

Number of Seminar Participants in FY 2022 **8,033 Participants**

Countries Hosted (Japan, United States, Taiwan, Singapore, Malaysia, Thailand and India)



An instructor leading an online seminar



Excerpt from a seminar textbook

#### e-Learning

Customers can attend seminars anytime from anywhere, in a manner that suits them. Each seminar is designed to deepen understanding through videos and teach in stages, which are followed up with quizzes to test understanding and review lessons.

##### Number of Attendees

Number of e-Learning Participants in FY 2022 **12,709 Attendees / Month**

##### Top Three Most Popular Programs

- ① Basics of AC Motors
- ② Basics of Stepper Motors
- ③ Stepper Motor Selection Calculations

#### Customer Support Center

From pre-purchase to post-purchase, we strive to solve customers' problems through phone- and online-form-based inquiries as well as online product consultations via customers' computers and smartphones.

##### Feedback from Our Customer

I was able to ask about functions and data settings while learning how to use the motor. Unlike over-the-phone inquiries, I was able to see the person's face as I talked, which put me at ease.



Explaining while checking motion of a demo machine

#### What We Can Do via Online Customer Service

##### Via Screen Sharing

- Selecting a product while viewing the customer's screen
- Supporting equipment setup while checking data setting software

##### Via Camera, etc.

- Checking actual product motion
- Checking customer's actual product use environment during troubleshooting

#### Field Service

If a problem does occur with any Oriental Motor product, we do our best to respond to the matter in proper and prompt manner so that customer equipment can get up and running again quickly. Our service engineers stationed throughout Japan assist customers online as well as through onsite visits.

##### Feedback from Our Customer

- I could resolve a problem in a short time.
- The cause was identified in a short amount of time, and a solution was explained to me in an easily understandable manner.



#### Selection Support

Through selection support, we help customers reduce the time and effort required to choose a motor. After a motor has been selected, we prepare a selection report which can be used as approval documentation for equipment parts selection. Customers can choose to use the product selection tool on their own, or ask for assistance from our dedicated staff, depending on customer requirements and circumstances.

Average Number of Cases Per Month in FY 2022

**1,400 Cases / Month**

#### Virtual Trade Shows

Continuing our tradition from previous years, we held our online virtual trade shows in FY 2022, providing content that showcased new-product operations as well as possible uses for each product type. By holding these trade shows regularly over the Internet, we provide ways for people to view various types of new information in one place, at a location and time of their choosing.

##### Virtual Trade Shows Held in FY 2021

Taiwan	May–June 2022 December 2022	Singapore, Malaysia, Thailand and India	From April 2022
China	From April 2022	Japan	September 2022 February–March 2023
USA	From April 2022	Total Number of Visitors	<b>57,845 Persons</b>



A virtual trade show interface simulating personal visitor interactions (show in Japan)



A virtual showroom featuring videos and a rich array of usage examples (show in the United States)

## Value Creation through Business

### Trade Show

Trade shows were held around the world based on current conditions in each country and region. Through them, we introduced visitors to modular automation technologies and examples of in-house robot building as we proposed applications for our motors.

#### Major Showings at Trade Shows in FY 2022

Area	Dates	Names of Trade Shows
Japan	5/19-5/21 6/30-7/2 10/5-10/7	MEX Kanazawa ROBOT TECHNOLOGY JAPAN 2022 M-Tech Kansai
USA	5/10-5/11 6/6-6/9 10/19-10/20 10/23-10/26	Robotics Summit Expo Automate ROBO Business Pack Expo Chicago
Germany	5/30-6/2 11/8-11/10	Hannover Messe SPS 2022
UK	4/5-4/7	Drives & Controls 2022
Italy	5/24-5/26	SPS Italia
Taiwan	8/24-8/27	Taipei Automation
Malaysia	6/22-6/25 6/21-6/23	AUTOMEX Semicon SEA
Vietnam	11/9-11/11	Vietnam Industrial & Manufacturing Fair (VIMF)
Indonesia	11/30-12/3	Manufacturing Indonesia



Robot Technology Japan 2022 (Japan)



Taipei Automation (Taiwan)



Automate 2022 (United States)



M-Tech Kansai (Japan)

### Strengthening Cooperative Efforts with Dealers

#### Interview

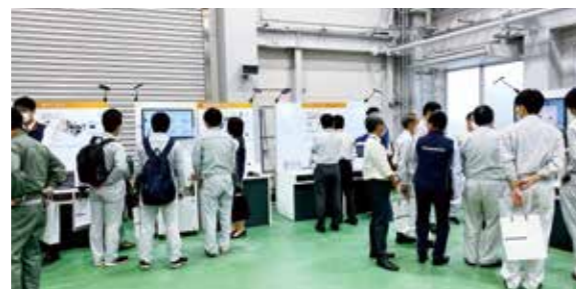
## Wide-ranging Efforts in Close Cooperation with Individual Dealers



Manager, Nagoya Branch Office  
**Genta Ueda**

Oriental Motor contracts 18 companies as our dealers, and we pursue a wide range of activities with them throughout the year. Every May, representatives from all dealers gather together for a meeting to report business results. Participants share challenges related to both domestic and foreign market environments, measures aimed at increasing sales and other such information, while Oriental Motor shares mid- to long-term targets and business strategies.

Our main activities together with dealers in FY 2022 included the Oriental Motor Fair as a collaborative project with dealers, campaigns aimed at expanding product sales, new-product announcement events involving participation by dealers nationwide over the Internet, and other activities in close cooperation with dealers to promote greater sales. In addition, we promote higher-quality sales activities at all locations through the provision of demo-product videos and other sales-promotion media to dealers, training sessions to improve dealers' product-related knowledge, and other such endeavors.



Oriental Motor Fair held in collaboration with dealers



A meeting to report business results

## Engagement with Local Communities

# Developing Ties with Local Communities to Cultivate a More Prosperous Society

The Oriental Motor Group cherishes its ties with local communities and pursues a wide range of different activities aimed at cultivating a more prosperous society for all. In addition to social activities, such as providing support for local community revitalization and working to preserve natural environments, we pursue efforts in other fields as well, such as educating students who will serve as the technological leaders for the next generation.

## Next Generation Development

### Offering Motor Experiment Classes for Cultivating Creativity

During Waku Waku Employee Workshops, second-year hires at Oriental Motor plan experiment-focused workshops for local junior high school students revolving around motor-related topics, coming up with ways of effectively conveying information on motor structures and revolving-motion principles as well as the strengths of Oriental Motor as a company.

By having these employees research and think about motors on their own while planning the workshops, we give them opportunities to reflect on Oriental Motor products and our company's approaches while also developing skills related to project management, target management and similar.

For the FY 2022 workshops, 12 second-year hires took part, creating and leading workshops for 99 local junior high school students.



Experiment class at a junior high school

Participating employees made every effort to create exciting, experiment-centered workshops for the students to enjoy while striving to cultivate greater interest in Oriental Motor among them.

#### Interview

## Fun Ways to Learn About Motors



Central Management Division  
**Moe Igarashi**

I served as a team leader and teaching assistant, and in those capacities I tried to come up with fun ways for participating junior high school students to enjoy—from their perspective—learning about motors through our experiment-focused workshops. Following repeated discussions with my team, we prepared for the workshops while also enjoying the activities for ourselves.



Students try their hand at operating a motor together with a teaching assistant

## Engagement with Local Communities

### Sponsorship for the Tsukuba Challenge 2022

The Tsukuba Challenge is an event where participants challenge themselves to achieve autonomous travel using mobile robots on public sidewalks and in other locations around Tsukuba City, and Oriental Motor serves as a sponsor for this event. The Challenge has been held since 2007 as an opportunity for public experiments using leading-edge technologies in cooperation with researchers, members of the local community and other participants.

In FY 2022, Oriental Motor formed a team comprising engineering staff to take part in the Tsukuba Challenge. The team built their first-ever autonomous mobile robot for the event, a process which provided insights for new product development and served as an educational experience for engineers as they figured out which features and functions were necessary for smooth robot travel. This was all part of their efforts to find optimized solutions in the mobile robot field based on a user perspective.



A mobile robot travels during the Tsukuba Challenge



All Japan Micromouse Contest

### Giving Lectures at Universities

- Nagoya University School of Engineering:  
"Energy Design and Production in Science and Engineering"
- Hosei University Faculty of Science and Engineering:  
"Mechanical Practices"



Delivering a lecture at Nagoya University

### Student Workplace Visits

As a means of providing support to the youth who will serve as community leaders in the future, we arrange for students in elementary, junior high, and high school to visit our worksites.



High school students visiting a worksite in Soma City

## Environmental Conservation

To create more comfortable communities to live in, not only our employees but also their families continuously participate in local cleanup activities every year.



The Kozai Area Cleanup Mission in Takamatsu City



The Kasumigaura and Kitaura Area Large-scale Cleanup Mission in Tsuchiura City

## Our Foundations for Value Creation

# Creating Vibrant Workplace Environments

## Health and Productivity Management

### Oriental Motor's Declaration of Health and Productivity Management

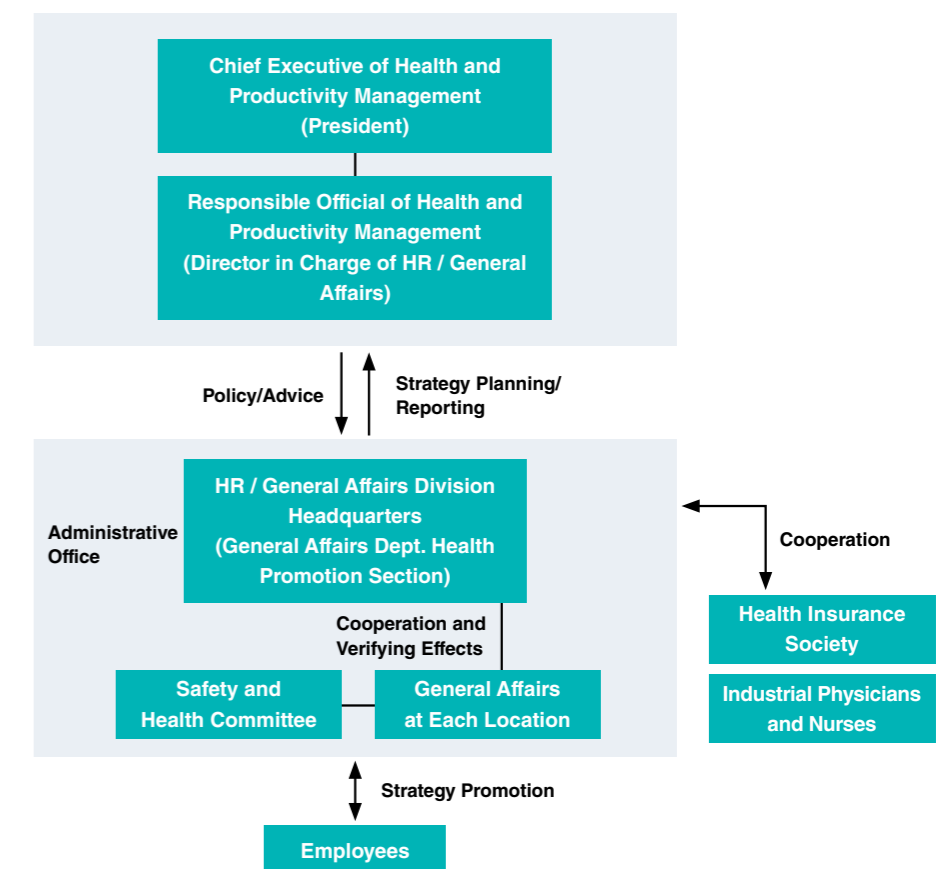
In order to create new value and continue growing as a corporation, Oriental Motor pledges to promote the Health and Productivity Management, and to realize building a vibrant workplace where each employee can work with a sense of purpose and maintain physical and mental wellness.

Established on October 1, 2021  
ORIENTAL MOTOR CO., LTD.  
President  
Chief Executive of Health and Productivity Management

**Eiji Kawahito**

### Organizational Structure to Promote Health and Productivity Management

Oriental Motor appointed the president of the company as chief executive of the Health and Productivity Management System when we established our organizational structure to promote health and productivity management. In cooperation with health insurance associations, industrial physicians, and nurses, we strive to preserve and improve the health of our employees.



## Our Foundations for Value Creation

### Focused Items of Health and Productivity Management

Based on the focused items, we will implement the necessary strategies to further promote health and wellness.

#### 1.Countermeasures for Lifestyle-Related Diseases

- Ensuring 100% completion of regular health checkups
- Following up with employees exhibiting subpar/irregular test results or metabolic syndrome (promotion of retesting and health guidance)

#### 2.Countermeasures for Mental Health

- Encouraging stress-level checkups
- Providing various mental health seminars and counseling for younger employees
- Implementing mental health measures (employee assistance program contracts with outside organizations, collaborations with industrial physicians)

#### 3.Anti-smoking Measures

- Promoting countermeasures for secondhand smoking
- Conducting events and campaigns to help stop smoking

#### 4.Improving Work Environments and Raising Health Awareness

- Clarifying health-related challenges by comprehending and analyzing company-wide health data
- Conducting company-wide events (Walking, etc.)
- Assessing the status of extra hours worked and paid vacation days taken, as well as improving operational efficiency and promoting to take vacations
- Deploying various activities to raise health awareness

#### 5.Initiatives for Infectious Diseases

- Countermeasures for the COVID-19
- Countermeasures for seasonal flu, etc.

### Initiatives for Health and Productivity Management

We implement health-related strategies such as encouraging employees 35 years of age or older to get health screenings, managing overtime and standby time, conducting walking promotion campaigns for employees, making efforts to prevent flu infection, and implementing measures to reduce smoker numbers.



Original posters were made for Quit Smoking Challenge 2022, which was held to encourage people to quit smoking

#### Countermeasures for Lifestyle-Related Diseases

We encourage employees 35 years of age or older to undergo health screenings, and also make gynecological exams available to female employees on a regular basis. For employees diagnosed with metabolic syndrome, we actively encourage them to receive checkups carried out in-house in accordance with specific health guidance, which can sometimes lead to clinical exams.

#### Countermeasures for Mental Health

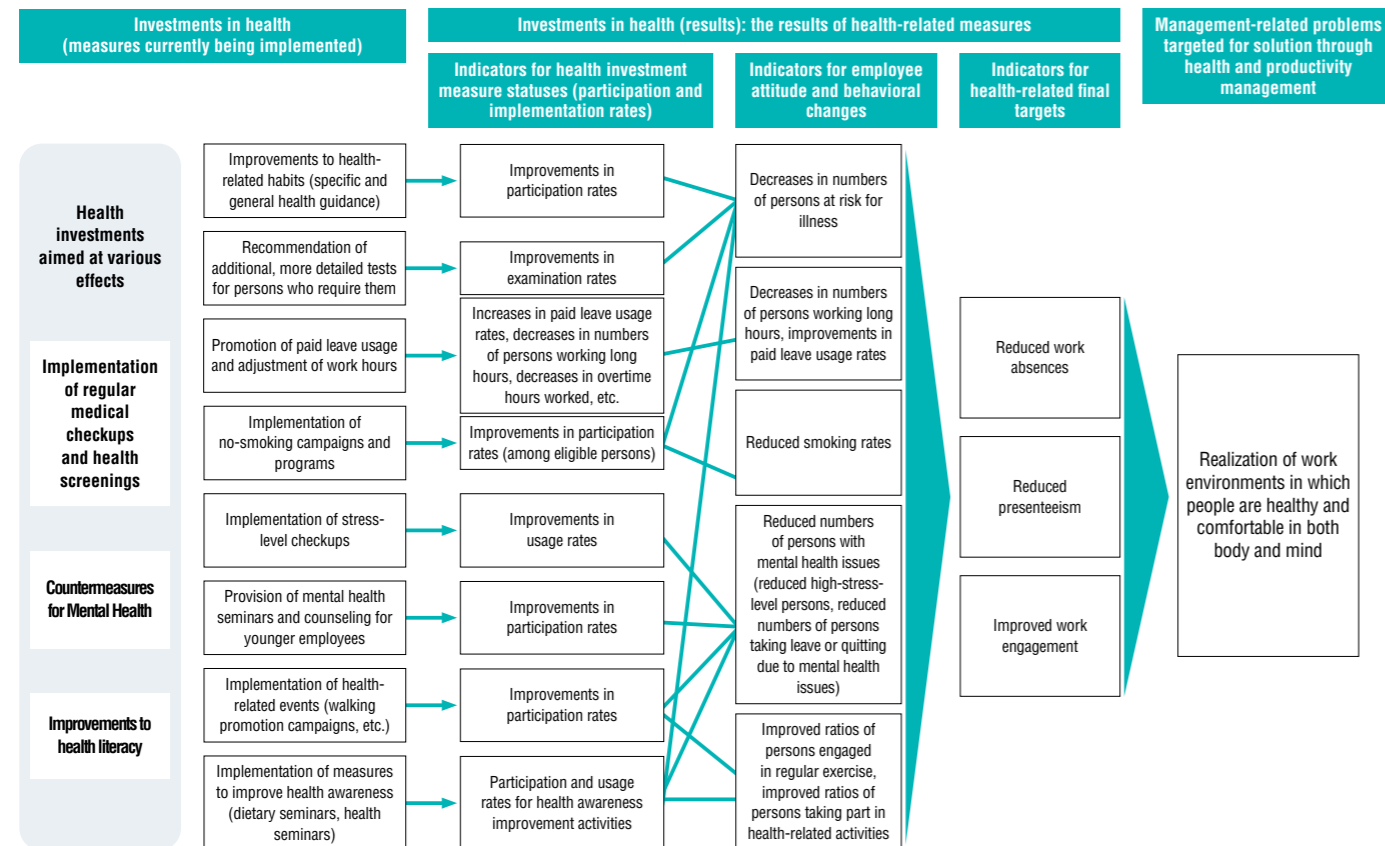
For employees who have been working at the company for one to two years, we offer mental support training and counseling conducted by an outsourced EAP\* organization. We have employees in leadership positions participate in mental support training as well.

\* EAP: employee assistance program

#### Implementation of Walking Campaign

In FY 2022, we introduced for the first time a health-promotion app that can be used to share rankings for all campaign participants. The participation rate was 88.2 percent, and 92.3 percent of participants met their step-count goals.

### Health and Productivity Management Strategy Map



#### Certified as "Excellent Health and Productivity Management Organization"

As stated in the Health and Productivity Management Organization Certification System hosted by the Ministry of Economy, Trade and Industry and Nippon Kenko Kaigi, we have been recognized as an organization that considers health management of employees from a corporate perspective and promote it strategically. As a result, in March 2023, we were certified as an "Excellent Health and Productivity Management Organization (large-scale corporation category)" for the second consecutive year.



### Health Data List

By analyzing health-checkup and lifestyle-habit data, we can better understand the current status of employees' health conditions, which enables us to clarify health-related issues and develop various strategies accordingly. We strive to achieve productivity improvements in the area of employee health and cultivate work environments that promote increased health awareness.

Items		Sex	2020	2021	
Health checkup rate		M & F	100.0 %	100.0 %	
Rate of EE's diagnosed with metabolic syndrome (age 40+ )		M & F	12.7 %	14.1 %	
Health checkup data <sup>1)</sup>	Rate of EE's with abnormal test results	Blood pressure	M & F	26.5 %	28.3 %
		Blood glucose	M & F	15.1 %	14.9 %
		Lipids	M & F	31.4 %	30.7 %
	Obesity (high BMI)	M	25.4 %	25.6 %	
F		13.8 %	13.2 %		

Calculated within Oriental Motor only

<sup>1)</sup> Based on our company's reference ranges for test results, which are as follows.

Blood pressure: systolic pressure of 130 mm Hg or above, or diastolic pressure of 85 mm Hg or above

Blood glucose: fasting blood glucose level of 110 mg/dl or above, or HbA1c of 5.9% or above

Lipids: triglyceride level of 150 mg/dl or above, and HDL level of 39 mg/dl or below or LDL level of 140 mg/dl or above

High BMI: 25.0 or above

Items		Sex	2021	2022
Lifestyle habits questionnaire <sup>1)</sup>	Rate of skipping breakfast	M	22.9 %	21.3 %
		F	14.0 %	14.9 %
	Exercising regularly	M	33.9 %	34.0 %
		F	16.2 %	15.0 %
	Fatigued even after sleep	M & F	29.9 %	33.0 %
Smoking rates	M & F	19.4 %	18.8 %	
Percent of high-risk alcohol consumers	M	12.8 %	11.7 %	
	F	11.5 %	12.5 %	
Rate of taking stress-level checkups	M & F	100.0 %	100.0 %	
High stress level rates <sup>2)</sup>	M & F	10.5 %	10.2 %	
Participation rate of walking campaign	M & F	85.6 %	88.2 %	

Values including domestic affiliate companies

<sup>1)</sup> We conduct our own surveys based on the calculation methods used for the Public Health and Nutrition Survey conducted by the Ministry of Health, Labor and Welfare of Japan.

<sup>2)</sup> The Ministry of Health, Labour and Welfare classifies approximately 10 percent of persons on average as "individuals with high stress levels."

	Items	Explanation	2021	2022
①	Persons taking days off due to illness (work absences)	Numbers of persons who took time off from work due to illness or injury	17 Persons	17 Persons
②	Sufficient performance rates	Determined based on The University of Tokyo's Single-Item Presenteeism Question (SPQ) scale	-	81.9 %
③	Work engagement rates (being excited/engaged by work)	A comprehensive health-level indicator based on a new occupational stress questionnaire comprising 80 simple questions <sup>1)</sup>	50.3	50.4

Item ① is calculated for Oriental Motor only, whereas items ② and ③ also include values for domestic affiliate companies

<sup>1)</sup> An indicator based on a composite approach incorporating work engagement and stress

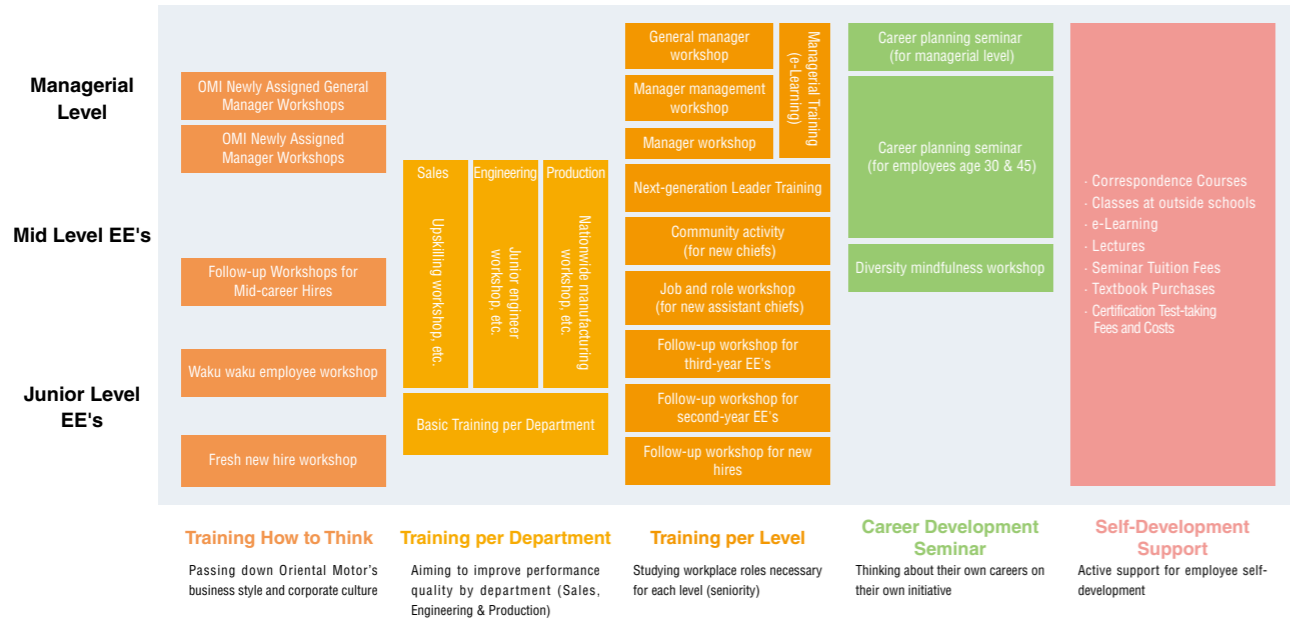


## Our Foundations for Value Creation

# Employees Growing Together: Personnel Development

Based on the “two-way education” concept which is an idea of employees teaching each other and growing together, we hold various workshops where each employee can further learn to think and solve problems.

## Educational System (OMI: Oriental Motor Institute)



## Overview of FY 2022 Follow-up Workshops

	Follow-up workshop for new hires	Follow-up workshop for second-year EE's	Follow-up workshop for third-year EE's
Main Programs	Reflecting back on one's career	Taking stock of own experience, from joining of company until present	Reflection upon time from joining of company up until present, including instances of meaningful personal growth and lessons learned therein
	Business skill development through group activities	Explanatory and questioning skill development via a drawing-based verbal communication game	Development of basic problem-solving skills in a manner that clarifies what is needed to bridge the gap between current skill levels and target (optimal) skill levels
	Number of Participants in FY 2022	55 Persons	66 Persons



Participants strengthen their communication skills by playing a drawing-based verbal communication game (Follow-up workshop for new hires)



Group presentations based on themes such as "Identify the gap through actual work processes" (follow-up workshop for second-year new hires)



Presentations on one's strengths, personal career and other topics related to work and the workplace (follow-up workshop for third-year new hires)

### Participant Feedback

- I was able to discuss my worries and uncertainties with other people hired at the same time as me, and all of us gave each other advice. I found that we had a lot in common, and I came out of the workshop feeling more optimistic.
- It gave me a more objective understanding of areas where I have and haven't achieved growth.
- I hope they hold another offline, in-person follow-up workshop next year.
- Until taking part in the workshop, I hadn't taken time to reflect back on my work approach thus far. It helped me identify some personal areas that require improvement.
- I gained new perspectives by talking about my own successes and shortcomings thus far and receiving feedback from others hired at the same time as me.
- It was encouraging to find out that even people assigned to different workplaces share the same worries and struggles as me.
- It was fascinating to hear about how others hired at the same time as me approach their jobs, and what kinds of careers they have led.
- I joined the company during the COVID-19 pandemic, so I never had an opportunity to meet and talk with others who were hired at the same time as me but assigned to different locations. For that reason, I was grateful for the workshop.

## Interview

### Expanding Follow-up Workshop Implementation to All Locations

Based on our “two-way education” approach of having employees teach each other and grow together, Oriental Motor provides a diverse range of workshops, training and classes. In FY 2022, we revised our training and education framework in pursuit of improvements, one of which was the implementation of follow-up workshops for first-, second- and third-year hires at the company. The purpose of these workshops is to create opportunities for newer members of Oriental Motor to take stock of their career histories thus far and engage more with others at their same level, with the aim of ensuring that they remain energetic and excited while continuing to work at the company for many years. We originally held these workshops only for employees assigned to the “Global Course,” who have rotating work assignments at multiple locations around the country. In FY 2022, however, we expanded workshop eligibility to include “Regional Course” employees, who remain at one assigned location without transferring.

This expansion was carried out because workshops for Regional Course employees were individually planned and executed at each location, resulting in inconsistency among workshop frequency, content and similar. Moreover, the COVID-19 pandemic made it difficult for employees in the same new-hire groups to gather together and get to know each other, resulting in weak interpersonal bonds among them. To rectify these shortcomings, we designed follow-up programs that are consistent throughout the company.

In addition to expanding eligibility, we updated workshop content with

a particular focus on encouraging participants to openly speak their minds with one another and actively participate in self-motivated manner. Taking consideration of differing employee ages and experience levels, we came up with ways to ensure that everyone could actively participate and learn as much as possible. For example, we incorporated a drawing-based verbal communication game into group activities for new hires, and second-year hires used this as an opportunity to freely discuss the positives and negatives of their experiences since joining the company. The purpose of this was to promote greater communication and exchanges among employees with differing jobs and at different locations. In addition to accomplishing this, participants also expanded their horizons through exposure to the ideas of other members hired around the same time, and learned how their own personal growth was having positive effects on other employees in different parts of the company. Our goal is to ensure that these lessons lead to new and beneficial action moving forward.



Manager,  
Personnel Development Department  
Takami Yamashita

## Establishment of a New Personnel Framework

We launched a new personnel framework in April 2023 to enable greater fulfillment and growth among employees, cultivate human resources capable of contributing to company growth, encourage employees to take on more challenges and create more new things in response to operating-environment changes, and provide work environments that make employees feel confident and secure enough to continue working at Oriental Motor for many years to come.

In FY 2021, while preparing to revise the existing framework, we took an opinion poll of all company employees, after which we determined our general direction and thinking for the new framework and set about creating it. Rather than coming up with entirely new and untested ideas, we aimed to further develop and improve the existing ideas and concepts that Oriental Motor has cherished for so many years.

### General Direction of the New Personnel Framework

Foster workplaces that are vibrant and make each and every employee feel fulfilled in order to achieve a company where people feel confident and secure enough to continue working for many years to come

In FY 2022, we focused our efforts primarily on explaining and disseminating information on the new framework to employees. In order to ensure that our explanations of the major changes were conveyed without any misunderstanding, we distributed a handbook on the new personnel framework and also held a total of 52 informational meetings over a period of about two months.

The four main parts of the system that changed were (1) the employee course, grade and remuneration systems; (2) the evaluation and promotion system; (3) the transfer system; and (4) the retirement age limit extension system. Based on the general direction and approach for the new framework, which are described below, we strive to address changes in society as a whole and within our company, and to accommodate the wide range of working styles people adopt today.

### New Personnel Framework Approach

- Deal with employees primarily based on their roles and actions
- Clearly explain systems, rules and similar; improve transparency; and put a strong emphasis on fairness
- Provide increased opportunities to actively participate

## Our Foundations for Value Creation

### Creating Vibrant Workplace Environments

#### Industrial Safety and Health Initiatives

We think that the basis of a corporate activity for a company that offers highly reliable products is the safety and health of the employees. While aspiring to build a "human-friendly company" that strives to improve the safety and health of the employees, all our employees are actively engaged in working on industrial safety and health initiatives.

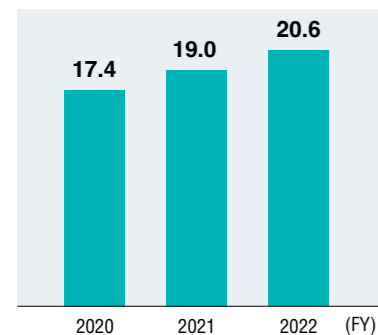
#### Shifts in Employment Rate of People with Disabilities

Oriental Motor has continued to exceed the legal standards with hiring people with disabilities.

#### Diversity Promotion Initiatives

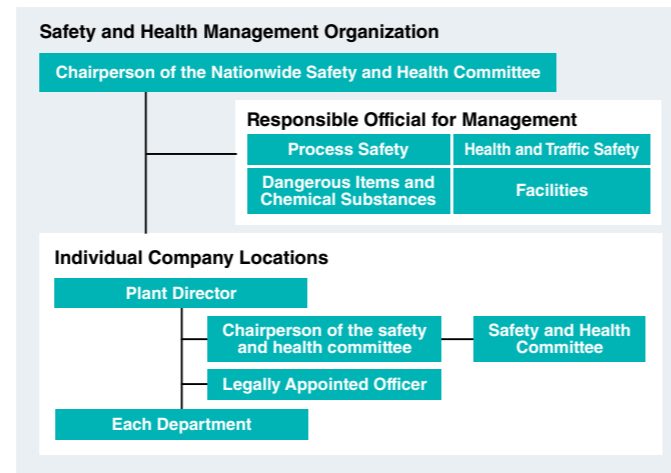
In FY 2022, we launched a new version of our Action Plan for Promoting Women's Active Participation and Advancement in the Workplace. With the goal of achieving the plan's targets in three years' time, we embarked on a number of different activities during its initial year. Oriental Motor's active participation and advancement efforts for women date back to 2014, and diversity promotion initiatives carried out with consideration for real-life conditions have effected gradual but steady change over the years. We intend to continue pursuing activities aimed at fostering human resources who are capable of adapting flexibly to increasingly diverse works styles and work environment changes.

#### Rate Shifts in Female Chiefs

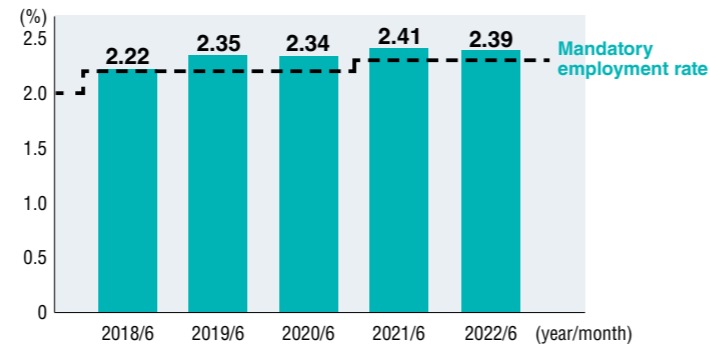


Received "Eruboshi" certification (level 2) as an excellent company based on the Act on Promotion of Women's Participation and Advancement in the Workplace

#### Organizational Structure to Promote Activities on Safety and Health



#### Shifts in Employment Rate of People with Disabilities



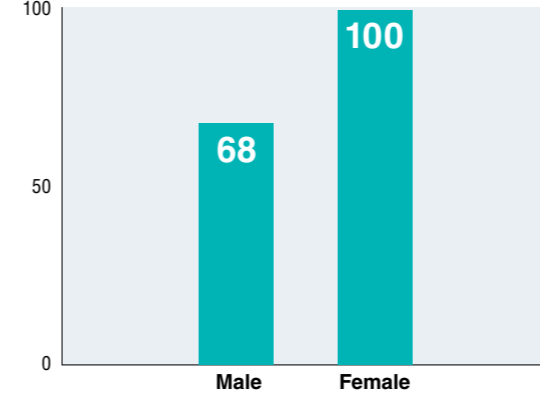
#### Results of Action Plan for Promotion Activity of Women's Active Participation and Advancement in the Workplace

<b>Plan Period</b>	Three years from April 1, 2022 to March 31, 2025
<b>Action Plan Target</b>	(1) Raise the rate of female section chiefs to <b>23%</b> (at 20.6% as of March 2023) (2) Maintain paid leave usage rates of <b>65%</b> or higher
<b>Activity Details</b>	<b>Activities Conducted in FY 2022</b> <ul style="list-style-type: none"> <li>Workshops and discussion meetings regarding managerial appointments</li> <li>Mid- and long-term career development support, and promoting aspirations toward managerial roles</li> <li>Cultivation of workplaces that are comfortable for everyone</li> <li>Productivity improvements through initiatives for health and productivity management</li> </ul>
<b>Activity Results</b>	Rate of female chiefs: <b>20.6%</b>

### Promoting Work-Life Balance

#### Supporting to Achieve a Balance between Work and Childcare

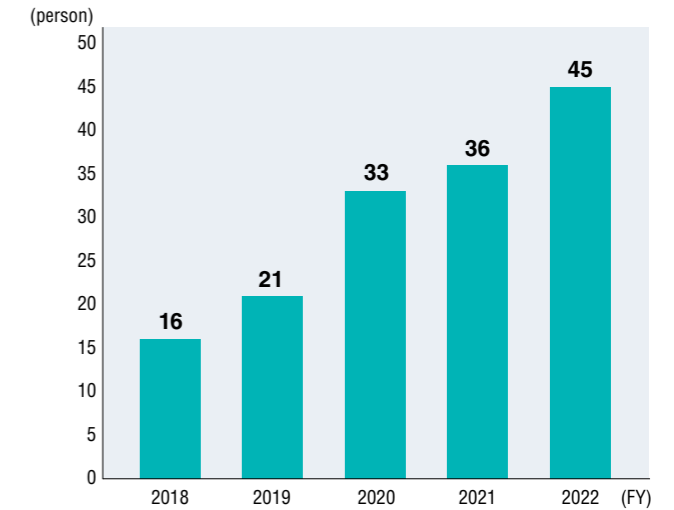
##### Childcare Leave Rates Taken by Employees in FY 2022



Obtained "Platinum Kurumin" certification as a company that supports raising children

#### Supporting to Achieve a Balance between Work and Family Care

##### Family Care Leave Applicants

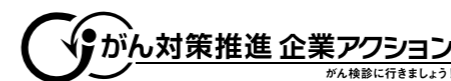
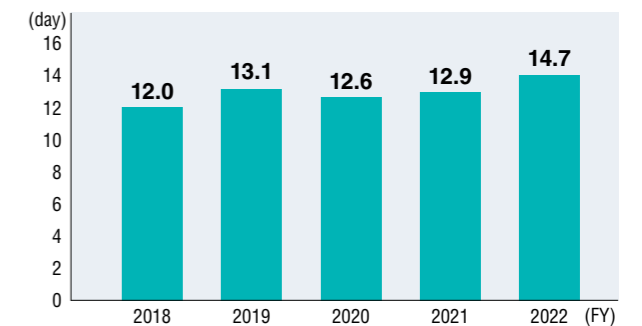


#### Supporting to Achieve a Balance between Work and Medical Treatment

##### Number of Applicants Utilized the Program in FY 2022 (Basic unit: person)

Details	Number of Applicants Utilized the Program
Leave for Hospitalization and Recovery	8
Leave for Medical Treatment	7
Adjusted Shorter Work Hours	0

##### Number of Paid Time Off Taken by Employees



Registered to become a partner company for the "Action for Promoting Cancer Control" promoted by the Ministry of Health, Labor and Welfare

## Corporate Governance/Risk Management

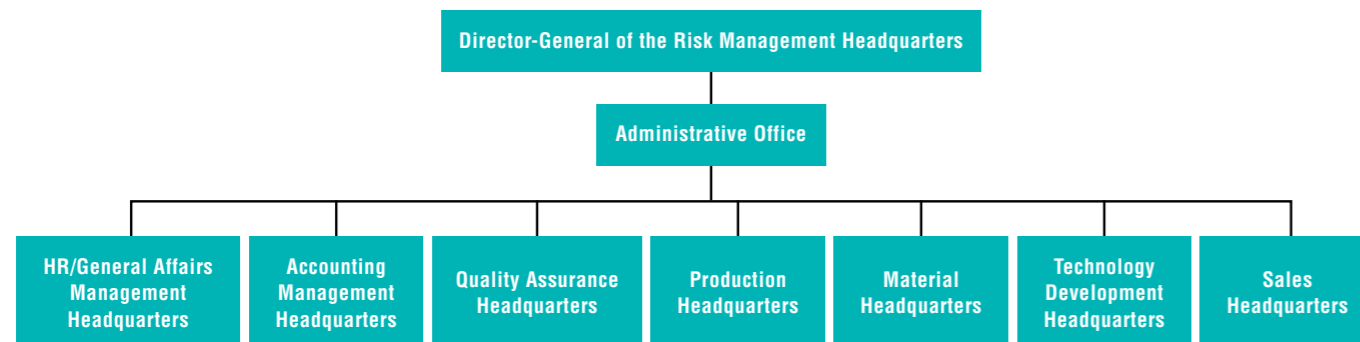
### Business Continuity Plan (BCP)

We have established a risk management system and other basic points as the risk management regulations, so that we can ensure the safety of our employees and local residents. At the same time, we practice quality control of our products, carrying out the social responsibilities and duties as a company.

#### Policy

1. We shall give top priority to the safety of our employees, their families and visitors.
2. We shall preserve our company assets (building, machines/equipment, raw materials/products/semiconductors, etc.).
3. We shall work on quick recovery and the continuity of business operations.
4. We shall always give top priority to humanitarian aspects when corresponding to various issues.
5. We shall continuously improve measures against risks.

#### Risk Management Organization



### Risk Overview and Response

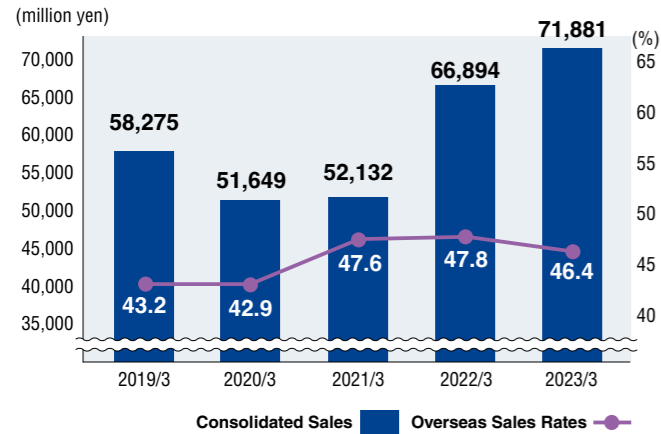
By clearly identifying risks that may interfere with sustained business activities and taking appropriate action in response to these risks, we can prevent loss of society's trust and discontinuation of business activities.

#### Anticipated Risks and Countermeasures

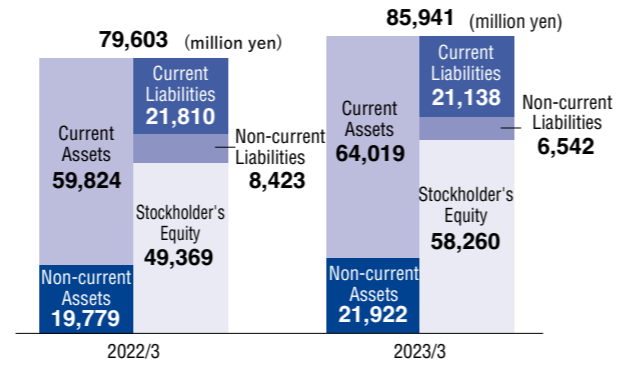
Risk items	Anticipated risks	Countermeasures for risks
<b>Material procurement</b>	<ul style="list-style-type: none"> <li>Supply difficulty and shortage due to natural disasters, etc.</li> <li>Human rights violations, natural environment destruction, and violent conflicts via mineral procurement from regions at risk of conflict</li> </ul>	<ul style="list-style-type: none"> <li>Proper inventory management</li> <li>Research and selection of replacement parts / materials</li> <li>Expansion of suppliers</li> <li>Conflict mineral investigations and responsible mineral procurement</li> </ul>
<b>Disasters</b>	<ul style="list-style-type: none"> <li>Interruption of business activity due to EE's / facilities affected by the disaster</li> <li>Parts supply shortage due to disruption of infrastructure / supply chain crisis</li> </ul>	<ul style="list-style-type: none"> <li>Quick recovery of supply system by decentralizing production sites and suppliers</li> <li>Operation of safety confirmation system for our EE's</li> </ul>
<b>Pandemics</b>	<ul style="list-style-type: none"> <li>Interruption of business activity due to an outbreak of group infection in the company</li> <li>Delay and cost increase in material supply, and impact on revenue due to the prolonged COVID-19 pandemic</li> </ul>	<ul style="list-style-type: none"> <li>Continuation of infection prevention measures at workplace</li> <li>Utilization of online tools and remote work</li> <li>Information exchange / monitoring with our suppliers</li> </ul>
<b>Product supply</b>	<ul style="list-style-type: none"> <li>Stagnation in product supply</li> <li>Rise in shipping and logistics costs</li> </ul>	<ul style="list-style-type: none"> <li>Decentralization of our production sites</li> <li>Diversified transportation means</li> </ul>
<b>Safety of products</b>	<ul style="list-style-type: none"> <li>Injuries to people, health impairment</li> <li>Damage to users' possessions or environment</li> <li>Restitutions and lawsuits associated with these claims</li> </ul>	<ul style="list-style-type: none"> <li>Product designs compliance with regulations and standards, acquisition of third-party certifications</li> <li>Establishing a conformity assessment testing system based on the ISO/IEC17025 laboratory management system</li> <li>Building a quality assurance system, realizing traceability within the entire supply chain, prompt information sharing in case of failure</li> </ul>
<b>Compliance</b>	<ul style="list-style-type: none"> <li>Penalty by statute and revocation of permits</li> <li>Loss of stakeholder trust</li> <li>Business getting sued, tarnished reputation or image</li> </ul>	<ul style="list-style-type: none"> <li>Thoroughly raising awareness of legal compliance</li> <li>Establishing a "mechanism that ensures undeviating compliance with rules" managed by the system</li> <li>Periodically conducting research on legal revision information, and making the information visible to relevant departments</li> <li>Reinforcing the auditing system</li> </ul>
<b>Currency exchange</b>	<ul style="list-style-type: none"> <li>Exchange rate fluctuation for transaction value and foreign-currency-denominated claims / liabilities (such as conducting business of export and import in foreign currency)</li> <li>Exchange rate fluctuation for individual financial statements of overseas consolidated subsidiaries</li> </ul>	<ul style="list-style-type: none"> <li>Conducting exchange reservation with some of the foreign-currency-denominated claims for the purpose of reducing price fluctuation risks</li> </ul>
<b>Information system</b>	<ul style="list-style-type: none"> <li>Data breach, data falsification, shutdown of service, and crashing of the system associated with cyberattacks</li> <li>Breach of personal information and confidential information</li> </ul>	<ul style="list-style-type: none"> <li>Building high-security infostructure</li> <li>Making continued efforts to provide education for EE's on information security</li> <li>Complying with each country's laws that stipulate personal information</li> </ul>
<b>Ensuring adequate manpower</b>	<ul style="list-style-type: none"> <li>Changes in employment conditions caused by declining working populations and other factors</li> <li>Changes in people's views on employment</li> </ul>	<ul style="list-style-type: none"> <li>Implementing mechanisms that allow diversified work styles</li> <li>Building an organization that allows all EE's to thrive at work</li> </ul>
<b>Industrial safety and health</b>	<ul style="list-style-type: none"> <li>Workplace injuries, traffic accidents, illnesses</li> </ul>	<ul style="list-style-type: none"> <li>Establishing an organizational structure to promote activities on safety and health</li> <li>Improving safety awareness through safety and health education</li> <li>Conducting continued activities such as risk assessments to reduce workplace injuries</li> </ul>
<b>Intellectual property</b>	<ul style="list-style-type: none"> <li>Violation of intellectual property rights by a third party</li> </ul>	<ul style="list-style-type: none"> <li>Establishing departments to manage intellectual property</li> <li>Performing a regular survey to check other companies' rights and to find any violations made by other companies</li> <li>Applying for rights from an early stage of product development</li> </ul>

## Business Performance

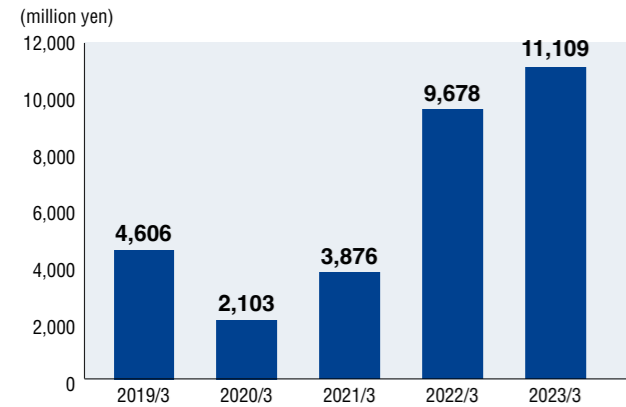
### Consolidated Sales and Overseas Sales Rates



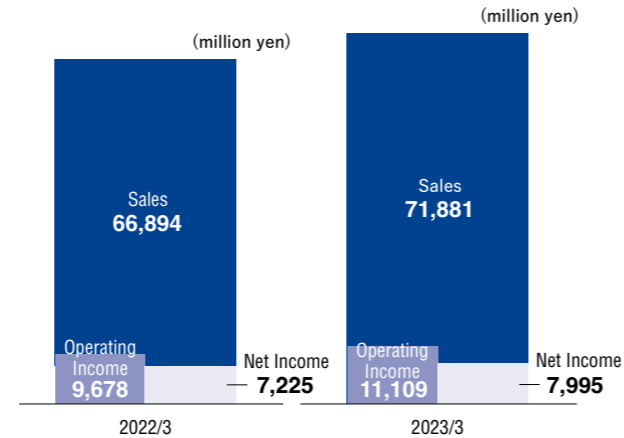
### Overview of Consolidated Balance Sheet



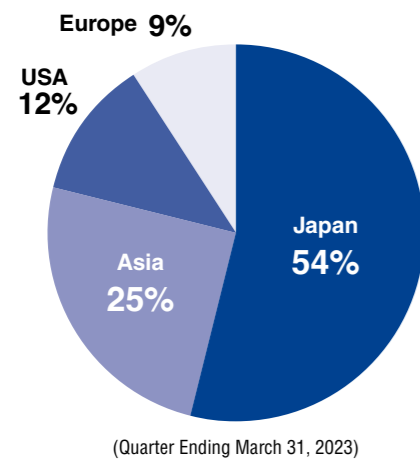
### Chart of Consolidated Operating Profit



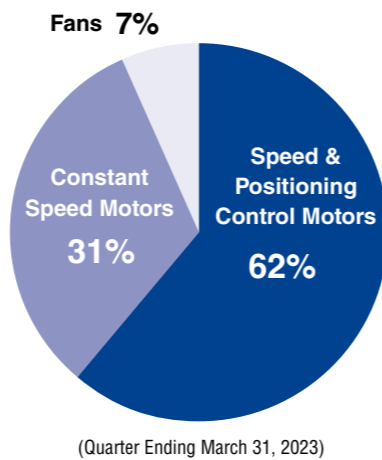
### Overview of Consolidated Income Statements



### Consolidated Sales Rates by Region



### Consolidated Sales Rates by Business



## Company Profile

Company Name	ORIENTAL MOTOR CO., LTD.	Capital	4.1 billion yen
Headquarters	4-8-1, Higashiueno, Taito-ku, Tokyo, Japan	Sales	Consolidated 71.8 billion yen (Quarter Ending March 31, 2023)
Representative	President Eiji Kawahito	Number of Employees	Consolidated 3,042 (as of March 31, 2023)
Founded	1885	Company Activities	Development, manufacture and sale of small precision motors and electronic circuits for motion control
Incorporated	1950	Correspondent Banks	The Chiba Bank, Ltd. / Sumitomo Mitsui Banking Corporation MUFG Bank, Ltd. / The Hyakujushi Bank, Ltd. The Jyo Bank, Ltd. / THE SHONAI BANK, Ltd. Mizuho Bank, Ltd.

### List of Plants, Factories and Offices

#### Plants

Tsuruoka-Chuo Plant  
Tsuruoka-Nishi Plant  
Soma Plant  
Tsukuba Plant  
Tsuchiura Plant  
Kashiwa Plant  
Kofu Plant  
Takamatsu-Kozai Plant  
Takamatsu-Kokubunji Plant

#### Offices

Tokyo Branch Office  
Kitakami Office  
Sendai Branch Office  
Mito Office  
Utsunomiya Office  
Kumagaya Office  
Minami-Kanto Branch Office  
Niigata Office  
Suwa Office  
Kofu Office  
Nagoya Branch Office  
Toyota Office  
Shizuoka Office  
Kanazawa Office  
Toyama Office  
Osaka Branch Office  
Kyoto Branch Office  
Shiga Office  
Hyogo Office  
Okayama Office  
Hiroshima Office  
Kyushu Branch Office  
Kumamoto Office

#### Affiliated Companies

##### Inside Japan

ORIMVEXTA CO., LTD.  
Sales Department 1 (Eastern Japan)  
Sales Department 2 (Central Japan / Western Japan)  
NOSHIRO ORIENTAL MOTOR CO., LTD.  
SHONAI ORIENTAL MOTOR TECH CO., LTD.  
Tsuruoka Plant  
Sakata Plant  
Sakata Second Plant  
ORIENTAL MOTOR TECH CO., LTD.  
Joso Plant  
Soma Tech Company  
ORIENTAL MOTOR BUSINESS CO., LTD.

##### Outside Japan

● **USA/Canada**  
ORIENTAL MOTOR U.S.A. CORP.  
Los Angeles HQ/San Jose/Chicago/Toronto/Boston

● **Germany**  
ORIENTAL MOTOR (EUROPA) GmbH  
Dusseldorf HQ/Munich/Hamburg/Stuttgart/Frankfurt/Nuremberg/Berlin

● **UK**  
ORIENTAL MOTOR (UK) LTD  
Basingstoke HQ/Birmingham

● **France**  
ORIENTAL MOTOR (FRANCE) SARL  
Paris HQ/Lyon

● **Italy**  
ORIENTAL MOTOR ITALIA s.r.l.  
Milan HQ/Bologna/Verona/Pordenone

● **Switzerland**  
ORIENTAL MOTOR SWITZERLAND AG  
Zurich HQ

● **Spain**  
ORIENTAL MOTOR (EUROPA) GmbH SPAIN BRANCH  
Madrid

● **China**  
SHANGHAI ORIENTAL MOTOR CO., LTD.  
Shanghai HQ/Beijing/Dalian/Suzhou/Hangzhou/Guangzhou/Shenzhen/Dongguan/Wuhan  
XIAMEN ORIENTAL MOTOR CO., LTD.  
GUANGZHOU ORIENTAL MOTOR CO., LTD.  
SUZHOU ORIENTAL MOTOR CO., LTD.

● **Taiwan**  
TAIWAN ORIENTAL MOTOR CO., LTD.  
Taipei HQ/Hsinchu/Taichung/Kaohsiung

● **South Korea**  
INA ORIENTAL MOTOR CO., LTD.  
Incheon HQ/Seoul/Suwon/Tiananmen/Daejeon/Daegu/Gwangju/Busan

● **Singapore**  
ORIENTAL MOTOR ASIA PACIFIC PTE. LTD.  
Singapore HQ

● **Malaysia**  
ORIENTAL MOTOR (MALAYSIA) SDN. BHD.  
Kuala Lumpur HQ/Penang

● **Thailand**  
ORIENTAL MOTOR (THAILAND) CO., LTD.  
Bangkok HQ/Ayuthaya/Chonburi

● **India**  
ORIENTAL MOTOR (INDIA) PVT. LTD.  
Bangalore HQ



**ORIENTAL MOTOR CO., LTD.** <https://www.orientalmotor.co.jp>  
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