



Orientalmotor

Oriental Motor Report 2024

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.



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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.

Scope of Reporting

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

Term of Reporting

From April 1, 2023, to March 31, 2024
Partially includes some information other than the term indicated above

Issuance Date

June 2024



Continuing to Take on Challenges and Provide New Value

Looking Back on Fiscal Year 2023

Compared to FY 2022 when we achieved record high sales, our sales decreased in FY 2023 due to the ongoing situation of inventory adjustments mainly in the semiconductor manufacturing equipment industry. As we embark on sales expansion in the coming years, we have started activities in line with the medium-term management plan with the goal of a significant sales increase by the year 2028. One of these activities is to strengthen our efforts to penetrate new markets, such as the robot business and sensor business, in addition to our existing businesses, in order to meet the rapidly advancing automation needs in the industries.

In FY 2024, we will continue to develop products with a sense of urgency so that we wouldn't stem the tide of this trend, while working on expanding customer support channels. In regard to infrastructural measures to support manufacturing from the perspective of a business continuity plan (BCP), as a countermeasure against flooding, we made

extensions to the existing building of Noshiro Oriental Motor in FY 2023, as well as establishing a new building at the Tsuruoka-Chuo Plant. We continuously make a systematic effort to build a positive work environment that helps our employees feel safe and secure at work. In addition, we installed the solar PV self-consumption power system at the Takamatsu-Kokubunji Plant, Soma Plant and Tsukuba Plant to continue promoting activities to achieve the carbon neutrality target.

One Year Passed Since Establishing Our Mission and Vision Statements New Employee Assessment System Has Also Been Implemented

In February 2022, we established our corporate mission and vision statements as Oriental Motor's promise to society. In FY 2023, to further indicate the direction that individual employees should take, we incorporated them into the mission and vision of each department and actively worked to instill them throughout the company. Going forward,

we strive to continuously transform our actions through each employee's effort to embody the mission and vision that will lead to specific actions.

To ensure the growth of Oriental Motor over the next decade and beyond, it is vital that we build a vibrant workplace where each and every employee can work with a sense of purpose while fully utilizing their strengths.

Based on this concept, we re-evaluated and overhauled our existing employee assessment system and started using the new system in FY 2023. By clarifying each employee's role and required capabilities, we will continue creating a work environment that each employee can play an active role while feeling a sense of security.

Striving to Become a Motion System Manufacturer

Due to the increasingly serious labor shortage and challenging issues to improve productivity and quality in the industries, the need for automation and labor saving continues to grow, requiring motion to contribute

to overall equipment. While Oriental Motor continues to take on new challenges and provide new value, we continuously and consistently evolve to become a motion control system manufacturer that delivers excitements through not only motors as one driving force but also motion control systems that surpass customers' expectations. We strive to contribute to all types of motion that customers want to create.

President

川人英二
Eiji Kawahito

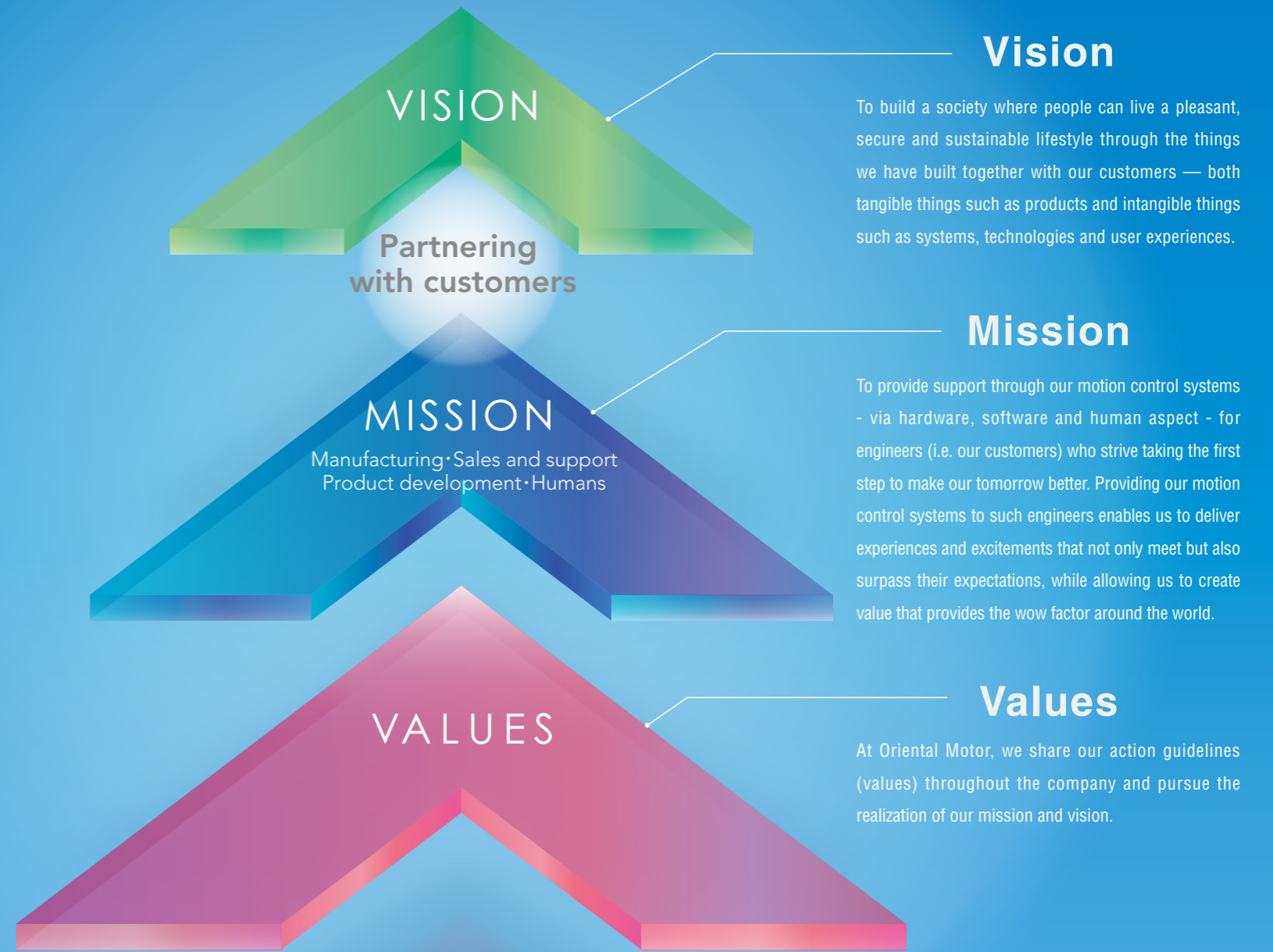
For continuous growth with our customers

Goals of Oriental Motor

We have developed optimal products and delivered them all over the world in order to realize motion that matches the times as required in various fields such as industrial, healthcare, food and transportation.

As engineers around the world develop and improve new products and equipment, they may face challenging moments, wishing that they would be able to create a certain type of “motion” with a specific “control” that would make it possible for them to meet a “particular need.” Oriental Motor has been helping such engineers accomplish their goals through a variety of products and services, and this has been our unwavering approach to business for decades.

We promise our customers that Oriental Motor’s first product will lead them to take the first step toward reaching their full potential for creativity.



To solve social problems

Technologies / Product Performance

Product Technology

- Bases**
 - Electrical / Electronic Engineering
 - Control Engineering
 - Mechanical Engineering
- Designing**
 - Magnetism
 - Circuits
 - Structures
 - Software
 - Low Loss
- Analysis / Assessment**
 - Structures
 - Vibration
 - Sound
 - Fluid
 - Heat
 - Insulation
- Analysis / Measurement**
 - SEM
 - Fluorescent X-Ray
 - Spectral Photometer
- Related Technologies**
 - Network
 - 3DCAD
 - Sensors
 - Tribology
- Assembly / Automation**
 - Windings
 - Adhesives
 - Fastening
 - Industrial Robot
- Processing**
 - Cutting
 - Painting
 - Heat Treatment
 - High-Precision Gear Cutting
- Molds**
 - Press
 - Die-Casting
 - Resin Molding
- Mounting**
 - Surface Mounting
 - Image Inspection
 - Lead-Free Soldering

- 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



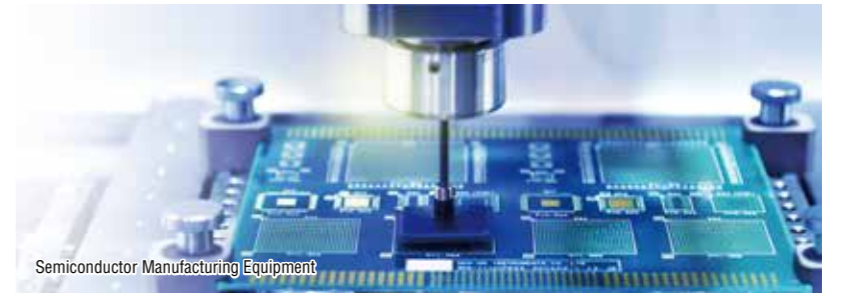
Cooling Fans



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



Medical Equipment / Analytical Instrument

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



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



Traffic and Transit Operation Equipment

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



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



Contribution to the Demand for Robots

To realize the optimal motion for customers

The demand for robots is increasing in response to challenges in automation and labor saving at production sites in all industries. At Oriental Motor, we are committed to providing optimal motion that contributes to the automation of our customers' production sites.

Focusing on the in-house production and deployment of robots

Currently, due to the ongoing issues such as a labor shortage and lack of technical knowledge dissemination, automation of production processes has become a pressing challenge mainly in the manufacturing industry, resulting in an increase in the demand for robots at production sites.

In particular, automation of certain processes, such as transferring parts and simple tasks performed by humans in the past, has become very effective with the introduction and deployment of robots, drawing more attention from many companies.

On the other hand, barriers to introducing and deploying industrial robots remain high from a cost and hassle standpoint.

To make a contribution, we focused on the in-house production (internalization) of robots by customers.

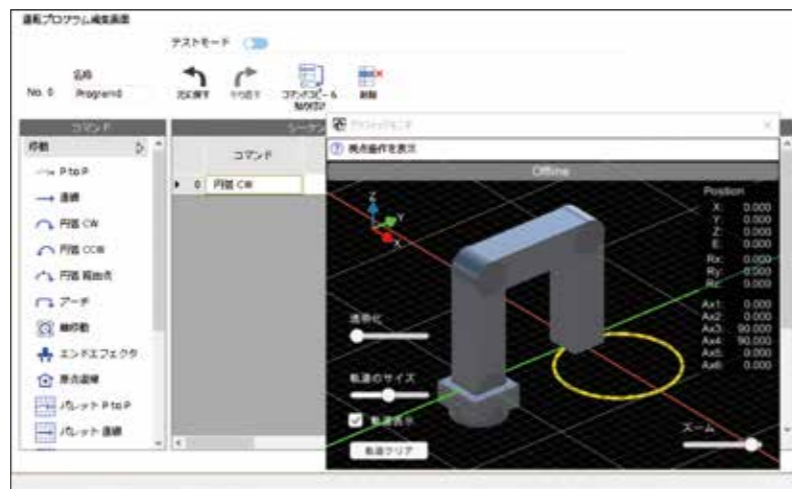
Reducing barriers for programming and motion control

When trying to build an in-house robot, the first challenge generally people face is that programming and motion control have a great deal of difficulty.

Therefore, in 2022, we developed and released the **MRC01**, a robot controller for articulated, SCARA and Cartesian robots, driven by the **αSTEP AZ** Series equipped with a battery-free absolute sensor. We also developed and released the **MRC Studio** (free download) as the dedicated programming software.

Successfully realizing configuration of a robotic vision system

With the use of the programming software that can be easily set up even by beginners, we successfully reduced barriers to programming and motion control for customers, and this has allowed us to support customers to efficiently build their own in-house robots. In FY 2023, we also added the robotic vision function by integrating a 2D camera. This enabled the configuration of a robotic vision system for operating a robot using load position and angle information acquired by the camera at low cost. We have also increased robot operation patterns that can be supported, including parallel links, to enhance usability.



Recommendation for automation and robot deployment through demonstration



From left: Demo machines for "Inserting and aligning loads," "Assembling and press-fitting loads," "Inspecting appearance of loads" and "Disassembling loads"

At the trade shows participated in 2023 as well as the private exhibition Oriental Motor Fair, we presented each process with demo machines. We were able to provide many visitors with useful information as their equipment design tips.



International Robot Exhibition 2023 Oriental Motor Fair 2023



Contributing to simple automation for customers

In conjunction with supporting the in-house production of robots, our affiliated company, Orim Vexta, launched the **OVR** Series of industrial robots that are suitable for vertical and horizontal transport. While promoting the in-house production, we identified various challenging issues related to design load, such as mechanism design of gears and ball screws, layout and wiring of sensors, etc. We aim to solve such issues with our small industrial robots **OVR**.

In 2023, we promoted our articulated robots, as well as the flat and lightweight SCARA robots that are capable of approaching narrower spaces than general SCARA robots.

Helping Solve Issues for More Customers

In FY 2024, in an effort to provide the optimal motion to meet the demand that customers have toward robots, we continue to expand the product lines of our small industrial robots **OVR**. In order for the Oriental Motor Group as a whole to further help customers combat with challenges posed by automation and labor shortages, Oriental Motor started selling these products in June 2024, in addition to our affiliated company, Orim Vexta.

Eliminating Losses and Inefficiencies from Production Sites for Enhanced Productivity

TPM activities started at the Takamatsu-Kokubunji plant in FY 2020. "Total Productive Maintenance (TPM)" refers to activities in which all employees participate to eliminate losses and inefficiencies from production sites. At Oriental Motor, as one of our efforts to improve productivity, we are implementing TPM activities at all our plants in order to maintain a stable supply to our customers.

Expanding TPM activities to all plants

Objectives for TPM activities are to reduce production loss, restore the condition of the production site to where it can fully reach its production potential as it was designed to perform, and improve its production capacity in a sustainable manner by maintaining the condition. To attain the company-wide productivity target, we promote the PDCA cycle according to indicators for TPM activities. 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 engaging in implementing various measures.

we have expanded activities to Tsuruoka, Soma, and Tsuchiura. Starting in FY 2022, we appointed TPM Leaders who are certified TPM instructors and have deployed cross-organizational activities, serving as a flag bearer at each location. In FY 2023, we started the Autonomous Maintenance Subcommittee, where production line members who share the same equipment and tasks at each site discuss their questions and concerns with one another. This allows the members to not only increase their motivation but also take what they learned from one another back to their locations and apply the gained ideas to further promote their activities across the production sites. We aim to firmly establish and evolve this as Oriental Motor's TPM activities.

From the start of activities at the Takamatsu-Kokubunji plant in 2020,

Plants	2019	2020	2021	2022	2023
	Preparation phase	Introduction phase	Expansion phase	Stabilization phase	Autonomy phase
Takamatsu	Loss elimination awareness-raising activities	2-pillar activities Autonomous maintenance activities	5-pillar activities Entire manufacturing group	8-pillar activities Entire Takamatsu plant Appointed TPM Leaders	8-pillar activities TPM Excellence Award
Tsuchiura-Soma-Tsuchiura		Scaling up from one site to multiple sites	Introduction phase 3-pillar activities Planned maintenance activities Quality maintenance activities	Expansion phase 5-pillar activities Appointed TPM Leaders	Stabilization phase 5-pillar activities Started line member activities



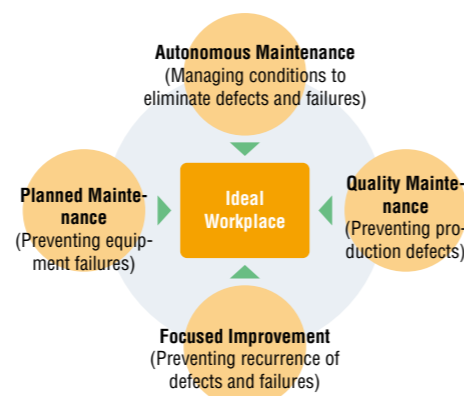
Activities from the introduction of TPM to the present

JMA Consultants Inc.
Mr. Masao Kubo

As a TPM activity consultant for the Takamatsu, Tsuruoka, Tsuchiura, and Soma Plants, I've got a sense that all 4 plants are very receptive to the activities, and that is the greatest strength of each plant. Also, these plants have thoroughly established a growth mindset of embracing curiosity, seeking clarification when needed, and actively applying knowledge as they acquire it.

Furthermore, the concept of "metabolism of thinking" has been in the process of being firmly established through the activities. We have seen a major shift from a reactive approach to maintenance, where issues are addressed only after they arise, to a proactive approach focused on preventing defects and failures from occurring in the first place. This has led to successful case studies of zero defects and failures.

I look forward to seeing the growth of Oriental Motor becoming what they envision themselves to be, with the aim of maintaining and further upgrading the achievements of activities, such as developing specialists in the 4-pillar activities and conducting an organizational diagnosis by the top management team of each site every 6 months.



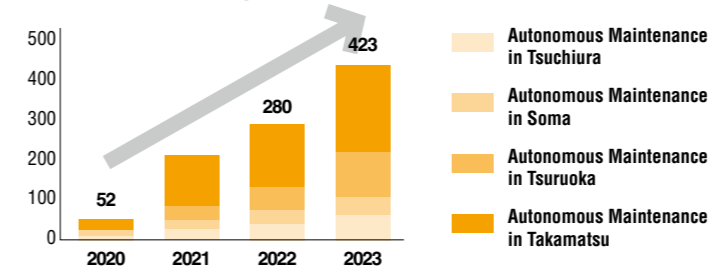
Full-scale activities for making achievements

With TPM Leaders as a flag bearer, we have promoted activities for (1) Autonomous Maintenance, (2) Quality Maintenance, and (3) Planned Maintenance, as a company-wide initiative for TPM activities.

(1) Autonomous Maintenance Activities

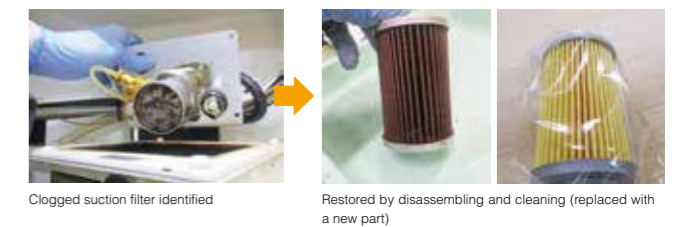
The primary objective of this activity is to empower production line members to get involved in maintaining their own equipment. By promoting the activity through taking certain steps tailored to the processes of their production lines, operators get involved in restoring their own equipment and lines back to the required standards, which help them identify and clarify items and cycles for maintenance and management.

Numbers of Participants in Autonomous Maintenance



Steps for autonomous maintenance activities

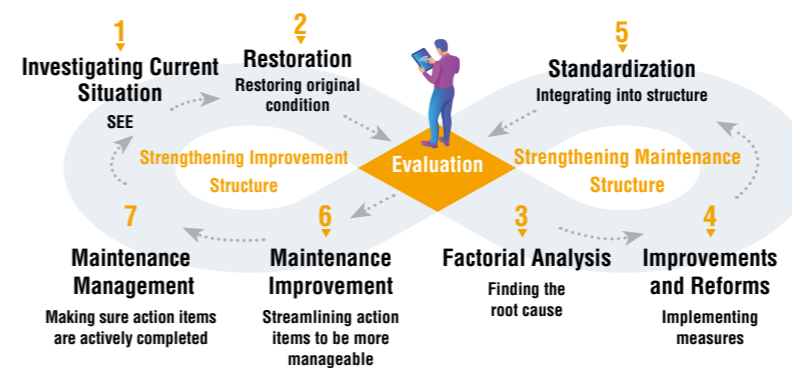
STEP1	STEP2	STEP3	STEP4
Early stage cleaning	Countermeasures for defect sources and difficult areas	Formulating provisional standards	Overall inspection



(2) Quality Maintenance Activities

The objective of this activity is to eradicate defects by maintaining and managing proper conditions that allow equipment to operate flawlessly without any defects. This activity, which adopted the "8-Shaped Cycle" approach, aims to eliminate defects through equipment reliability by strengthening the maintenance and improvement structures while taking the 7 circular steps indicated in the diagram below.

The "8-Shaped Cycle" approach intended to bolster maintenance and improvement structures



(3) Planned Maintenance Activities

Based on the preventive maintenance approach where the focus is on proactively identifying and addressing potential issues with equipment rather than simply repairing problems once they occur, this activity aims to establish a system for efficient equipment management with the minimum maintenance cost, while ensuring the reliability of equipment. Our employees who familiarized themselves with specific equipment serve as an expert in maintenance to establish a maintenance system in all aspects.



Takamatsu Company received the TPM Excellence Award

Takamatsu Company (Kozai Plant and Kokubunji Plant) was highly recognized by the Japan Institute of Plant Maintenance (JIPM) for their outstanding activities over 4 years and received the 2023 TPM Award for TPM Excellence, Category A. We will continue to contribute to productivity enhancement by eliminating all losses through TPM activities.



For more environmentally friendly moments of motion

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.

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.

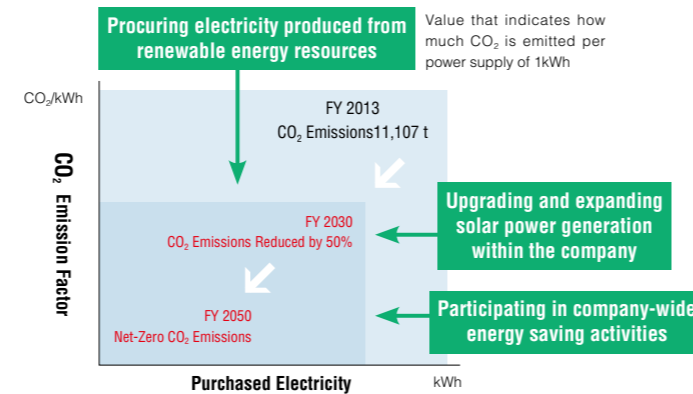
To accomplish these objectives, we shall establish and operate an environmental management system, and make continual improvements to this system. Furthermore, we shall actively disclose information on our environmental activities as part of our efforts to communicate with communities.

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

Carbon Neutrality Initiatives

To address social issues, such as climate change and resource circulation, we undertake activities related to both products and business operations at all domestic sites, including affiliate companies. For the reduction of greenhouse gas emissions in Scopes 1 and 2, we have set goals to have net-zero CO₂ emissions associated with the production activities by 2050 and to reduce CO₂ emissions by 50% compared with that of FY 2013 by 2030.

We conduct business activities with the three pillars as shown in the chart below. Electricity accounts for approximately 90 percent of Oriental Motor's CO₂ emissions. By replacing current energy sources with renewable alternatives in a planned manner, we expect to have considerable reductions in CO₂ emissions. In FY 2023, we introduced a self-consumption solar power generation system into the Takamatsu-Kokubunji plant, the Tsukuba plant, and the Soma plant, and started using renewable energy. On top of energy-saving measures in our production operations, all employees participate in company-wide energy saving activities.



In Scope 3, Category 11 (CO₂ emissions from product use) accounts for approximately 90% of Oriental Motor's overall supply chain emissions. For this reason, by proactively providing customers with environmentally friendly products, we make substantial contribution to the reduction of CO₂ emissions and resource saving during product use.

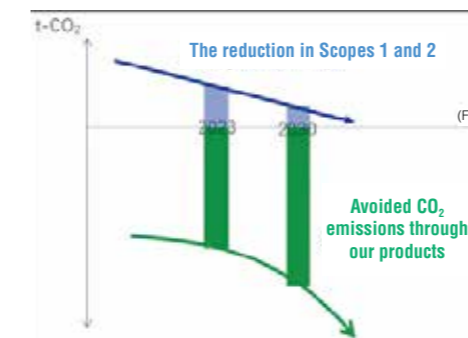
Measures for CO₂ emission reduction

CO₂ emissions (Scopes 1, 2, and 3): FY 2023 results

Our company		Upstream and downstream supply chain		
Scope1	Scope2	Scope3		
<p>Combustion of fuel 0.8 thousand t-CO₂</p>	<p>Consumption of electricity 7.4 thousand t-CO₂</p>	<p>Production of parts 138.8 thousand t-CO₂</p>	<p>Transportation 11.6 thousand t-CO₂</p>	<p>Use of products 2,044 thousand t-CO₂</p>
		<p>Commuting and business trips 1.4 thousand t-CO₂</p>	<p>Other 1.4 thousand t-CO₂</p>	

· Scope1 : Direct greenhouse gas emissions by a business operator (combustion of fuel and industrial processes)
· Scope2 : Indirect emissions associated with the consumption of electricity supplied by other companies
· Scope3 : Indirect emissions other than Scope 1 and Scope 2 (emissions from other companies related to the business operator's activities); accounted for Categories 1, 3, 4, 5, 6, 7, and 11 out of the 15 categories

Avoided emissions through our products



Examples of contribution to customers through our products

Brushless Motor

When energy-saving motors are selected for speed adjustment in conveyance, agitation, and winding, CO₂ emissions are reduced through smaller power consumption.



	AC Motors	Brushless Motor	Avoided emissions
Power consumption (kWh/year)	1,068.7	665.8	402.9
CO₂ Emissions (kg/year)	484	302	182

· Conditions for use
Daily operating time: 24 hrs. annual operating days: 365, CO₂ emission factor: 0.453 kg-CO₂/kWh,
AC Motors : Output 60W, Single phase 200V, 60 Hz
Brushless Motor : BMU Series, Output 60W

Avoided emissions with our environmentally friendly products: 643 thousand t-CO₂

Avoided emissions represent CO₂ emissions that customers reduce by replacing conventional products and services with our products and services that are more environmentally friendly.

In FY 2023, we contributed to avoided emissions by 643 thousand t-CO₂, which is 78 times higher than in Scopes 1 and 2, which are directly associated with production.

Avoided emissions = CO₂ emissions from the use of conventional products - CO₂ emissions from the use of environmentally friendly products

(Ministry of the Environment: General Guidelines on Supply Chain GHG Emission Accounting)

Initiatives in Business Activities

Initiatives in Solar Power Generation

Oriental Motor's efforts in the area of solar power generation began after the 2011 Tohoku earthquake and tsunami disaster. In November 2013, we installed a 750-kilowatt facility at the Soma Plant under the feed-in tariff (FIT) system.

In FY 2023, we introduced renewable energy into three sites by installing a self-consumption solar power generation system. This solar power system is capable of supplying approximately 1.8 million kilowatt-hours of electric power annually, which means our company will internally generate 9.2 % of our annual electricity demand.

Moreover, we expect this system to reduce annual CO₂ emissions by 829 t-CO₂, 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.

October 2023: A 250 kW solar power generation system was installed on the rooftop of the Takamatsu-Kokubunji plant.

January 2024: A 375 kW carport solar power generation system was installed at the Tsukuba plant.

February 2024: A 1,000 kW outdoor solar power generation system (flat and vertical) was installed at the Soma plant.



Takamatsu-Kokubunji Plant



Tsukuba Plant



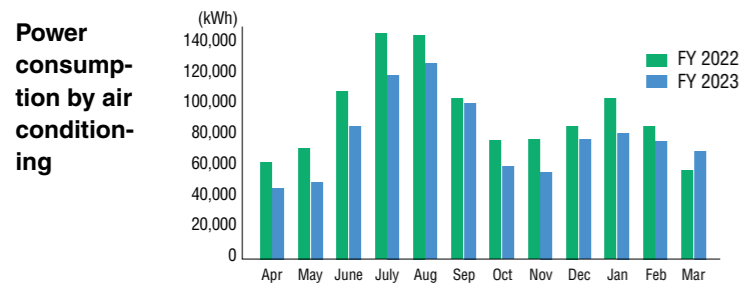
Soma Plant

Energy-saving Activities

We have launched carbon neutrality project activities at our plants for promoting energy saving activities through various measures.

Operation and management of air conditioning

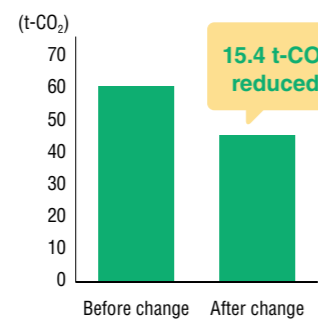
At the Tsuchiura plant, by visualizing the current air conditioning settings, verifying the appropriateness of the settings, and reviewing the operating conditions, we achieved reduction by 168,383 kWh/year and by 102.4 t-CO₂/year.



Review on standby power

In the Takamatsu area, we visualized unnecessary standby power at night and on holidays, reviewed air-conditioning operation, installed off timers, and introduced power taps with switches, thereby improving energy saving awareness and promoting activities by all employees. The Takamatsu-Kozai plant achieved reduction by 33,840 kWh/year and by 15.4 t-CO₂/year.

CO₂ emissions through reduced standby power: Takamatsu-Kozai Plant



Insulation coating on outdoor unit covers

At the Tsuruoka-Nishi plant, insulation coating was applied on outdoor unit covers. This took effect both in summer and in winter, achieving reduction by 5,000 kWh/year and by 2.3 t-CO₂/year. By expanding this activity across sites, we expect to reduce 25,000 kWh/year and 12 t-CO₂/year in FY 2024.



All lights replaced with LED lights

At the Soma plant, at the end of 2023, all lights, including floor lighting, workbench lighting, lighting in the equipment, and outdoor lighting in parking lots and elsewhere, were replaced with LED lights. This activity achieved reduction by 1,800 kWh/year and by 0.5 t-CO₂/year.

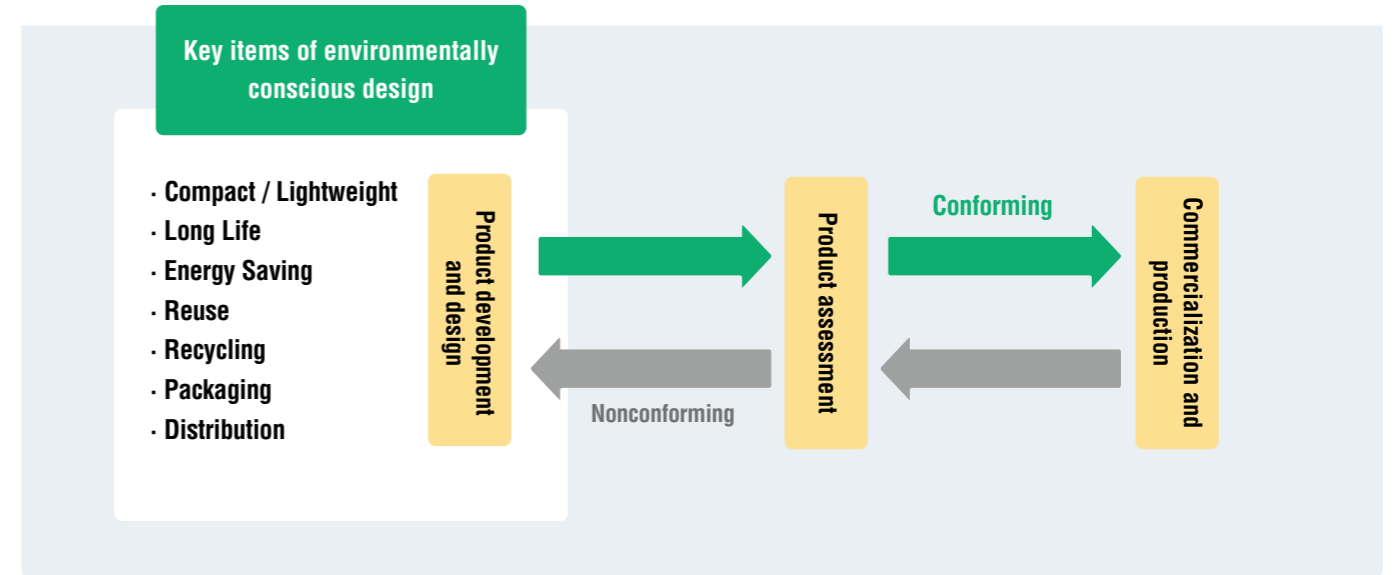


Initiatives in Products

Initiatives for Environmentally Conscious Design

Oriental Motor promotes environmentally conscious design (eco-design) toward a decarbonized society and is working to reduce the environmental impact of products from the development and design stages to the entire life cycle.

And we conduct product assessments to evaluate the environmental impact of our products in terms of resource conservation (compact and light weight), long life, energy saving, and safety and security, and we are promoting the development of environmentally conscious products.

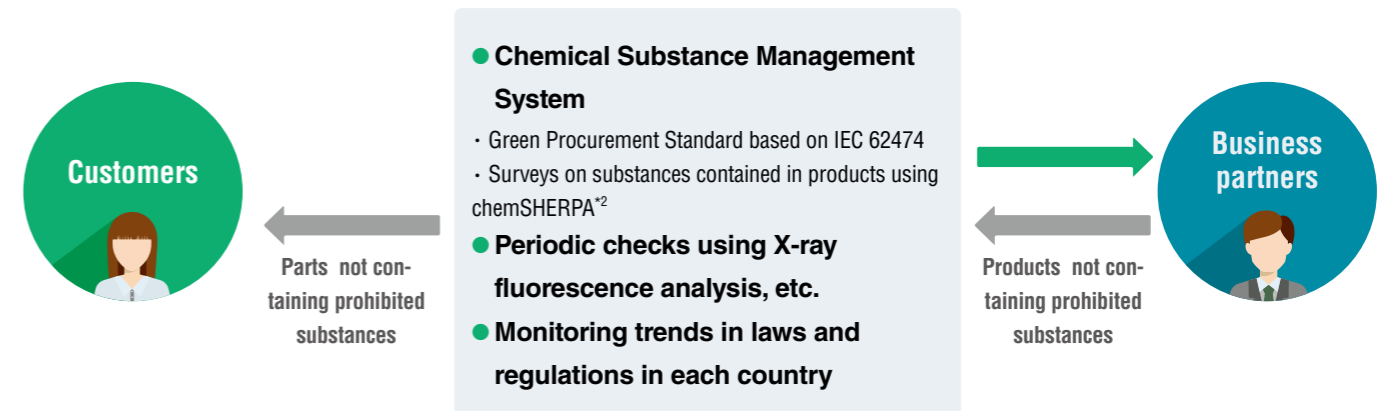


Compliance with Laws and Regulations on Chemical Substances Contained in Products

As part of our environmentally conscious design, Oriental Motor has formulated its Green Procurement Standard in accordance with the international standard IEC 62474^{*1} and conducts surveys on chemical substances contained in products.

From the development and design stage of products, we obtain information on chemical substances contained in component parts, materials, and ancillary materials with the cooperation of our business partners and manage the information using the in-house Chemical Substance Management System.

In addition, by monitoring trends in laws and regulations in each country and checking the impact on products at an early stage, we strive to provide products that customers can use safely and securely.



^{*1} An international standard that specifies the procedures and content of supply chain information provision regarding chemical substances and component parts contained in products in the electrical and electronics industry
^{*2} An information provision scheme developed by the Ministry of Economy, Trade and Industry (METI) with the aim of efficiently providing information on chemical substances contained in products throughout the supply chain

Products Contributing to the Environment FY 2023

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 CO₂ emissions, as well as other products that lead to resource saving and waste reduction.

BLV Series R Type 400W

We developed a driver compatible with DC 24 V input 400 W for the BLV-R series of brushless motors that pursue high output and compact size, thereby supporting the development of more compact battery-powered equipment.



Power Saving

By redesigning the motor structure to mitigate loss, this motor achieves lower power consumption compared with our conventional product. This extends duration per battery charge in battery-powered equipment, which in turn reduces the number of battery charges required.

Resource Saving

Controls and power supply unified with DC 24 V

- Point 1 Simple power supply design**
Systems that comprise unmanned conveyance robots, including battery power supplies and sensors, can be unified with DC 24 V.
- Point 2 Space saving and weight reduction**
Whereas equipment of DC 48 V uses four DC 12 V batteries, that of DC 24 V only requires two batteries, contributing to space saving and weight reduction.
- Point 3 Reduced power supplies**
This also leads to cost reduction with reduced battery power supplies.



αSTEP AZ Multi-axis driver, slim type

A single driver can control up to four motors simultaneously, and the slim type contributes to additional space saving of the entire equipment.

Resource Saving

We achieved substantial downsizing and weight reduction by reviewing parts and design. Substantial reduction in driver size also contributes to resource saving.

This also achieves compact and lightweight equipment for customers and reduces CO₂ emissions during transport and other operations.

Power Saving

The **AZ** series achieves high efficiency by optimizing the design. By reducing losses, power saving and low heat generation are realized, contributing to reduction of power consumption.

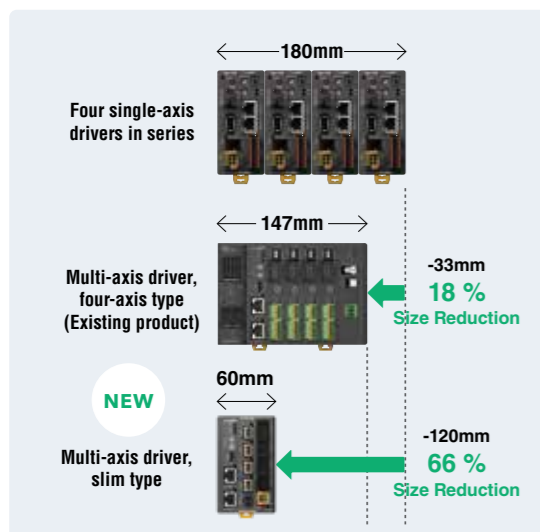
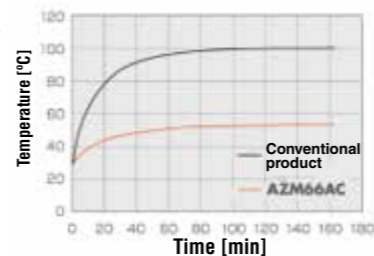
Power saving and low heat generation

Temperature distribution by thermography

Significantly reduces heat generation



Motor jacket temperature during operation under the same conditions



Environmental Performance FY 2023

With the aim of maintaining and improving the global environment, we are working to reduce environmental impact through our business activities, such as CO₂ emissions reduction and production activities that make effective use of limited resources.

Carbon Neutral Goals

- Reach **net-zero CO₂ emissions** associated with our business activities by 2050
- Reduce CO₂ emissions by **50%** compared with that of FY 2013 by 2030

Objectives / Achievements of Environmental Activities

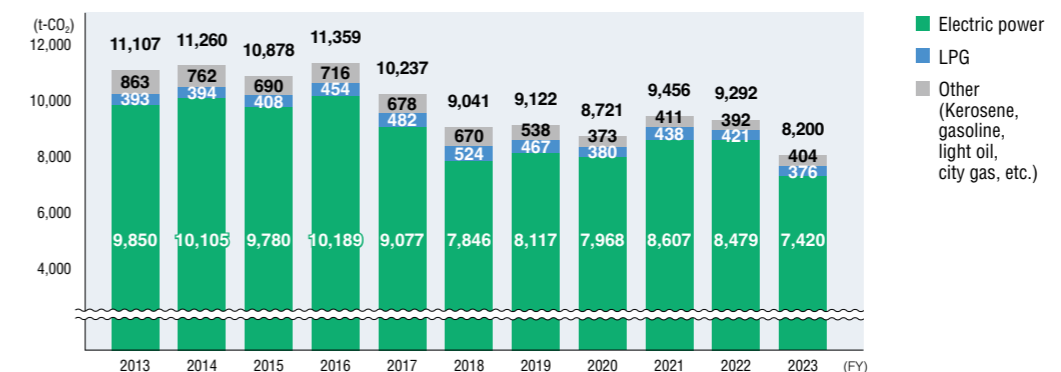
	FY 2023 Objectives	FY 2023 Achievements	FY 2024 Objectives
CO₂ emission reduction:	Reduce CO ₂ emissions to 8,857 t-CO ₂ or less	Through the introduction of a solar power generation system and energy saving activities, attained the objective by reducing CO ₂ emissions to 8,200 t-CO ₂ .	Reduce CO ₂ emissions to 7,581 t-CO ₂ or less toward the medium-term goal to reduce CO ₂ emissions by 50% compared with that of FY 2013 by 2030.
Energy Management	Achieve a reduction rate equivalent to 5% of the 5-year average energy consumption base unit	Actively pursued updates to air conditioning systems, lighting and similar equipment. Improved energy efficiency through productivity improvement and energy saving activities. 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.
Waste Management	Continue waste reduction activities. Maintain a recycling rate of 99.0% or higher at all major domestic production	Total Waste Volume 3,084 t (84% year-on-year) Achieved a recycling rate of 99.4% for cumulative waste at all major domestic production sites.	Continue waste reduction activities. Maintain a recycling rate of 99.0% or higher at all major domestic production

Environmental Load Data

Input	Output
Power Usage	CO₂ Emissions
17,765,000 kWh	8,200 t-CO ₂
LPG Usage	Total Waste Volume
125 t	3,084 t
Kerosene Usage	Recycling Volume
75 kl	3,066 t
Gasoline / Light Oil Usage	Incineration and Landfill Disposal Volume
90 kl	18 t
Water Usage	Waste Water Volume
32,857 m ³	28,399 m ³
Paper Usage	
24.1 t	
Containers and Packing Materials	
633 t	

Oriental Motor's Business Activities

Energy-Related CO₂ Emissions



* Scope of Reporting
 · Energy data (Power Usage, LPG Usage, Kerosene Usage, Gasoline / Light Oil Usage/CO₂ Emissions): Oriental Motor sites and affiliated companies in Japan
 · Oriental Motor sites and affiliated companies in Japan
 Non-energy data: production sites in Japan
 * The calculation of CO₂ 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.

Providing New Value for the Sake of Sustained Growth

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

Manufacturing

Initiatives for Stable Supply and Quality Assurance

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.

Achieving Stable Supply

Improving Productivity by 37 % Over 4 Years

In FY 2023, we set the numerical target for all production departments of a 145-percent increase in FY 2025 production capacity compared with that of FY 2019. To this end, we have (1) promoted automation, (2) optimized production processes, and (3) conducted TPM activities. To promote automation, we are actively promoting automated lines that utilize in-house robots. We received the Award for TPM Excellence from the Japan Institute of Plant Maintenance in recognition of our achievements in TPM activities. As a result of these efforts, we achieved a productivity improvement of 37 percent in FY 2023 compared with the FY 2019 level.



Automated production line using in-house robots at the Tsuruoka-Nishi plant

Establishing a Workplace Where Employees Can Work with Peace of Mind

Maintenance of building safety and resting environment

The buildings that form the foundation of manufacturing are systematically maintained every year. Japan is prone to natural disasters, such as earthquakes, typhoons, floods, and landslides, and there is a growing demand for Business Continuity Plan (BCP) featuring buildings that prioritize swift post-disaster recovery and the lives of employees. At Noshiro Oriental Motor, we have added a plant building with a 2.1-meter fill to prevent flooding. Similarly, at the Tsuruoka-Chuo plant, the floor was raised by 0.5 m and cubicle-type high-voltage power receiving equipment was installed on the second floor to

prevent flooding. In case of earthquakes, the ceilings are earthquake-resistant and safe evacuation routes are ensured.

The environment for eating and resting is also important in the manufacturing workplace. The cafeteria at each Oriental Motor plant is located in the most scenic part of the building. At Noshiro Oriental Motor, employees can enjoy meals in spring while watching cherry blossom trees in full bloom. In the new building at the Tsuruoka-Chuo plant employees can see Mt. Gassan from the south seats and Mt. Chokai from the north seats. In addition to table seats, a variety of seats are available, such as box seats, bench seats, and counter seats, so that employees can eat and rest in various styles.



Plant building with a fill at Noshiro Oriental Motor



Cafeteria at Tsuruoka-Chuo plant with a Mt. Gassan view

Turning production processes into showrooms



Production processes at Tsuruoka-Nishi plant

To promote automation, we are actively promoting automated lines that utilize in-house robots using our products. As a reference example of product utilization, each plant is turning its production processes into showrooms that customers can visit.



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 2023

(Basic unit: person)

Job Category	Job Name	Special Grade	Grade 1	Grade 2	Grade 3	Total
Machining Process	Hobber			1		1
Die-Casting		1				1
	Cold Chamber Die-Casting			1		1
Mechanical Maintenance	Mechanical Maintenance		6	16	10	32
	Electrical System Maintenance			2		2
Machine Inspection	Machine Inspection			1	7	8
Metal Heat Treatment	High Frequency and Flame Treatment			1		1
Total		1	6	22	17	46

Numbers of Applicants Who Passed the Independent Maintenance Technician Certification in FY 2023

(Basic unit: person)

	Grade	Grade 2	Total
Number of Certified Self-Maintenance Technicians	48	78	126

Number of Qualified Technicians Who Manage Adhesives

(Basic unit: person)

Number of Newly Qualified Technicians in FY 2023	5
Total Number of Qualified Technicians	84

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 for maintenance and management. In FY 2023, two Independent Maintenance Technicians who displayed outstanding performance in their work received awards.



Presentation of the award

Collaborative Initiatives with Our Suppliers

Basic Policy of Procurement

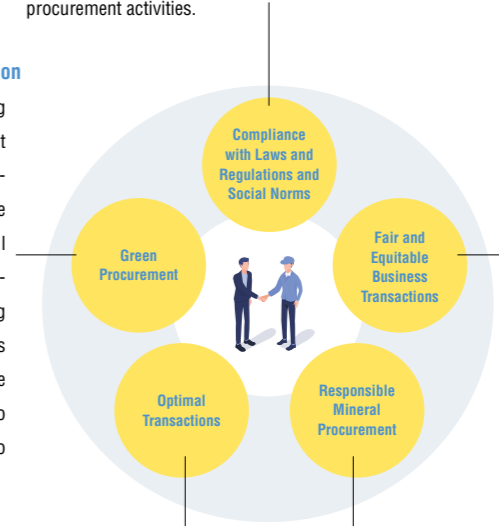
In order to continue providing a stable supply of our products while conducting sustainable material procurement to reduce environmental burdens, it is absolutely necessary to cooperate with our suppliers. We continue doing optimal business with our suppliers in a fair manner, while meeting social needs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

Compliance with Laws and Regulations and Social Norms

We comply with trading laws and regulations when conducting procurement activities.



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.

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.

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.

Promoting Global Procurement

Market environments have been changing at a global and increasingly rapid pace. While improving supply performance in cooperation with our business partners, we are pursuing global procurement operations. 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

Promotion of Partnership Declaration

We endorsed the Declaration of Partnership Building formulated by the Partnership Building Promotion Council for the Future and created and announced our Declaration of Partnership Building. Based on this declaration, we build long-term relationships of trust with our business partners and work to increase added value throughout the supply chain.



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

Technology and Development

Featured Products in 2023

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 FA networks.

Servomotors AZX Series: addition to the lines

Features

- Usable with same settings as AZ Series
- Rated output 400 W and 600 W were added to the lines
- Hollow Rotary Actuator DG II series: addition to the lines
- Factory automation network compatible(EtherNET/IP, EtherCAT, PROFINET: addition to the lines



αSTEP AZ Series, connector type

Features

- Single cable achieves reduced wiring
- Direct connection between motor and driver
- Choice of cable pull directions
- Easy-to-connect locking lever connector



αSTEP AZ Series Mini Driver Ethernet type

Features

- Compact / Lightweight
- Compatible with both DC-input and battery power sources
- Connects directly to a single-board computer



Robot Controller MRC01 : enhanced functionality

Features

- Offers easy control for self-made robots
- Max. 7 axes for AZ Series
- Operation verification possible via online 3D simulation
- Vision-compatible: More advanced tasks were automated through linkage with a 2D camera: addition to the lines



Rotary Encoders

Features

- Compact, thin, and lightweight Φ 30 incremental encoder
- Detects position, speed, and direction of rotation
- Resolution 1000P/R,2000P/R (voltage output and line driver output)



5-Phase Stepper Motors Drivers CVD series, full-closed control type

Features

- Full-closed loop control using a stepper motor
- High accuracy positioning
- Hunching-free, no tuning required

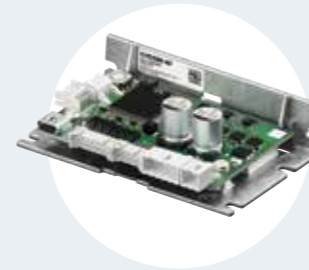


Featured Technologies in 2023

We will provide new value to customers' motion needs by developing a stepping motor with even higher precision, as well as gear and mechanism technologies.

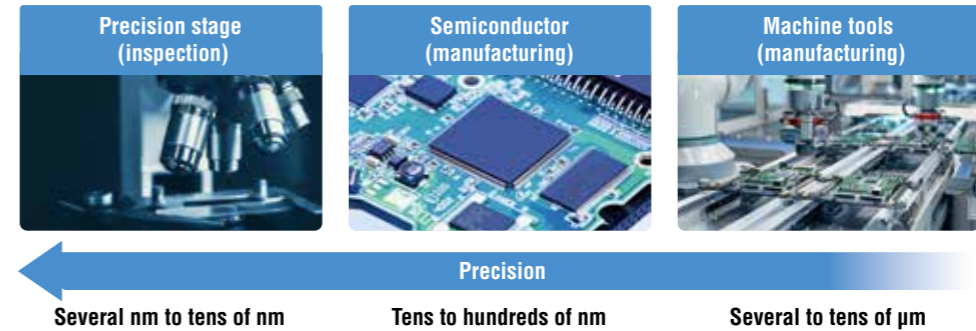
Featured Technologies 1

5-Phase Stepper Motors Drivers CVD Series Full-closed control type



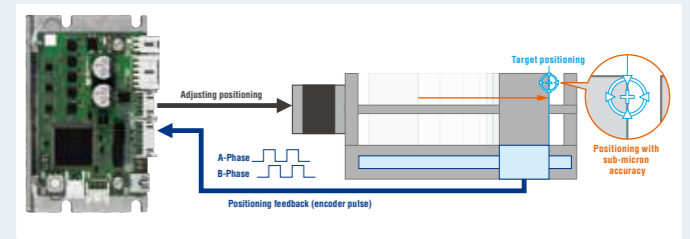
Because of the easy positioning control, it is used in semiconductor manufacturing equipment, medical laboratory testing equipment, and in many other fields that require positioning. In recent years, due to the miniaturization of semiconductors, there has been a growing demand for higher precision in positioning

and other aspects. Achieving a high precision requires not only motor precision, but also external high-precision sensors. For higher precision, we are developing technologies that leverage the strengths of a stepping motor capable of easy positioning.



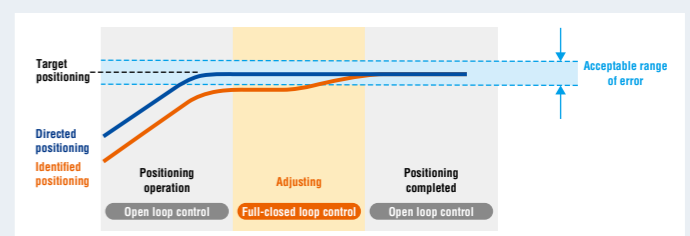
Product Overview

The CVD full-closed driver achieves high-precision positioning operation (full-closed loop control) by directly feeding back the position of the machine edge with an external sensor.



Technological Capability and Added Value

The product realizes full-closed loop control while maintaining the strengths of a stepping motor. At the start of positioning, open loop control is performed leveraging the high responsiveness of a stepping motor. After the position command is completed, feedback from an external sensor is used to transition to position correction by full-closed loop control.



Therefore, when positioning is completed, the motor is stopped by its own holding force without hunching. This is ideal for purposes where vibration during stopping causes problems. In addition, there is no need for gain adjustment according to the mechanism, unlike servo motors. Because continuous positioning operation using encoder feedback is not necessary, there is no need for adjustment according to the mechanism and load, such as belt pulleys and cams.

Featured Technologies 2

Electric Gripper EH Series - AZ Series Equipped 3-Finger Type



As automation progresses, objects to be gripped are diversifying in each industry. We are working to develop gear and mechanism technologies, in order to respond to a variety of objects.

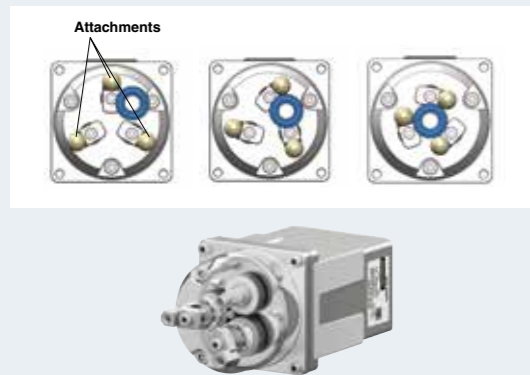
Product Overview

The three-finger electric gripper using the **AZ** series with a built-in battery-less absolute sensor realizes delicate gripping like human fingertips, thereby contributing to automation and labor saving.

Added Value

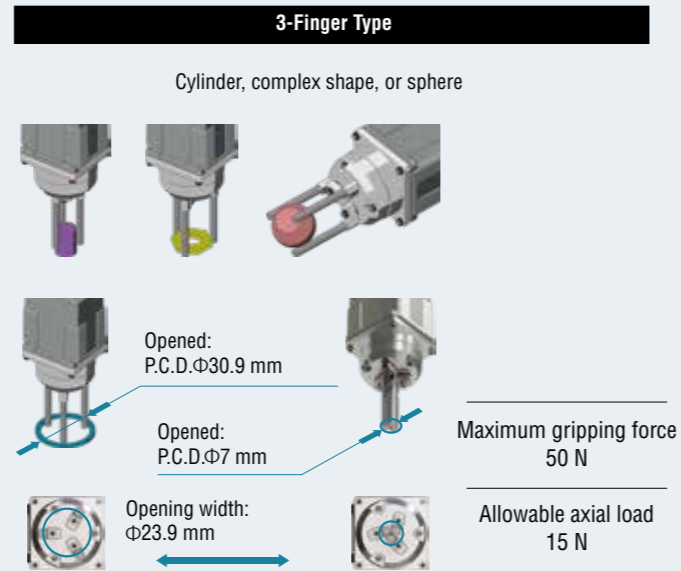
- The three fingers are able to grip a variety of objects, such as cylinders and spheres, which cannot be gripped with two claws.
- The product is also able to hold an object while moving it toward the center, through the mechanism that rotates while gripping as shown in the figure below.
- Compared to grippers using a linear slider or linear motion mechanism components, the product is compact and has a wider gripping range.
- The function of the **AZ** series makes it possible to easily and finely adjust the gripping force with digital settings, enabling more delicate gripping.

Motion of **EH** Series, 3-finger type



Technological Capability

This product has a structure that rotates and grips with fingers as shown in Figure 2. Each finger rotates and grips a workpiece inscribed or circumscribed. Because of gripping with three fingers, the product is capable of stably holding objects of various shapes. Inside, the products have a motor shaft with gear cutting, surrounded by spur gears. The motor section is equipped with a stepping motor, which achieves compact size and high gripping force with its strengths.



The product received the Super Manufacturing Parts Award for Health, Welfare, Biotechnology, and Medical Device Parts 2023



The **EH** series 3-finger electric gripper using the **AZ** series received the Super Manufacturing Parts Award for Health, Welfare, Biotechnology, and Medical Device Parts 2023, sponsored by the Nikkan Kogyo Shimbun. The product was highly evaluated for its contribution to the automated conveyance of test tubes and other items. We will continue to develop products that meet the various motion needs of customers.

Safety and Reliability of Products

We establish testing frameworks, develop international 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 Laboratory

Oriental Motor's products are conformable to major safety standards and laws and regulations 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. The Product Safety Testing Laboratory is managed with the international standard ISO/IEC 17025 Laboratory Management System as a laboratory independent of our business departments, in order to ensure fair and objective testing. The Laboratory is also registered as an accredited testing facility by third-party associations, VDE and Underwriters Laboratories (UL). And because we can test third-party certified products in-house, we can quickly respond to changes in parts and materials, contributing to a stable supply of products.



Product Safety Testing Laboratory

Conducting Environmental Testing to Enhance Product Reliability

Our products may be returned in a shorter period of time than expected life due to the effects of various environments and conditions of use by our customers. We conduct tests that reproduce temperature, humidity, vibration, and other factors under conditions that closely resemble the customer's actual operating environment in order to determine the cause of the problem. Furthermore, we are striving to improve products by clarifying causes and failure mechanisms based on principles through investigation and analysis. This activity is carried out by specialized engineers at the Reliability Testing Laboratory of a dedicated facility and is utilized for the development of more reliable products in the future.

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 social issues 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), ISO/IEC TR 5469 (functional safety and AI systems)
- Dependability: IEC/TC 56 (Dependability)

Sales and Support Systems

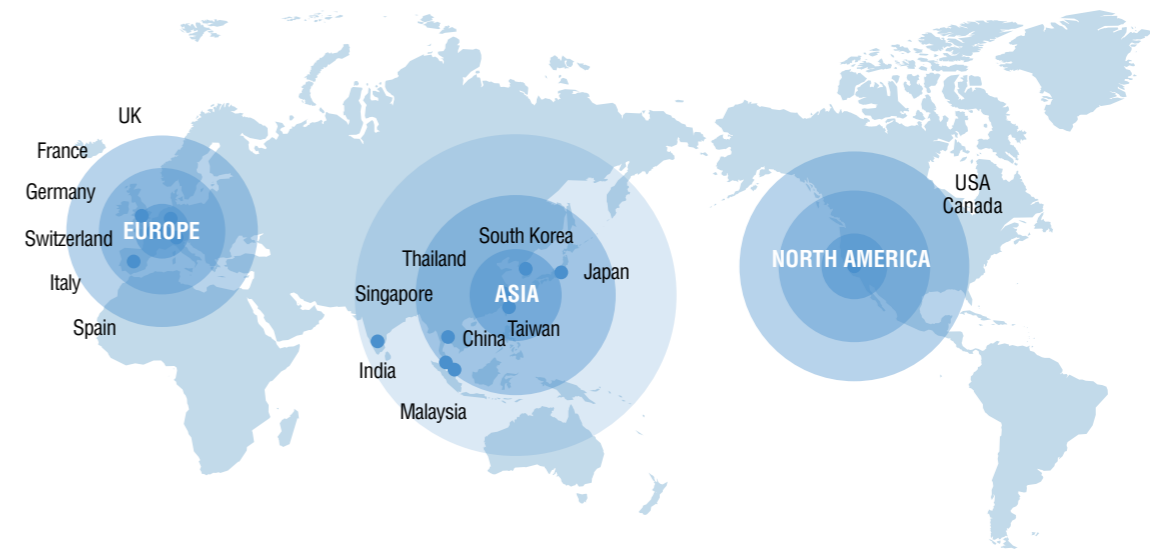
Making Recommendations that Enable “Motion” Sought by Customers

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.



Sales network connecting with customers around the world

We have a global sales network that allows customers to purchase products directly from our sites, through online stores, or through distributors.



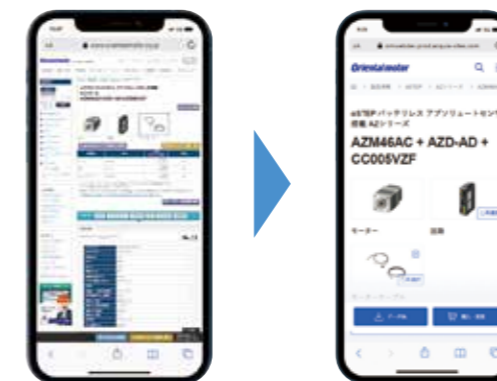
Online stores (Japan)



Online stores (USA)

Promoting global standardization of website platforms

We are promoting the standardization of global website platforms and the establishment of a multilingual environment for rapid information provision and enhanced management and security across regions around the world. In the first phase, the Japan website was renewed in October 2023. We have devised and improved website for simple and easy-to-understand design of information and flow, optimized smartphone and tablet screens, shared the design in multiple languages, ease of product selection, ease of searching for necessary materials, and ease of use. In the second phase, from 2024 onward, we will gradually roll out the service to Asia, Europe, and other regions in order to strengthen global information provision.



Example of screen before and after renewal (smartphone)



Example of screen before and after renewal (PC)

Service and Support System to Assist Customers

In addition to in-person and phone-based communication, we fully utilize online tools in order to deliver excellent service that matches each customer.

Seminar

From product principle to configuration to how-to-use to application suggestions, we hosted seminars at each location as a place to offer information. In Japan, we restarted on-site seminars in FY 2023, in hopes to help more customers solve their problems through in-person technological consultation and product proposals using demo machines.



Seminar at the Motor Fair

Online Seminars Held

Number of Seminar Participants in FY 2023 **7,192**

*Period: 2023/4/1~2024/2/28

On-site Seminars Held

Number of Seminar Participants in FY 2023 **2,232**

*Period: 2023/4/1~2024/2/28

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.

e-Learning status

Number of e-Learning Participants in FY 2023 **11,999/Month**

Top Three Most Popular Programs

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

Customer Support Center

We respond to a wide range of inquiries, from ongoing consideration to problems after operation. In addition to inquiries by telephone and e-mail, online consultation service using a Web conferencing system is also provided, contributing to the early resolution of customer issues.

Feedback from Our Customer

I used the service for consultation on motor selection. I was able to see the person's face and demo machines as I talked, which put me at ease. More details were sent by e-mail later, which was helpful.



Explaining while checking motion of a demo machine

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.

FY 2023 Average uses per month **1,534/Month**

Information provision at exhibitions

By presenting at exhibitions and holding private exhibitions, we provide opportunities for customers to be aware of the actual motion of products.

Presentation at exhibitions around the world

We presented our latest product motion in line with the concept of each exhibition and proposed solutions to the customer's equipment challenges.

Major Showings at Trade Shows in FY 2023

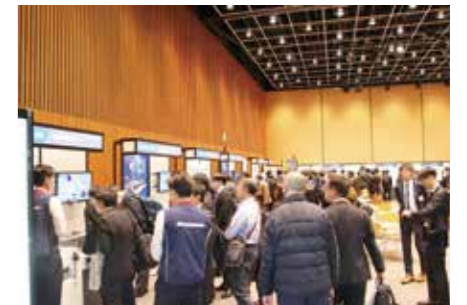
Area	Names of Trade Shows
Japan	Nagoya: M-Tech Nagoya
	Kanazawa: MEX Kanazawa
	Tokyo: M-Tech Tokyo
	Osaka: M-Tech Kansai
	Tokyo: International Robot Exhibition
	WEB: International Robot Exhibition (ONLINE VENUE)
USA	Boston: Robotics Summit
	Detroit: Automate
	Las Vegas: Pack Expo
	Santa Clara: RoboBusiness

Area	Names of Trade Shows
Italy: Parma	SPS
Germany: Nürnberg	SPS
China	Shenzhen: South China International Industry Fair
	Shanghai: China International Industry Fair
Taiwan: Taipei HQ	Automation Taipei
Malaysia	Penang: Semicon SEA
	Kuala Lumpur: Metaltech
Thailand: Bangkok	Reed Tradex
India: Mumbai	Automation Exhibition
Vietnam: Hanoi	MTA
Indonesia: Jakarta	Manufacturing Indonesia

Private exhibition Oriental Motor Fair

In FY 2023, we held a private exhibition, Oriental Motor Fair, for the first time in four years. Under the theme "New Motion, New value," we exhibited examples of in-house robot production and products developed in response to customer issues in labor saving, auto-mation, and productivity improvement. We had many visitors, with lectures also given by external experts on the theme of the ex-hibition.

Venue	Date	Number of Visitors
Kariya	July 6	881
Osaka	July 11	1,262
Kyoto	November 22	608
Tokyo	December 13-14	1,271



Virtual Trade Shows

We held an online virtual trade show, providing content that showcased the motion and usage of our new products, providing a useful occasion for customers regardless of place and time.

Area	Event Duration
USA	From April 2023
China	From April 2023
Taiwan	June 2023
Singapore	From April 2023
Thailand	From April 2023
India	From April 2023
Malaysia	From April 2023
Total Number of Visitors	18,166

Initiatives for Employees

For a Healthy, Safe, and Secure Work Environment

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.

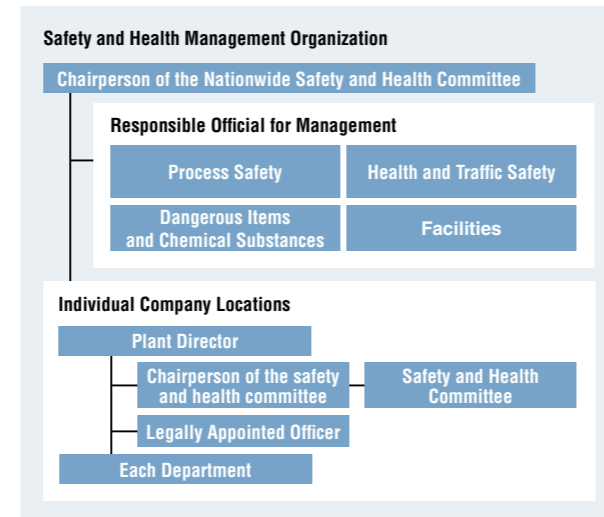
Enacted on July 7, 2004
Revised on April 1, 2023

Creating Vibrant Work 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.

Organizational Structure to Promote Activities on Safety and Health

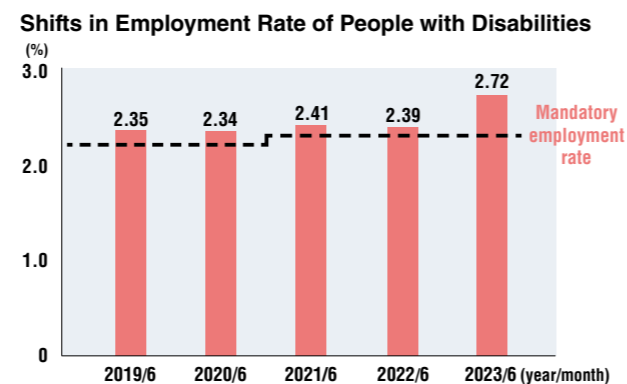


Workplace injuries		FY 2020	FY 2021	FY 2022	FY 2023
Injuries (with one or more lost workdays)		0	2	3	0
Lost time injury frequency rate*	Oriental Motor (Values including domestic affiliate companies)	0.00	0.49	0.74	0.00
	(Reference) Manufacturing industry	1.21	1.31	1.25	1.29
	(Reference) Manufacturing of electrical machinery and appliances	0.52	0.54	0.53	0.54

*The number of lost time injuries per 1 million work hours
(Reference)Based on the Ministry of Health, Labour and Welfare, Survey on Industrial Accidents

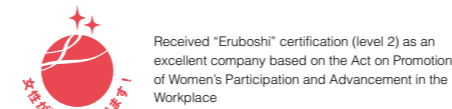
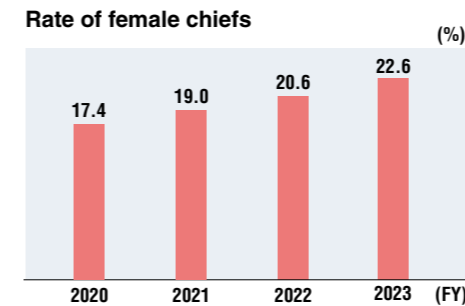
Shifts in Employment Rate of People with Disabilities

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



Diversity Promotion Initiatives

In FY 2023 as the second year of the Action Plan for Promotion Activity of Women’s Active Participation and Advancement in the Workplace, a new personnel framework was launched to accelerate the attainment of targets. In addition to increased women chiefs, the share of women in managerial positions has also substantially increased to 8.6%. FY 2024 is the last year of the Action Plan. We will continue to embrace diversity and continuously nourish a culture where diverse abilities can be exercised, aiming to attain the Action Plan Targets.



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

Plan Period	Three years from April 1, 2022 to March 31, 2025
Action Plan Target	(1) Raise the rate of female section chiefs to 23% (at 22.6% as of March 2024) (2) Maintain paid leave usage rates of 65% or higher
Activity Details	Activities Conducted in FY 2023 <ul style="list-style-type: none"> Review and implementation of workshops for chiefs and assistant chiefs Seminars and individual career consulting to support career development Cultivation of workplaces that are comfortable for everyone Productivity improvements through initiatives for health and productivity management
Activity Results	Rate of female chiefs 22.6%

Promoting Work-Life Balance

Supporting to Achieve a Balance between Work and Childcare

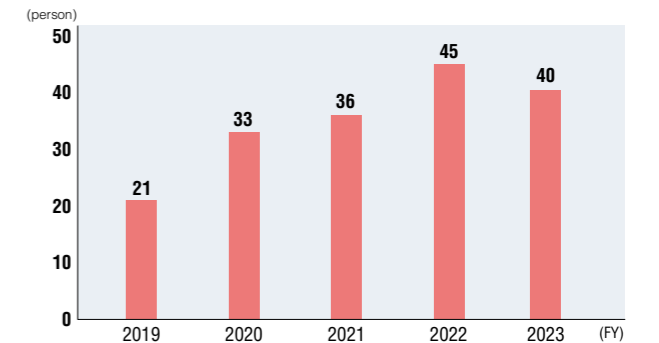
Childcare Leave Rates Taken by Employees in FY 2023

Details	Rates
Male	53%
Female	100%



Supporting to Achieve a Balance between Work and Family Care

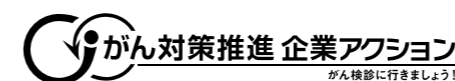
Family Care Leave Applicants



Supporting to Achieve a Balance between Work and Medical Treatment

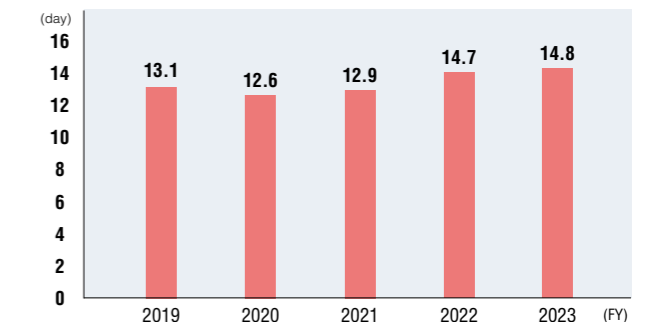
Number of Applicants Utilized the Program in FY 2023

Details	Number of Applicants Utilized the Program
Leave for Hospitalization and Recovery	2
Leave for Medical Treatment	2
Adjusted Shorter Work Hours	0



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

Number of Paid Time Off Taken by Employees



Health and Productivity Management

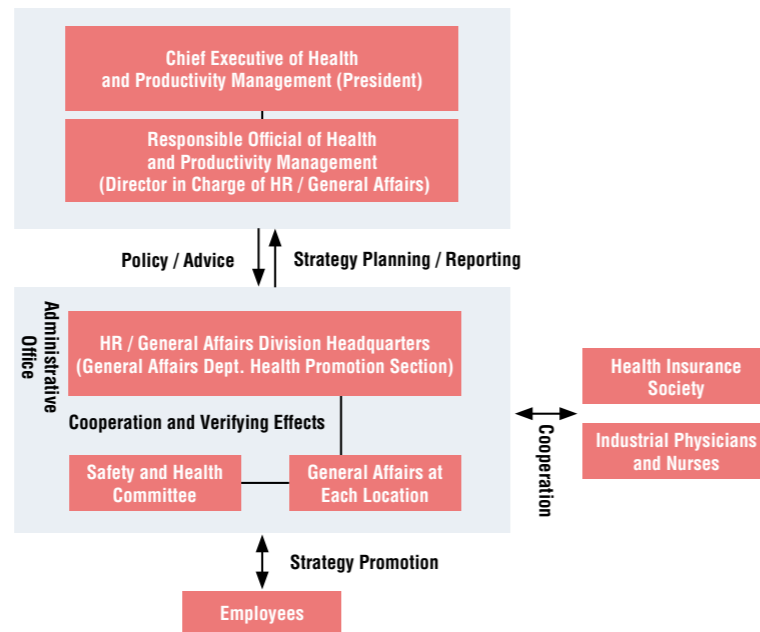
Oriental Motor's Declaration of Health and Productivity Management

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
Eiji Kawahito
 President
 Chief Executive of Health and Productivity Management
 ORIENTAL MOTOR CO., LTD.

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.



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.

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 2024, we were certified as an "Excellent Health and Productivity Management Organization (large-scale corporation category)" for the fourth consecutive year.



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.



Walking Campaign: Sharing steps on a health app

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	2021	2022	
Health checkup rate	MF	100.0 %	100.0 %	
Detailed tests or treatment required	Rate of relevant employees	MF	-	
	examination rates	MF	79.4 %	
Employees diagnosed with metabolic syndrome (age 40+)	MF	14.1 %	14.8 %	
Specific health guidance receiving rate (completing rate)	MF	17.6 %	21.9 %	
Health checkup data*1	Rate of EEs with abnormal test results	Blood pressure	MF	28.3 %
		Blood glucose	MF	14.9 %
		Lipids	MF	30.7 %
	Obesity (high BMI)	M	25.6 %	
	F	13.2 %		

Calculated within Oriental Motor only

*1 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: BMI 25.0 or above

Items	Sex	2022	2023
Lifestyle habits questionnaire*1	Rate of skipping breakfast	M	21.3 %
		F	14.9 %
	Exercising regularly	M	34.0 %
		F	15.0 %
	Fatigued even after sleep	MF	33.0 %
	Smoking rates	MF	18.8 %
Percent of high-risk alcohol consumers	M	11.7 %	
	F	12.5 %	
Rate of taking stress-level checkups	MF	100.0 %	
High stress level rates*2	MF	10.2 %	
Participation rate of walking campaign	MF	88.2 %	

Values including domestic affiliate companies

*1 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.
 *2 The Ministry of Health, Labour and Welfare classifies approximately 10 percent of persons on average as "individuals with high stress levels."

Items	Explanation	2022	2023
Persons taking days off due to illness (work absences)	Numbers of persons who took time off from work due to illness or injury	17	13
Sufficient performance rates (presenteeism)*1	Determined based on The University of Tokyo's Single-Item Presenteeism Question (SPQ) scale	81.9 %	81.8 %
Work engagement rates (An indicator based on a composite approach incorporating work engagement and stress)*1,2	A comprehensive health-level indicator based on a new occupational stress questionnaire comprising 80 simple questions	50.4	50.6

*1 Values including domestic affiliate companies

*2 An indicator based on a composite approach incorporating work engagement and stress

Employees Growing Together: Personnel Development

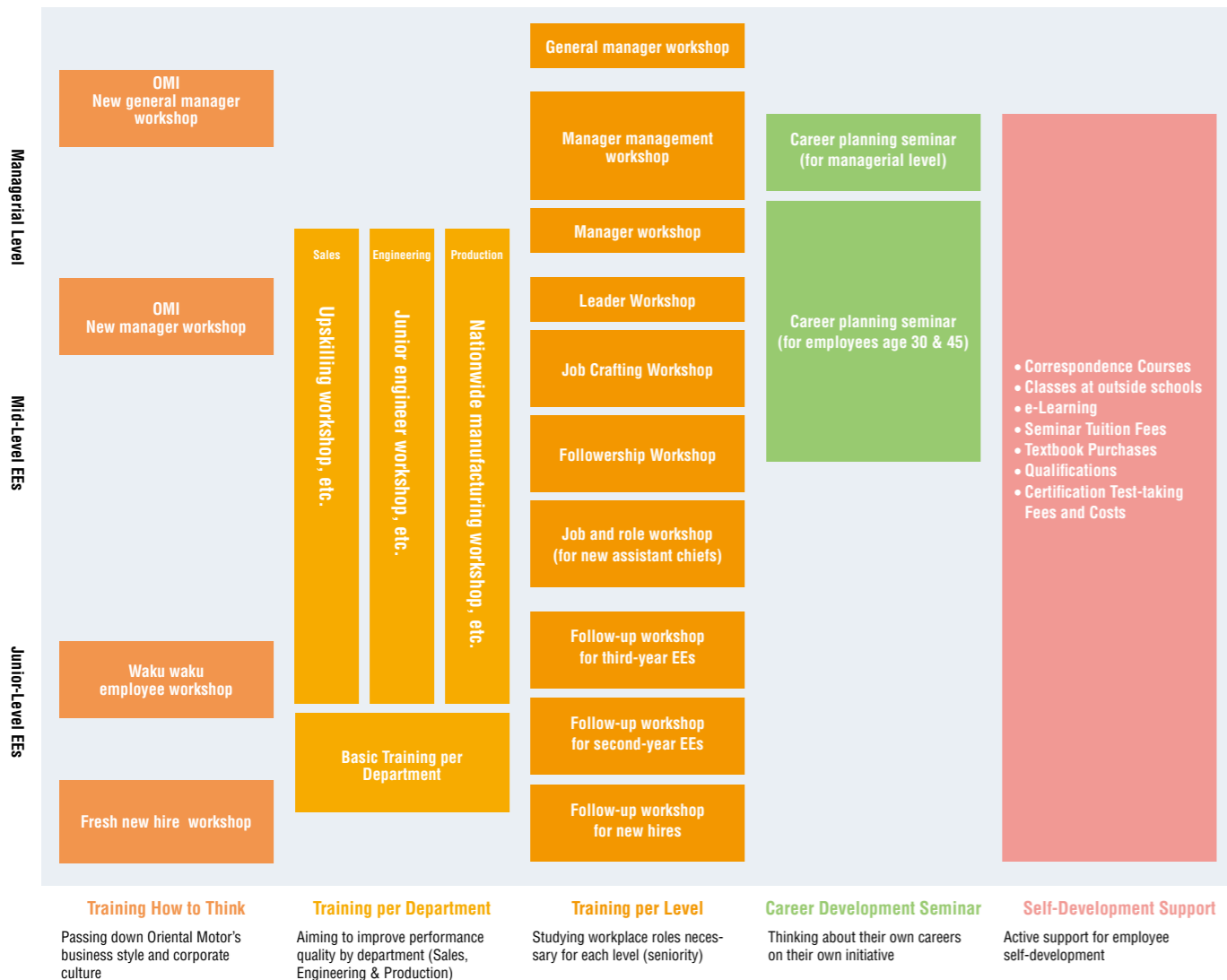
Based on the “two-way education” concept which is an idea of employees teaching each other and growing together, we hold various workshops where each employee can further learn to think and solve problems.

Operation of the new personnel framework and human resource development

We started operating a new personnel framework in April 2023. This aims 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 accelerate new creations in response to changes in the operating environment, and provide a work environment where employees feel confident and secure enough to continue working for many years to come. In operation, we shared information and resolved questions at each site, aiming to confirm the way of thinking regarding issues, transfers, and evaluations in the new personnel framework and instilling detailed rules. In addition, the code of conduct required for each

grade clarified in the new personnel framework has been reflected in rank-based training and career training. In FY 2024, based on the same approach, we plan to introduce new personnel frameworks at affiliated companies in Japan in accordance with the type and scale of operations. We also conducted an engagement survey in July to establish the system and further improve it. We will implement the necessary measures toward the goal of fostering 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.

Training system *OMI: Oriental Motor Institute



Initiatives for human resource development and two-way education in FY 2023

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. In FY 2023, we reviewed the training system for mid-level EEs in line with the roles of each grade clarified by the new personnel framework and launched the Followership Workshop, the Job Crafting Workshop, and the Leader Workshop, in order to provide opportunities not only for pay raises and promotions but also for each individual to recognize their expected roles and move forward to the next step. For training on how to think for new employees, we held the Fresh New Hire Workshop, which was launched during the COVID-19 pandemic, in an on-site style for the first time. A lively exchange of opinions took place, and we were able to convey the culture that values face to face communication.

neering, and manufacturing departments, we also implement departmental training. Amid the diversifying career awareness, we are working to develop human resources without being bound by conventional methods.



Fresh New Hire Workshop was held in an on-site style for the first time

Enhanced training for Mid-Level EEs

Workshop	Aim	Sessions	Number of Participants
Job and role workshop	Reviewing future career upon appointment with the first title	5	99
Followership Workshop	Considering actions to demonstrate followership in an organization	3	52
Job Crafting Workshop	Considering actions to find fulfillment in the present tasks and actively undertaking them	1	25
Leader Workshop	Identifying individual strengths and areas for development through human assessment training and leading to future ability development	1	18



Presenting on expectations and roles required

Participant Feedback

Job and role workshop

- I think I was able to empathize with the problems of others and recognize my areas for development.
- I empathized with many points in communication to others, and I wanted to refer to the styles of speech and communication of others.

Followership Workshop

- I think that I could establish a standard for the position as a chief, which I had not been aware of.
- I'm glad I noticed the idea of taking over the less important tasks from my boss.

Job Crafting Workshop

- The idea of job crafting was new to me. I thought that I may be able to increase my motivation by changing my mindset at work and to make achievements by changing my approach.

Leader Workshop

- The feedback report was also to the point, and I had a valuable opportunity to get to know myself.
- I think this experience has been useful in the way I usually work and was highly beneficial.



Developing Ties with Local Communities to Cultivate a More Prosperous Society

Oriental Motor 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

Since FY 2016, second-year EEs at the Tsuruoka-Chuo and Tsuruoka-Nishi plants have held Motor Experiment Classes to teach local junior high school students about the structure and principles of motors through experiments. In FY 2023, they held classes for 138 students in five classes over two days in December.

Planning and preparation for the Motor Experiment Classes are carried out at the Waku-Waku Employee Workshop. In FY 2023, 13 employees conducted research on how to convey information to junior high school students in an understandable way, through workshops and subcommittees starting in September.

Our employees feel Waku-Waku (excited) by telling junior high school students about motors and their work, and junior high school students are interested in Oriental Motor and engaged in experiments that make them feel Waku-Waku (excited) about their future.



Lecture on motor structure



Would the coil rotate?!

Sponsorship for the Tsukuba Challenge 2023

The Tsukuba Challenge is a technical challenge event in which a variety of issues are tackled through autonomous driving using mobile robots crafted by universities and companies on a course set up in the urban area, including a promenade in Tsukuba City. The Challenge has been held since 2007 as an opportunity for public experiments with cooperation of researchers and local communities from several organizations. Oriental Motor has sponsored the event every year. Since 2022, Oriental Motor's team of engineers has also participated with autonomous mobile robots using our own products, and the data obtained from real-world driving is used to develop new products and improve existing products.



Participating mobile robots



Starting point

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.



Guiding students from Tsuruoka Daiichi Junior High School through the plant

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



Environmental Beautification Day (Tsuchiura City)

BCP [Business Continuity Plan]

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 Overview and Response

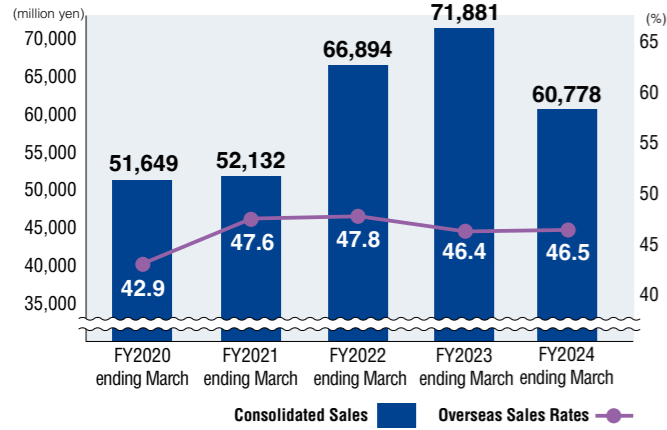
By clearly identifying risks that may interfere with sustained business activities and taking appropriate action in response to these risks, we can prevent loss of society's trust and discontinuation of business activities.

Anticipated Risks and Countermeasures

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

Business Performance

Consolidated Sales and Overseas Sales Rates



Overview of Consolidated Balance Sheet

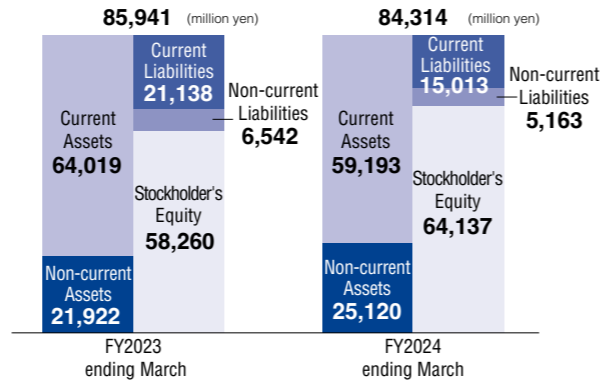
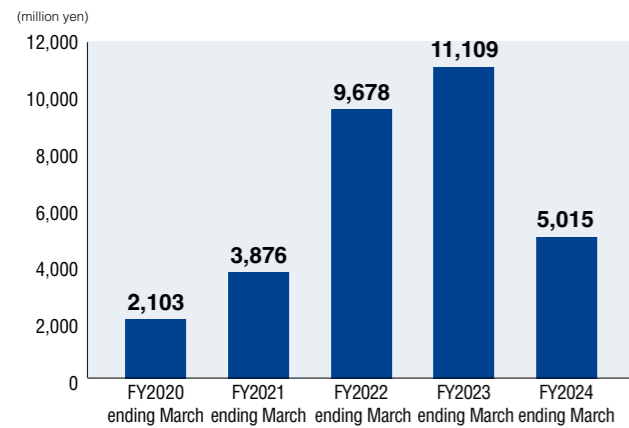
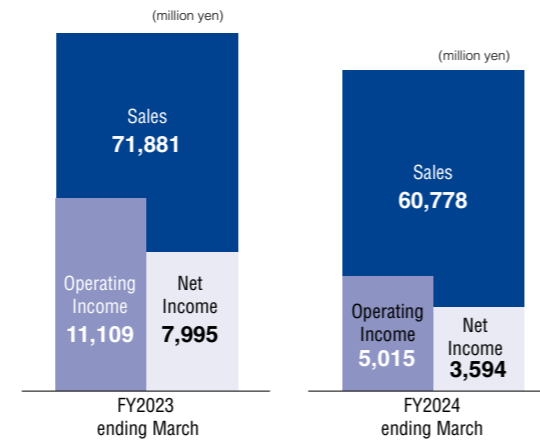


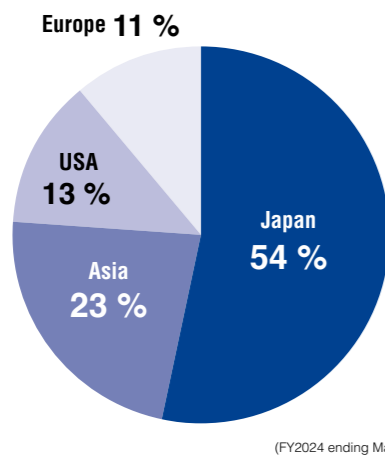
Chart of Consolidated Operating Profit



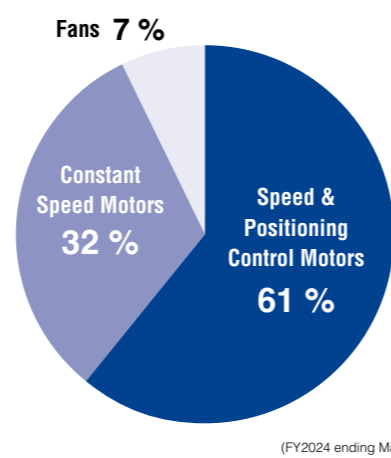
Overview of Consolidated Income Statements



Consolidated Sales Rates by Region



Consolidated Sales Rates by Business



Company Profile

Company Name	ORIENTAL MOTOR CO., LTD.
Headquarters	4-8-1, Higashiueno, Taito-ku, Tokyo, Japan
Representative	President Eiji Kawahito
Founded	1885
Incorporated	1950
Capital	4.1 billion yen

Sales	60.7 billion yen consolidated
Number of Employees	2,942 (FY2024 ending March)
Company Activities	Development, manufacture and sale of small precision motors and electronic circuits for motion control
Correspondent Banks	The Chiba Bank, Ltd. / Sumitomo Mitsui Banking Corporation / MUFG Bank, Ltd. / The Hyakujushi Bank, Ltd. / The Joyo Bank, Ltd. / THE SHONAI BANK, / Ltd. THE SHONAI BANK, Ltd. / Mizuho Bank, Ltd.

List of Plants, Offices

Plants

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

Group 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.
Sakata Plant
Sakata Second Plant
- ORIENTAL MOTOR TECH CO., LTD.
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
- UK
ORIENTALMOTOR (UK) LTD
Basingstoke HQ / Birmingham
- Italy
ORIENTAL MOTOR ITALIA s.r.l.
Milan HQ / Bologna / Verona
- 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 / 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

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
- Osaka Branch Office
- Kyoto Branch Office
- Shiga Office
- Hyogo Office
- Hiroshima Office
- Kyushu Branch Office
- Kumamoto Office

