



Kawasaki Robotics Sustainability Report 2024

Contents and Editorial Policy

Introduction

02 Overview of Business

Management

03 Message from the General Manager of the Robot Business Division
04 Initiatives in the Value Chain

Environment

06 **Kawasaki Group’s Environmental Vision and Policy**
Kawasaki Global Environmental Vision 2050
Kawasaki Group Policy on Environmental Management
The Environmental Management Activities Plan 2024 (FY2024–2026)

08 **Robot Business Division Environmental Policy**

09 **Environmental Management**
Integrated Environmental Management

10 **Toward Carbon Neutrality**
Carbon Neutrality Targets
Progress Toward Carbon Neutrality
Targets and Measures for Reducing CO₂ Throughout the Product Life Cycle by the Robot Business Division

13 **Product Development**
Environmental Technologies Provided by Kawasaki Robotics to Customers
Technology Development (Scope 3 Category 11)
Products certified under the Kawasaki Ecological Frontiers System (environmentally-conscious products) (excerpts)
Development of functions for reducing robot power consumption
Developing Solutions That Contribute to Cutting CO₂ Emissions at Customer Factories

18 Procurement of Parts (Scope 3 Category 1)
19 Manufacturing (Scope 1 and 2)
20 Transportation and Packaging (Scope 3 Category 4)
21 Calculating CO₂ Emissions per Product Unit (Carbon Footprint)
22 Environmentally Hazardous Substances and Waste

Social

24 **Quality**
ISO 9001
Kawasaki Production System (KPS)
Promotion of Total Quality Management Activities

25 **Occupational Safety and Health**
Approach to Occupational Safety and Health
Occupational Safety and Health Management Systems
Results and Targets in Occupational Safety and Health
Safety and Mental Health Education

26 **Supply Chain Management**
The Kawasaki Group’s Basic Stance
Procurement Guidelines
Respect for Human Rights in the Supply Chain (Responsible Mineral Procurement)
Support for Suppliers

27 **Developing Future Human Resources for Robotics Industry**
The Consortium of Human Education for Future Robot System Integration (CHERSI)
Become a Kawasaki Robot Engineer!

28 **Human Resource Development and Engagement**
Enhancing Engagement
Education and Training

Governance

31 **Reorganizing Regulations in the Robot Business Division**
Compliance
Intellectual Property

32 **Information Security**
Information Security Management Structure
Acquired Certification in IEC 62443-4-1, An International Standard

Editorial Policy

This Kawasaki Robotics Sustainability Report (referred to as this “Report”) presents to stakeholders information on the Robots Business Division’s fundamental approaches, management structures, results, and other information for achieving sustainability management. This Report is issued with the approval of the Division’s General Manager.

■ **Scope of report:** In principle, this Report covers the Robot Business Division*.
* Some of the information includes Kawasaki Heavy Industries, Ltd. and some includes overseas subsidiaries; in these cases, the scope is expressly stated.

■ **Reporting period:** This Report covers fiscal 2023 (April 1, 2023 to March 31, 2024)*.
* It also includes information on past activities and activities carried out on or after April 1, 2024, as well as activities planned for the future.

■ **Referenced guidelines:** Ministry of the Environment and Ministry of Economy, Trade and Industry, “Basic Guidelines Accounting for Greenhouse Gas Emissions Throughout the Supply Chain (Ver. 2.4)”; “Emissions Unit Value Database for Accounting of Greenhouse Gas Emissions, etc., by Organizations Throughout the Supply Chain (Ver. 3.2)”

■ **Contact information:** Robot Business Planning & Administration Department, Planning & Control Division, Precision Machinery & Robot Company, Kawasaki Heavy Industries, Ltd.

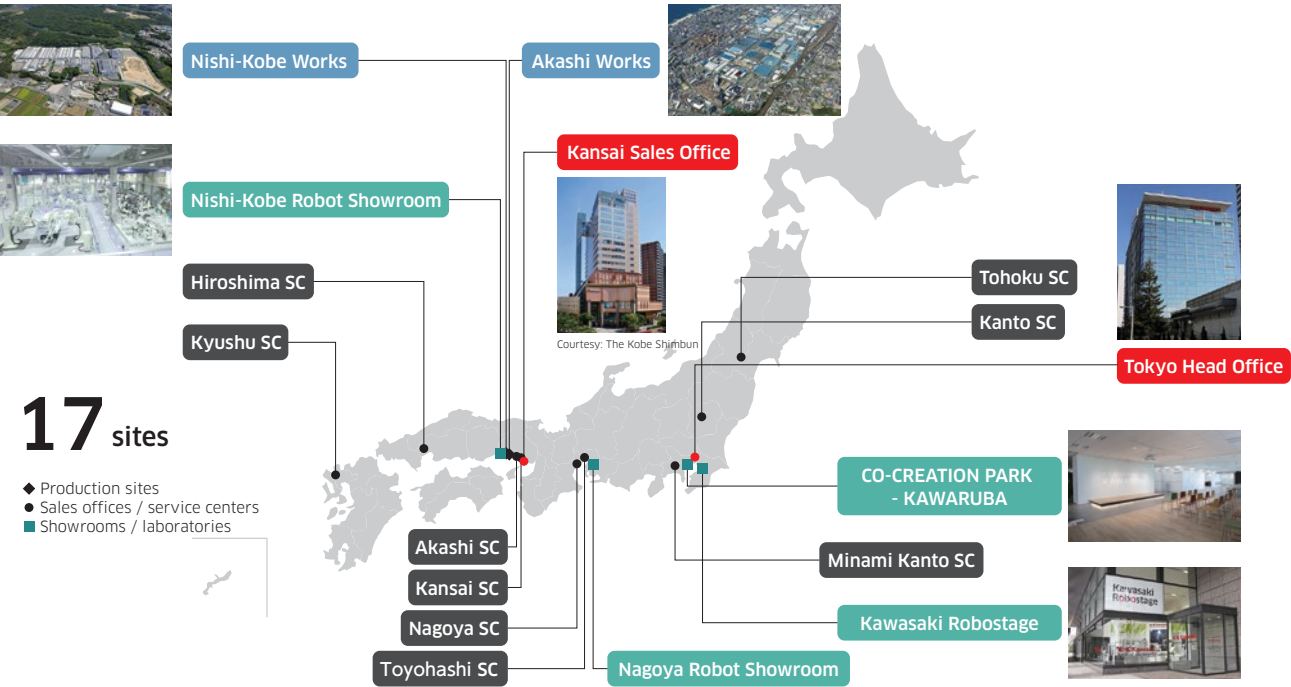


Overview of Business

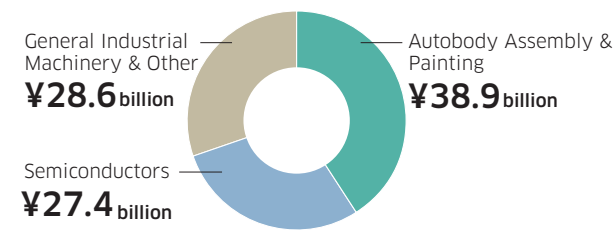
Overview of the Division (as of March 31, 2024)

Organization name	Robot Business Division, Precision Machinery & Robot Company, Kawasaki Heavy Industries, Ltd.
Established	1969 Office for Promoting Domestic Production of Industrial Robots (IR), Kawasaki Aircraft
Number of employees	Non-consolidated: 928, Consolidated: 2,206 (Robot Business Division + Kawasaki Robot Service + overseas subsidiaries)
Business	Development, manufacture, and sale of industrial robots
Main production sites	Akashi Works (Akashi City, Hyogo Prefecture), Nishi-Kobe Works (Kobe City, Hyogo Prefecture), Kawasaki Robotics (Kunshan) Co., Ltd. (Jiangsu Province, China)

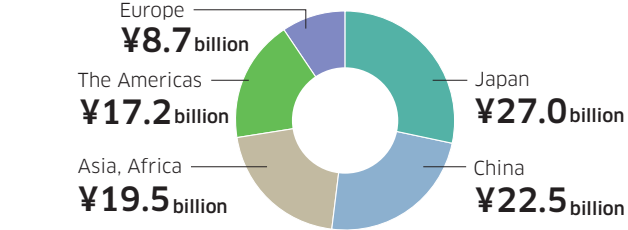
Domestic sales and service sites



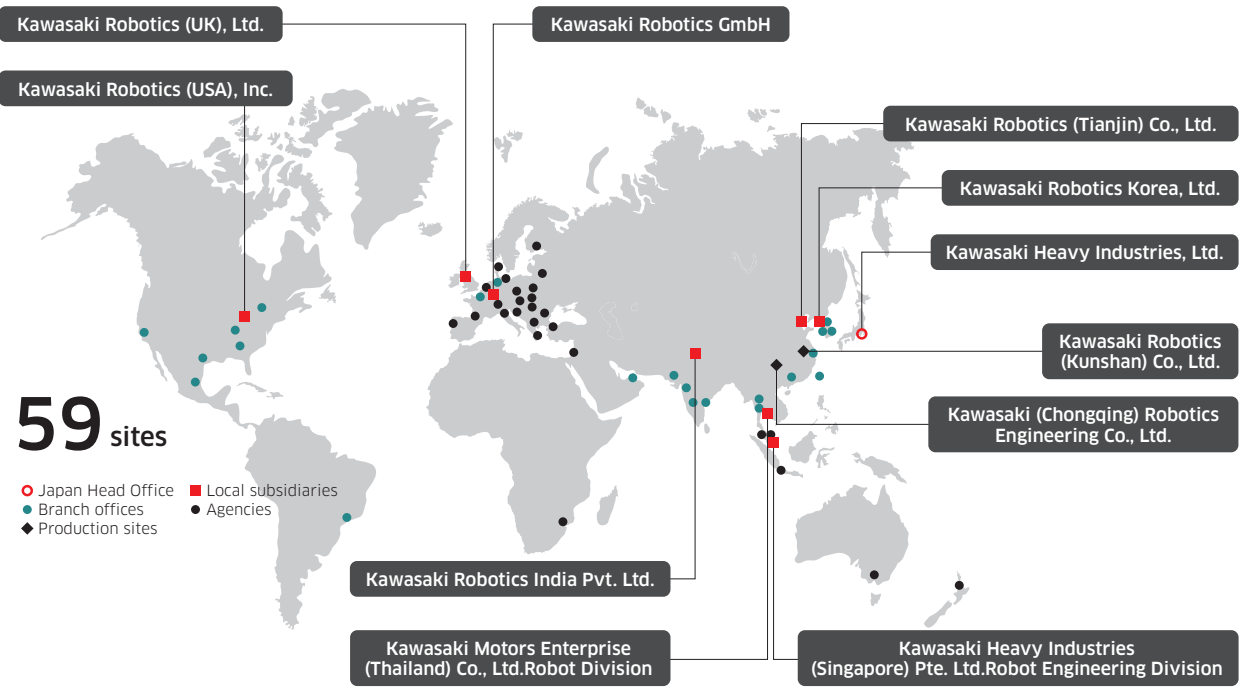
Net sales by business segment (FY2023)



Net sales by region (FY2023)



Worldwide sales and service sites



Message from the General Manager of the Robot Business Division



Kenji Bando

Executive Officer
General Manager, Robot Business Division,
Precision Machinery & Robot Company

Cooperating with our stakeholders, we will challenge the solution of various social issues and realize enrichment of the future through the utilization of robots

More than 50 years have passed since Kawasaki Heavy Industries launched Japan's first industrial robot in 1969. During this time, our aim has been to solve social issues and realize a better society through robotics. Today, in addition to solving industrial issues, such as the relieving of labor shortages, the enhancement of quality, and the freeing of people from difficult, dirty, and dangerous tasks, the fields of activity of robots are expanding throughout society.

The Robot Business Division advocates the purpose of "Unlocking human ingenuity to create robotics that enrich the future." This is an expression of our determination, through robotics, to face up to all kinds of problems in society and create more affluent workstyles and lifestyles for people.

To this end, it is our social responsibility as a company to promote initiatives toward environmental, social, and governance (ESG) management. I believe this approach is fundamental for our continuity as a trusted company.

Furthermore, our customers in the semiconductor, automobile, and other industries judge the state of companies by global criteria, and the question of whether or not a company is fulfilling its social responsibility is already beginning to impact business. The Robot Business Division is one business segment of the Kawasaki Group, but I feel it is necessary for us to show our managerial stance as a single company.

Given this situation, the Robot Business Division has been actively promoting ESG management. In 2022 we set up the Carbon Neutrality Committee, which we upgraded to the Sustainability Committee in 2024.

As part of these efforts, in 2024 we underwent an audit by a certified body approved by the Responsible Business Alliance (RBA), the world's largest coalition of companies aiming to promote social responsibility in global supply chains. In this audit, we received platinum status, which is the highest level of recognition.



Certificate of platinum status
achieved in a Validated Assessment
Program (VAP) audit pursuant to the
RBA Code of Conduct

As the world's requirements regarding ESG intensify year by year, going forward, the Robot Business Division, which engages in business globally, will continue to strengthen management and collaboration in our company and in the entire supply chain from various perspectives, including carbon neutrality, human rights due diligence, and the control of environmentally hazardous substances. And together with the stakeholders who trust us, we will contribute even more through our business activities to the realization of a sustainable society.

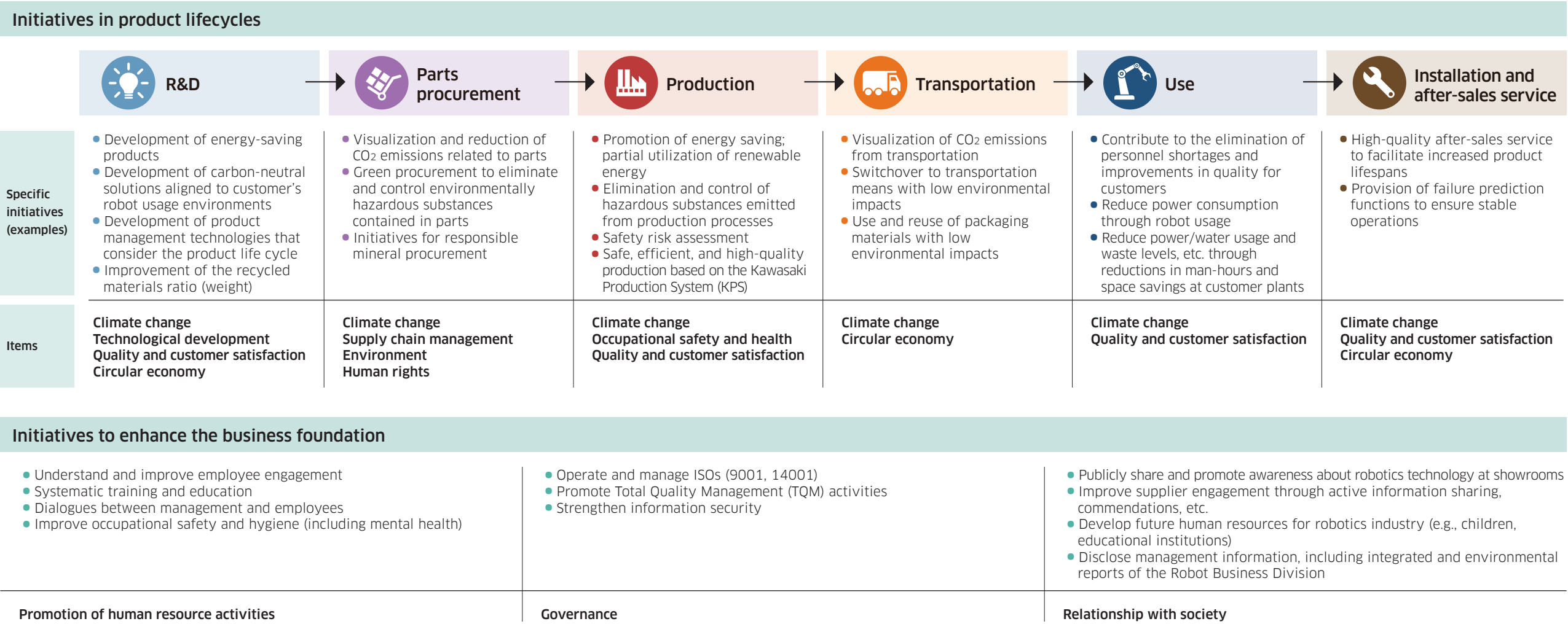
I look forward to your continued unswerving support in this endeavor.

Executive Officer
General Manager, Robot Business Division,
Precision Machinery & Robot Company

Kenji Bando

Initiatives in the Value Chain

The Robot Business Division considers (evaluates) the impact of its business on stakeholders and promotes initiatives that facilitate sustainability within the division and in society as a whole.



Environment



Kawasaki Group’s Environmental Vision and Policy

Kawasaki Global Environmental Vision 2050

The Kawasaki Group has announced that it will collaborate toward the realization of a sustainable society, and formulated the “Kawasaki Global Environmental Vision 2050,” in 2017 based on the Paris Agreement and the Sustainable Development Goals (SDGs).

The Group will take on its three objectives to embody its aspirations for 2050 of “CO₂ FREE,” “Waste FREE,” and “Harm FREE,” and will actively contribute to mitigating global warming, promoting a recycling-oriented society, and protecting biodiversity.



- CO₂ FREE

 - Pursue zero CO₂ emissions from business activities
 - Provide products and services that substantially curb CO₂ emissions
- Waste FREE

 - Pursue zero waste in business activities
 - Implement rigorous preservation and recycling of water resources
- Harm FREE

 - Pursue zero release of harmful chemical substances in business activities
 - Conduct business with respect for biodiversity

Kawasaki Group Policy on Environmental Management

In June 2024 the Kawasaki Group set aside its existing Environmental Charter and established the new Kawasaki Group Policy on Environmental Management. Up to this time, the Environmental Charter, which was established in 1999 and revised in 2010, stipulated the common values, principles of environmental management activities, and guidelines for the daily conduct required of every employee, and we promoted environmental management activities accordingly. However, this new policy is intended to substantially revise the Environmental Charter content in view of changes in the demands from society relating to environmental management.

1. Fundamental Concepts

The Kawasaki Group is dealing with environmental issues on a global scale by delivering innovative solutions with a firm view on the future of the global environment. We are contributing the development of sustainability in society by realizing a carbon-neutral society (CO₂ FREE), a recycling-oriented society (Waste FREE), and a society coexisting with nature (Harm FREE) through our business activities and as well as products and services.

2. Conduct Guidelines

(1) Environmental Management System

We will construct an environmental management system that covers the global, clarify roles and responsibilities in our environmental management activities, and work on continuous improvements in our activities throughout the entire value chain.

(2) Legal Compliance

We will comply with environmental laws, regulations, and social norms in all countries and regions in which we do business. Moreover, we will also implement our own environmental control standards as appropriate and strive to further improve environmental management.

(3) Limiting the Environmental Impact of Our Operations

In all areas of our business activities—including in product planning, research and development, and the design stage, as well as in the raw materials procurement, production, distribution, utilization, and disposal stages—we promote limiting our environmental impact by reducing CO₂ emissions, energy consumption, water use, resource use, and waste materials; preventing pollution; and promoting recycling. We will also engage in business activities that respect biodiversity, and promote environmental protection.

3. Positioning and Scope of Application

This Policy sets forth the values to be shared, principles for environmental management activities, and guidelines demanded on day-to-day activities in order to promote the Kawasaki Group’s environmental management activities. It has been decided with an approval of the Kawasaki’s Board of Directors. This Policy applies to all officers and employees, temporary contract employees and agents of the Group.

Furthermore, the Group affirms the importance of engaging with this Policy together with all of our business partners. Through this Policy and the Kawasaki Group Sustainable Procurement Guidelines, with the entire value chain in mind, we will promote environmental management activities together with our business partners including suppliers, contractors, agents, and the like.

(4) Contributing to a Sustainable Society through Technologies, Products, and Services

We will work to address a variety of environmental issues such as carbon neutrality, reducing energy consumption, promoting resource recycling, and respect for biodiversity through the technologies, products, and services that we provide, and contribute toward the realization of a sustainable society.

(5) Enhancing Information Disclosure

Together with improving the objectivity of environmental management-related information, through proactive disclosure we will deepen constructive dialogue with all stakeholders including our employees, customers, shareholders, business partners and local residents, and improve our environmental communications.

(6) Environmental Education

We will improve environmental awareness by carrying out environmental education, and all officers and employees will engage with environmental issues.

/ The Environmental Management Activities Plan 2024 (FY2024–2026)

Based on the Group Mission, the Kawasaki Group Policy on Environmental Management, and Group Vision 2030, the Kawasaki Group has formulated the Environmental Management Activities Plan as key strategies which cater to the needs of society and facilitate the realization of both environmental conservation and business growth and the Kawasaki Global Environmental Vision 2050 goals of “CO₂ FREE,” “Waste FREE,” and “Harm FREE.”

Until 2021, the activities plan was formulated every three years, with follow-up on progress conducted annually. However, in view of the ever-changing requirements relating to the environment, including the move toward decarbonization, resource recycling, and biodiversity, since 2022, the plan has been formulated annually looking ahead to the three years to come.

Following approval of the formulated plan by the Board of Directors, the plan is rolled out to business segments including the Robot Business Division through the environmental management system.

The medium-term actions policies toward achieving “CO₂ FREE,” “Waste FREE,” and “Harm FREE” are as follows.

CO₂ FREE (realization of a decarbonized society)

The Group embodies its carbon neutrality strategies in the Environmental Plan, and is actively moving toward achieving carbon neutrality at domestic business sites by 2030.

Waste FREE (realization of a recycling-oriented society)

We will continue to actively investigate circular economy business models to cater to the circular economy.

Harm FREE (realization of a society coexisting with nature)

We will continue to actively disclose the outcomes of macro-impact studies of effects on biodiversity from the Group’s operations and measures to address these as a means to meeting the requirements of the TNFD (Task force on Nature-related Financial Disclosures).

Robot Business Division Environmental Policy

The Robot Business Division established the Robot Business Division Environmental Policy based on higher-level policies of the Kawasaki Group, informed employees about the policy, and conducts business activities in accordance with the policy.

Robot Business Division Environmental Policy

The Robot Division will conduct its business activities in accordance with the following environmental policy.

1. Engage in activities that help save energy and reduce CO₂ emissions.
2. Strive to reduce waste.
3. Promote activities that consider the product life cycle.
4. Establish emergency measures and endeavor to prevent environmental pollution.
5. Continuously work to improve our environmental management system.
6. Comply with environmental laws and regulations.
7. Ensure that all employees are aware of our environmental policy.
8. Deepen mutual understanding with stakeholders by actively disclosing environmental information.
9. Promote action to address environmental issues by raising the environmental awareness of all employees.

In compliance with the environmental policy, we will provide comprehensive solutions that satisfy customers' needs in the industrial, medical, and social sectors while striving to be the world's most useful robotic manufacturer.

Environmental Management

Integrated Environmental Management

Environmental and carbon neutrality implementation structure

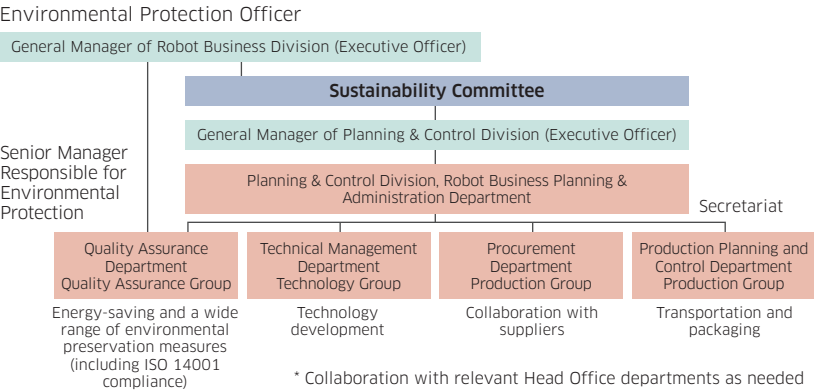
The Robot Business Division undertakes environmental measures in line with company-wide environmental management implementation structures.

The Quality Assurance Department plays a central role in environmental activities as a whole, promoting initiatives such as compliance with ISO 14001 as well as measures to reduce electricity usage, waste, and hazardous substances.

The Sustainability Committee takes the lead in measures for achieving carbon neutrality, one of a range of environmental issues that the division is facing.

To actively promote efforts for achieving carbon neutrality, after the Carbon Neutrality Committee was established in 2022, it was reorganized into the Sustainability Committee in 2024 and now oversees measures relating to a full range of sustainability issues including carbon neutrality.

Structure of the Robot Business Division Sustainability Committee (formerly the Carbon Neutrality Committee)

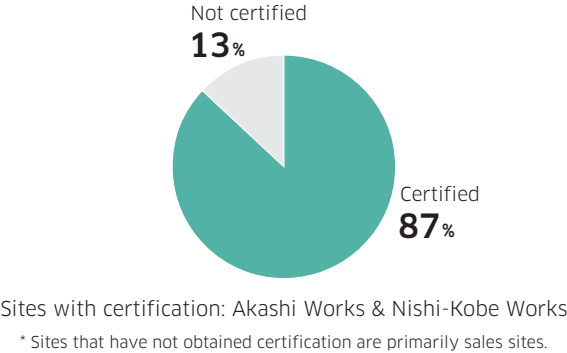


ISO14001

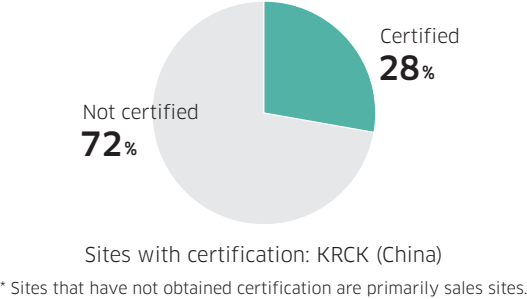
The Robot Business Division creates and operates an environmental management system compliant with ISO 14001.

In addition, KRCK, a production site in China, newly obtained certification under ISO 14001 in fiscal 2023.

Percentage of employees in Japan who work at business sites that have obtained ISO 14001 certification (FY2024)



Ratio of employees of overseas subsidiaries who work at business sites that have obtained ISO 14001 certification (FY2024)



Environmental audits

The Robot Business Division undergoes audits conducted by a certification organization and conducts annual internal audits pursuant to ISO 14001. The internal audits confirm the status of initiatives for achieving environmental targets, compliance with laws and regulations, and chemical substance management. Corrective measures have been implemented regarding the deficiencies identified in fiscal 2023 (one minor deficiency identified by the external audit and four minor deficiencies identified by the internal audit).

The division also encourages employees to obtain internal qualifications in order to increase the number of internal environmental auditors and plans to increase the number of auditors by approximately 40 in fiscal 2024 (increasing the number of internal environmental auditors affiliated with the Robot Business Division from 120 in fiscal 2023 to 160 in fiscal 2024). In addition, the division conducts skill assessments and training of auditors to enhance the abilities of internal environmental auditors.

Based on the results of the fiscal 2023 audits, in fiscal 2024, the division assesses the abilities of internal environmental audit leaders, take action to reduce the large amounts of waste oils released, and take other action.

The division also conducts management reviews, where annual audit results and the outcomes of initiatives are reported to the division general manager.

Toward Carbon Neutrality

Carbon Neutrality Targets

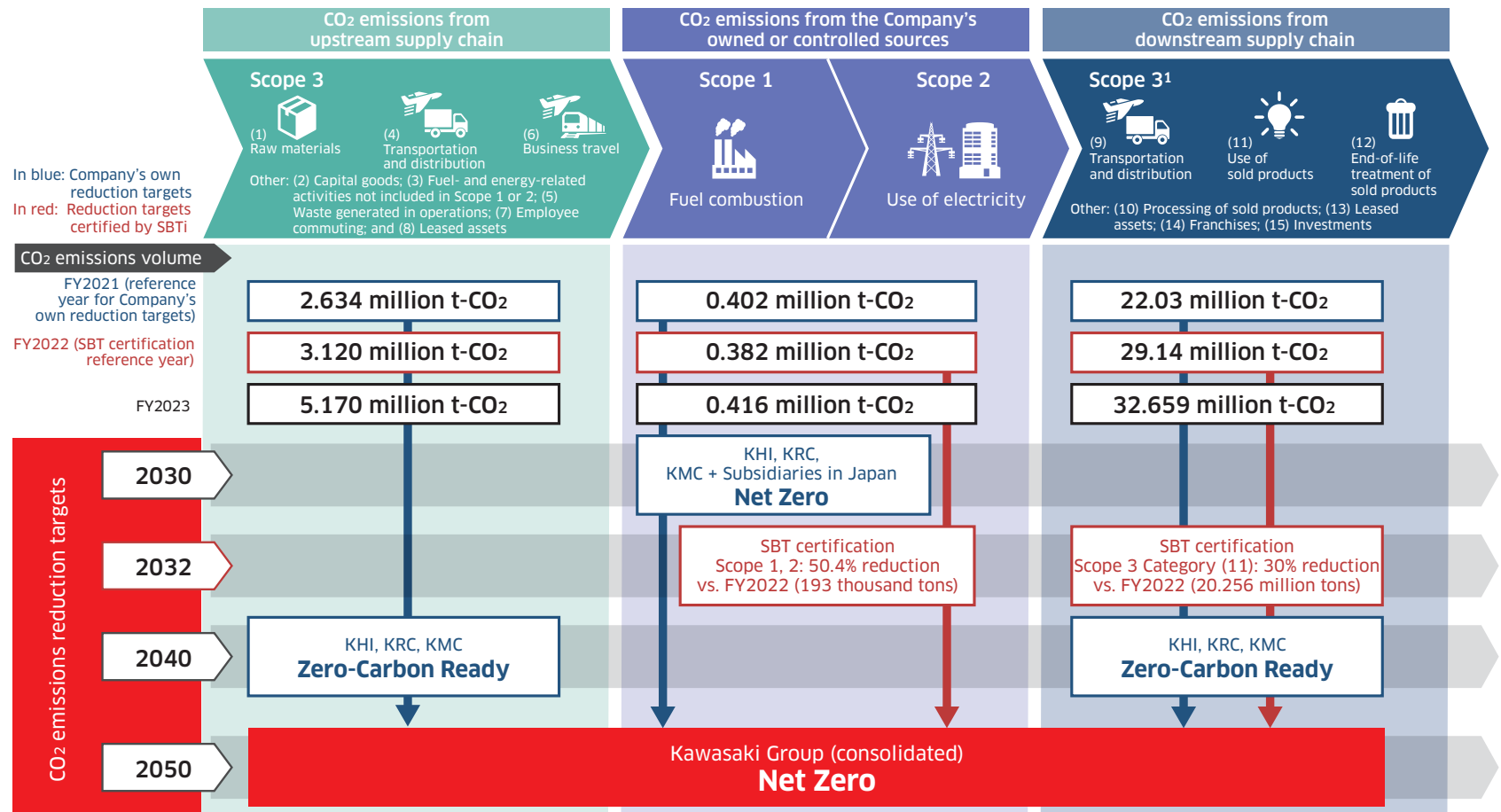
In August 2024, Kawasaki received certification of its greenhouse gas reduction targets from the Science Based Targets initiative (SBTi¹), an international climate change initiative. The certified targets include two types based on fiscal 2022: a short-term target (NEAR-TERM) and a long-term target (NET-ZERO). The short-term target aims to reduce Scope 1 and 2 emissions by 50.4% compared to fiscal 2022 by fiscal 2032, and Scope 3 Category (11) emissions by 30% compared to fiscal 2022. The long-term target aims to achieve net-zero greenhouse gas emissions across the entire value chain by fiscal 2049.

The Group has set its own CO₂ emission reduction targets in advance of obtaining SBT certification. In particular, for Scope 1 and 2, we have established ambitious targets that exceed SBT certification standards. Through voluntary initiatives centered on hydrogen power generation, we aim to achieve net zero domestically by 2030. To address Scope 3 emissions, we will decarbonize products and services with hydrogenation, electrification, green power grid, alternative fuels, and CCUS² as our keywords and strive to achieve by 2040 a status where customers select our Zero-Carbon Ready decarbonization solutions. The target for Scope 3 Category (11), already SBT-certified, is positioned as an intermediate goal for 2040. Ultimately, we aim to achieve net zero across our entire value chain by 2050, in line with the long-term goals of SBT certification. We will expand our decarbonization solutions together with our business partners and customers, contributing to the early realization of carbon neutrality.

→ For more details, refer to the website.

1 SBTi: An international initiative jointly established in 2015 by CDP, the United Nations Global Compact, the World Resources Institute (WRI), and the World Wide Fund for Nature (WWF). It defines and promotes best practices for science-based target setting and independently evaluates corporate targets.
2 CCUS (Carbon dioxide Capture, Utilization and Storage): Capture CO₂ emissions + Store underground + Utilize CO₂

Carbon neutrality targets (short-term and long-term targets)



1 Regarding Scope 3, the calculation method has changed and the scope of aggregation expanded in recent years to ensure more accurate emissions data. For more details, refer to ESG Data in the Sustainability section of our website.

Progress Toward Carbon Neutrality

■ Measures by KHI companywide ■ Measures by the Robot Business Division

KHI companywide

1978

Delivers combustion test facilities for hydrogen rocket engine

More than 30 years of experience with hydrogen

1981

Delivers the first LNG carrier built in Japan

Through the development and social implementation of LNG carriers, we achieved stable energy supplies in Japan and reduced CO₂ by replacing existing fuels with LNG

2010

Focus on hydrogen business announced in Medium-Term Business Plan 2010

Proposed by hydrogen supply chain concept of “Producing, Transporting, and Using” hydrogen

2017

CO₂FREE declaration

In light of the Paris Agreement enacted to restrict global warming and the Sustainable Development Goals (SDGs) adopted by the United Nations, the Kawasaki Group has announced that it will collaborate toward the realization of a sustainable society in the future, and formulated the “Kawasaki Global Environmental Vision 2050.”

2021

Declaration to achieve carbon neutrality at domestic business sites by 2030

Declaration of achieving carbon neutrality independently centered on hydrogen power generation

(Scope 1 & 2 only)

2022

Zero-Carbon Ready declaration (Scope 3) to maximize feasible countermeasures by 2040

- Category 1: 80% reduction (versus FY2021)
- Category 11: Promote CO₂ reduction in the world

Recognized as CDP Climate Change 2022 A List Company

KHI’s corporate sustainability initiatives were recognized in the Climate Change 2022 Questionnaire conducted by CDP and KHI was certified as an **A List Company**, the highest rating.

2023

Recognized as CDP Climate Change 2023 A List Company for second consecutive year

2024

Receives certification from the Science Based Targets initiative (SBTi¹), an international climate change initiative

Short-term targets: Reduce Scope 1 and 2 emissions by 50.4% compared to fiscal 2022 by fiscal 2032, and Scope 3 Category 11 emissions by 30% compared to fiscal 2022.

Long-term targets: Achieve net-zero greenhouse gas emissions across the entire value chain by fiscal 2049

1 SBTi: An international initiative jointly established in 2015 by CDP, the United Nations Global Compact, the World Resources Institute (WRI), and the World Wide Fund for Nature (WWF). It defines and promotes best practices for science-based target setting and independently evaluates corporate targets.

1970~

Robot Business Division

1998

Obtains ISO 14001 certification

2010~

Robot Business Division

2022

Establishes the Carbon Neutrality Committee

The Robot Business Division established the Carbon Neutrality Committee as an internal body to respond rapidly to requests from stakeholders including customers in parallel with KHI company-wide initiatives. The division is accelerating various initiatives in cooperation with other departments with the aim of achieving zero CO₂ emissions throughout the product life cycle.

2020~

Robot Business Division

2023

Issues Carbon Neutrality Report


2024

- Establishes the Sustainability Committee (elevated from the Carbon Neutrality Committee)
- Issues Sustainability Report

Targets and Measures for Reducing CO2 Throughout the Product Life Cycle by the Robot Business Division

Kawasaki Robotics Carbon Neutrality 2050

We will combine KHI technologies to eliminate all CO2 emissions from robots throughout their life cycle to zero by 2050 and create a society where humans and robots can co-exist amidst a rich environment



Technology Development

We are developing robots with low environmental impact by adopting energy-saving and other functions. We are also developing robots that will contribute to the carbon neutrality not just of the robots themselves, but of customer plants as a whole.

Raw Materials Procurement

We are working with suppliers to make CO2 emissions associated with parts visible in an effort to reduce CO2 throughout the supply chain.

Manufacturing

We are pursuing carbon neutral production plants by using electric power generated from hydrogen produced by the company, CCUS, and other sources and by saving energy in plants and offices, shifting to renewable energy, and taking other measures.

Distribution & Packaging

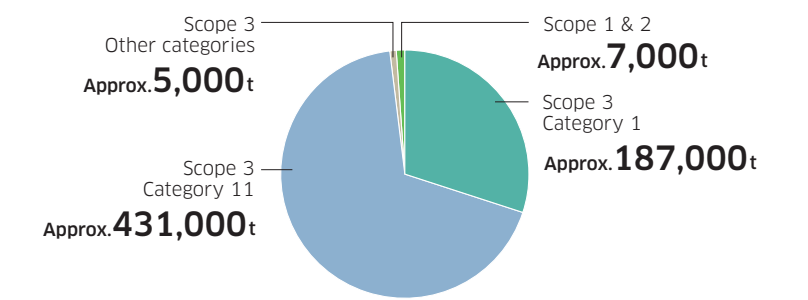
We are working to make CO2 emissions associated with transportation visible and are encouraging switches to transportation methods and packing materials with less environmental impact and other measures.

CO2 emission reduction targets

(Year)	Results	Targets ¹	
	2023	2030	2050
Scope 1 & 2	Approx. 7,000 t	Net Zero ²	
Scope 3	Approx. 618,000 t	15% reduction (Compared to FY2021) (Primary data replacement rate ³ 80%)	Net Zero ²
Category 1	Approx. 187,000 t		
Category 11	Approx. 431,000 t		

1 As a target for Kawasaki Heavy Industries as a whole, we are striving to achieve a status where customers select our Zero-Carbon Ready decarbonization solutions by 2040.
2 In line with Kawasaki Heavy Industries company-wide targets
3 Refer to P18

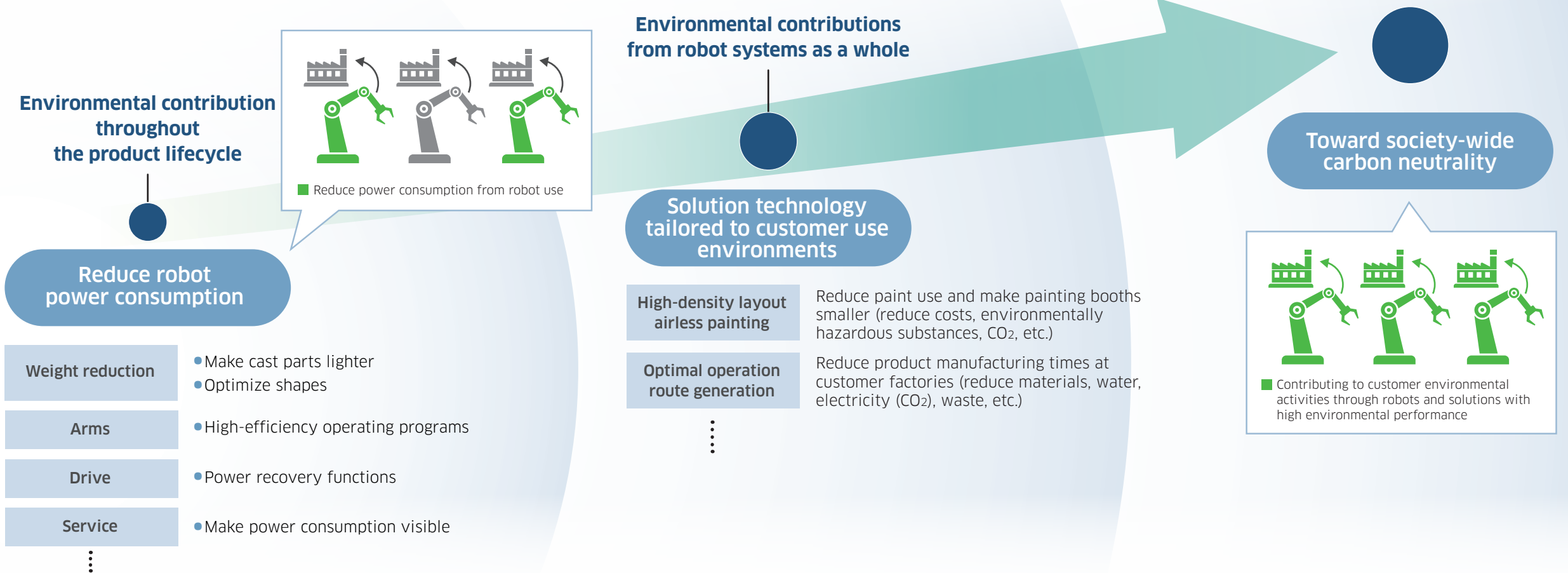
Robot Business Division CO2 emissions (FY2023)



* Scope 3 Category 1 includes CO2 emissions associated with upstream transportation (from suppliers to the Robot Business Division) in Scope 3 Category 4.
* Emissions from domestic business sites

Product Development

Environmental Technologies Provided by Kawasaki Robotics to Customers



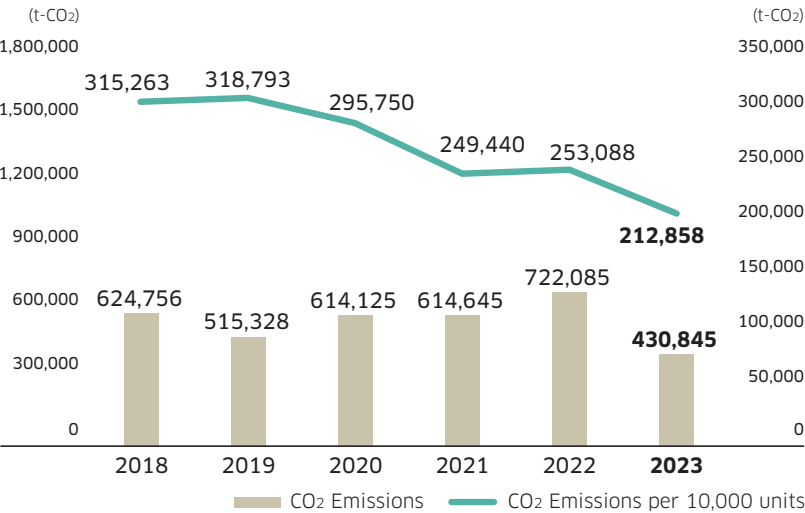
Technology Development (Scope 3 Category 11)

Calculation of CO2 emissions during product use

CO2 emissions during product use (Scope 3 Category 11) are calculated based on robot power consumption.

The Robot Business Division has developed technologies for reducing power consumption, and as a result, has successfully reduced CO2 emissions per unit produced. In the future, we will reduce CO2 emissions from robot power consumption even further by developing additional technologies, increasing the percentage of energy-saving products, and taking other measures.

Changes in CO2 Emissions During Product Use (Scope 3 Category 11)



Kawasaki Ecological Frontiers System (environmentally-conscious products)

The KHI Group has operated the Kawasaki Ecological Frontiers system (formerly known as the Kawasaki-brand Green Products System), a certification program for environmentally-conscious products, since 2014 with the aim of reducing environmental impact throughout the product and service life cycle. This program evaluates products in terms of improvement of the environmental performance of products themselves and reduction of environmental impact during the manufacturing process from three perspectives: reducing CO2, reducing industrial waste, and reducing release of harmful chemical substances, and particularly excellent products are certified and registered.

Until now, the Robot Business Division has worked to develop environmentally-friendly products. The division's products have received numerous certifications under the Kawasaki Ecological Frontiers system. In fiscal 2023, products certified under the Kawasaki Ecological Frontiers system accounted for approximately 12% of the division's total sales revenue.

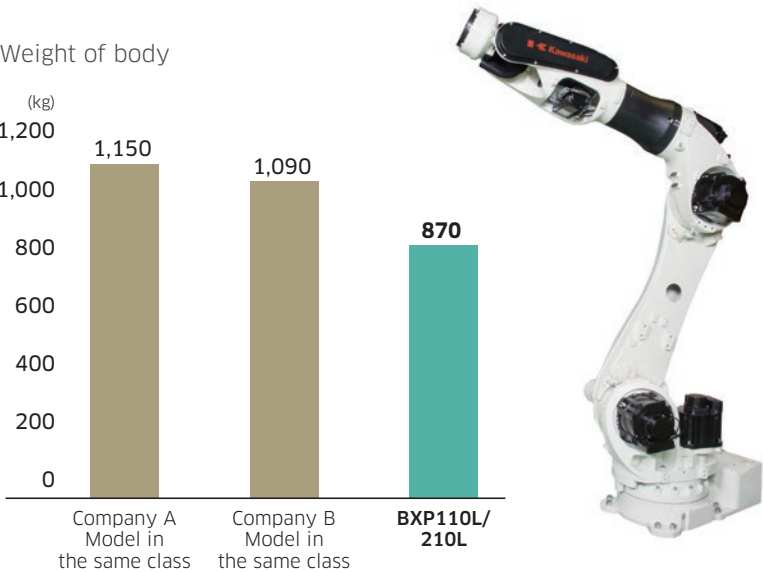
The Robot Business Division's products with certification still in effect as of FY2024

Ecological Frontiers Products	Points of Emphasis as Ecological Frontiers Products	Year of Reg.
Large painting robot KJ264/314	<ul style="list-style-type: none">●Lightest in its class, slim, compact●High-density layouts for smaller painting booths	2015
General purpose cleanroom robot NT420	<ul style="list-style-type: none">●Lightweight arm that can reach up to 4 fops without a travel axis●Travel-less operation reduces robot power consumption	2015
Dual-arm SCARA robot "duAro"	<ul style="list-style-type: none">●Arm with excellent drive system efficiency●Contributes to resource conservation in systemization●Arm controller structure reduces volume	2016
Ultra-large MG series robots	<ul style="list-style-type: none">●Class-leading low weight achieved with unique mechanism (in the class with 1.5 t transportation capability)	2017
F60 controller	<ul style="list-style-type: none">●Class-leading compact size and low weight●Conserves energy by increasing the regenerative power use rate	2018
Compact handling RS007 series robots	<ul style="list-style-type: none">●Compact size improves the power rate and achieves both high-speed operations and low power consumption	2019
Kawasaki Robot ANSHIN Lifecycle Support K-COMMIT®	<ul style="list-style-type: none">●Remote maintenance reduces travel by service personnel●High-precision maintenance extends robot life span	2020
Compact painting robot KJ155	<ul style="list-style-type: none">●Lightest robot in the class with a 1500 mm reach●Has a slim appearance and contributes to making nearby equipment more compact	2021
Spot welding robot BXP110L/210L	<ul style="list-style-type: none">●Class-leading low weight●Compact size and internal cable enable high-density layout	2022
FOX series controllers	<ul style="list-style-type: none">●Industry's smallest and lightest energy-saving robot controller●Power regeneration function also available	2023
Extra-large general-purpose robot MXP360L/410X	<ul style="list-style-type: none">●Weight reduction through material reduction●Reduction of maximum current value	2024

Robot Business Division products certified under the Kawasaki Ecological Frontiers System (environmentally-conscious products) (excerpts)

Certified in 2022 Spot Welding Robot BXP110L/210L

Achieves class-leading weight reduction

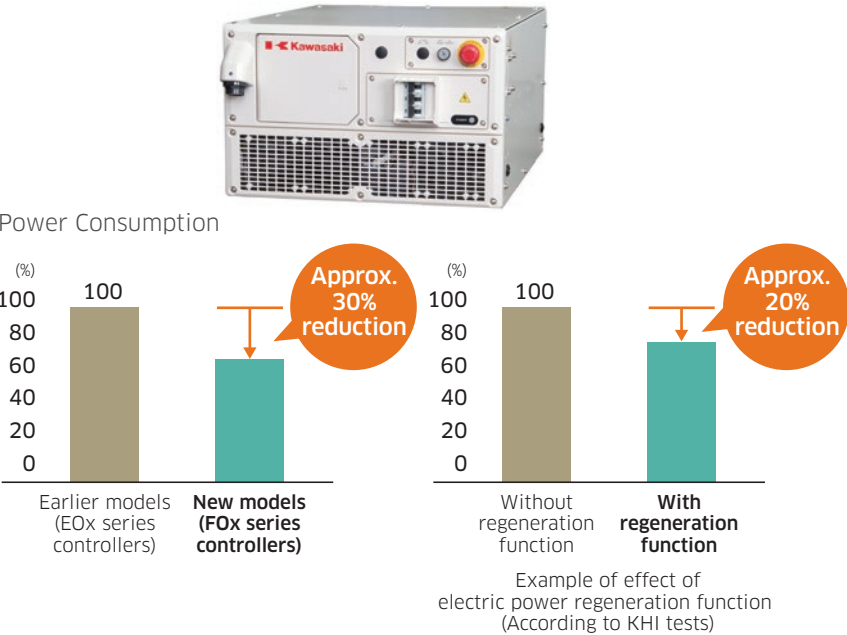


This is a large spot welding robot with a hollow structure. The necessary cables and hoses are incorporated inside the robot in an effort to enhance performance and quality while pursuing ease-of-use and spot welding applications.

→ For more details, refer to the website.

Certified in 2023 FOx Series Controller

Energy-saving robot controller achieves industry-leading compact size and lightweight

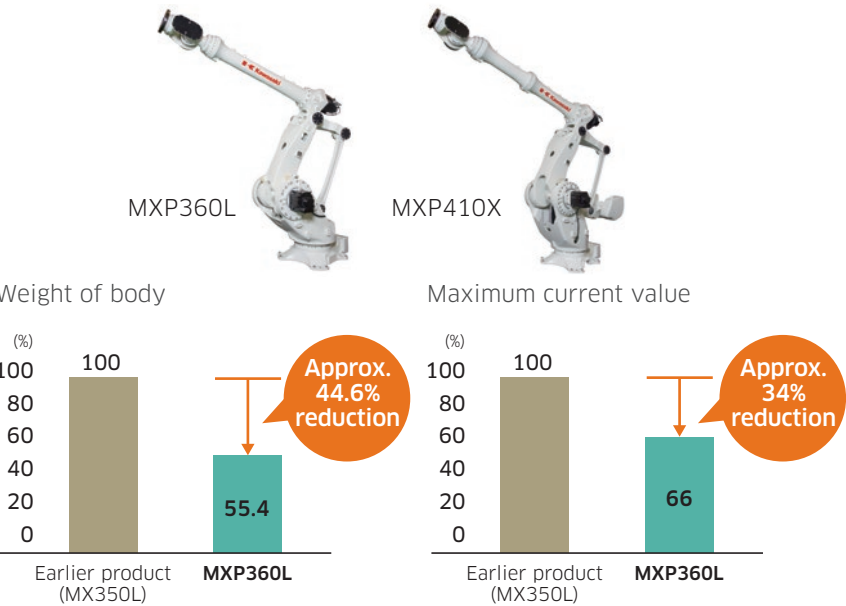


By optimizing the housing structure using the latest thermal design technology, adopting the latest electronic components, and reducing the number of parts, power consumption by the controller itself is approximately 30% less than earlier models. A power regeneration function is available as an option, which reduces power consumption by approximately 20% (depending on the model and operating patterns).

→ For more details, refer to the website.

Certified in 2024 Extra-large General-purpose Robot MXP360L/410X

Energy-saving extra-large general-purpose robot is the lightest in its class



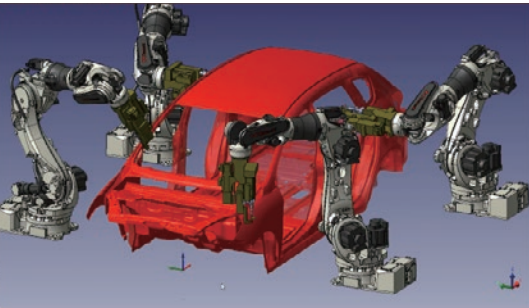




Reducing the weight by reducing the materials used resulted in a 44.6%* decrease in total mass. In addition, by reducing the weight of the arms and adopting the latest vibration control technology, it was possible to reduce the handling operation maximum current value by 34%.*

* The MXP360L compared to an earlier KHI model.

→ For more details, refer to the website.

Development of functions for reducing robot power consumption (examples)

Power Consumption Monitoring Function	Power Recovery Function	Weight Reduction	Optimal Operating Programs
<p>The teach pendant has a function to display the robot's power consumption including average and cumulative consumption. The provides quantitative information on the robot's power use status.</p> 	<p>This function returns power to the primary power source when the robot decelerates. For example, during palletizing operations, power consumption by a large robot can be reduced by 20%–30% compared to the resistance recovery method. The Robot Business Division was among the first to focus on power recovery functions, and robots have been equipped with this function since the E-controller (released in 2015; limited to certain models).</p>	<p>Reducing weight is effective at reducing power consumption, and accordingly, we are actively working to reduce the weight of robot bodies. Example: Payload: 200–210 kg Reach: 2,600 mm class robot BX200L (launched in 2011) Body weight: 890 kg BXP210L (launched in 2021): 870 kg</p> 	<p>By using neoROSET, it is possible to easily perform off-line checks of the robot's range of motion and potential interference with peripheral devices as well as simulations of the robot's motion changes. Verifying optimized operating programs offline minimizes online verification, which can reduce energy usage.</p> 
Remote Maintenance	Automatic Servo Shutoff	Remote Control	
<p>TREND Manager is a function for monitoring robot equipment status via the internet. Robot operating information can be confirmed from a remote location in real time, and high-precision maintenance plans can be proposed despite the remote location. This reduces movement of people and contributes to eliminating robot equipment down time.</p>	<p>When the robot is not operating or in standby, this function cuts off the power to the motors and holds the robot's position using mechanical brakes. The longer the robot is in standby, power consumption can be curbed. We are also working to reduce standby power consumption by controlling cooling fans and liquid crystal backlights and other means.</p>	<p>The Successor system enables control of robot operations from a remote location, reducing the movement of people and energy consumption for maintaining the operating environment.</p> <div></div>	

Developing Solutions That Contribute to Cutting CO₂ Emissions at Customer Factories

Example of CO₂ emissions reduction by making painting booths for the automobile industry more compact

In automobile manufacturing, the painting process consumes large amounts of energy for painting booth climate control due to the need to take in large volumes of outside air to remove paint mist and hazardous substances and to maintain constant temperature and humidity to ensure paint quality. As a result, the painting process accounts for the highest CO₂ emissions among all manufacturing processes, and cutting CO₂ emissions from painting process is an important issue for the automobile industry.

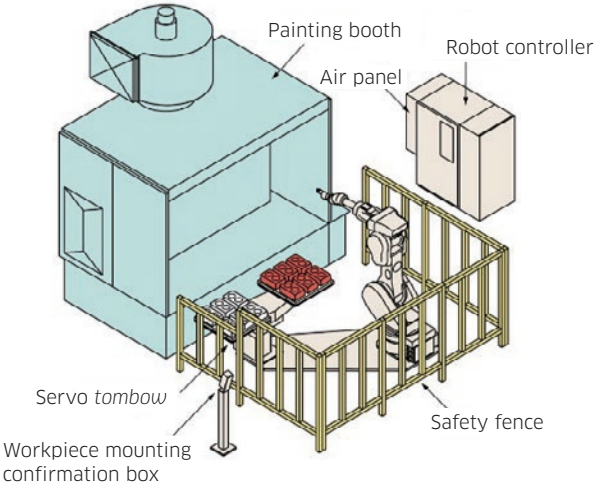
The Robot Business Division contributes to carbon neutrality at customer factories by making painting booths more compact through optimization of painting robot system layouts and adoption of advanced painting technologies, thereby reducing the energy required for climate control, enabling efficient management of paint mist and hazardous gas emissions, and improving overall energy efficiency.

One example of making painting booths for automotive bodies and parts more compact is the adoption of net painting¹ using a layout that combines the transport system for the subject parts with painting robots. With net painting, the spray gun nozzles of the robots remain oriented in the same direction (toward the floor) throughout the process, which helps curtail the dispersion of paint mist and enables a compact painting booth design.

To make painting within this compact layout possible, the robots used are optimized in terms of size, shape, and weight (achieving class-leading low weight). In addition, the robots can be equipped with bell-type high-transfer efficiency painting machines,² which have gained attention in recent years as a key carbon-neutral technology alongside booth size reduction. The combination of painting robots and high-transfer efficiency painting machines makes possible the development of ultra-compact painting booths, which we offer as a solution that contributes to carbon neutrality.

1 A method whereby multiple workpieces are arranged on a mesh 600 mm x 600 mm in size and painted evenly at regular intervals in a uniform direction
2 A painting machine that achieves high paint transfer and low mist using electrostatic painting technology

External view of a small part painting booth



Procurement of Parts (Scope 3 Category 1)

Calculation of CO₂ Emissions from Purchased Parts

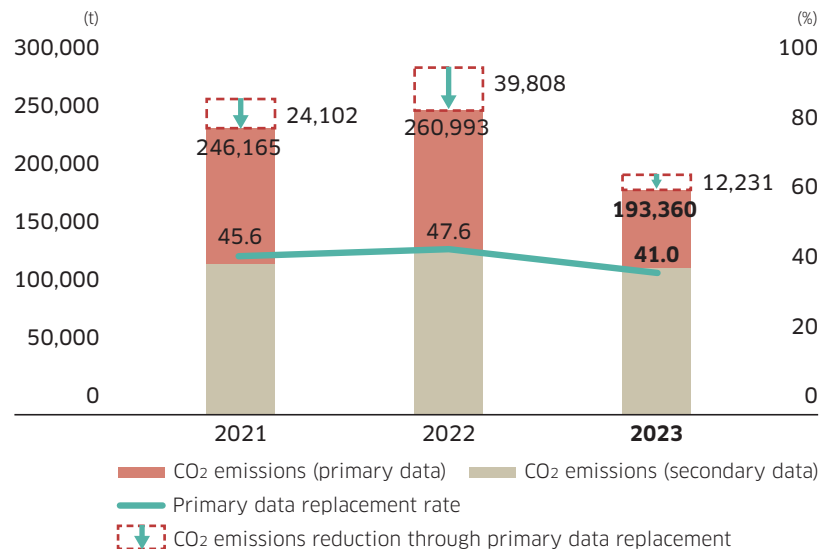
To reduce CO₂ emissions associated with purchased parts, the first essential step is to calculate the current level of emissions. This process typically begins with internal calculations of CO₂ emissions (secondary data) based on factors such as the value of orders placed with suppliers. However, to gain a more precise grasp of actual emissions, it is important to calculate using CO₂ emissions data provided directly by the suppliers themselves (primary data).

The Robot Business Division has been working to gather CO₂ emissions data (primary data) for purchased parts by selecting suppliers who are proactive in calculating emissions, as indicated by the results of supplier surveys that we conducted to ascertain the current situation.

After receiving primary data from suppliers, we review and correct the data as a form of support, helping them improve the accuracy of their CO₂ calculations. Since 2021, the replacement rate¹ of secondary data with primary data has reached approximately 40%, resulting in an annual difference of about 10% compared to emissions calculated using only secondary data. We will continue to work with our suppliers to further improve the primary data replacement rate, enabling us to better understand actual CO₂ emissions and advance our reduction efforts.

¹ The rate of secondary data emissions replaced by primary data emissions as a percentage of the total emissions

CO₂ emissions (Scope 3 Category 1)^{2, 3}



² Include CO₂ emissions from upstream transportation (suppliers to the Robot Business Division) in Scope 3 Category 4

³ Apply to parts procurement at domestic production sites

Supplier Awareness Initiatives

Since fiscal 2022, the Robot Business Division has been conducting ongoing carbon neutrality study sessions for suppliers to promote a better understanding of CO₂ emissions and to encourage reduction efforts across the entire supply chain.

In the first fiscal year, the study sessions focused on explaining the concept of carbon neutrality and the importance of taking action. Since then, the scope of the initiative has gradually expanded, and today, instructions are provided on how to calculate emissions at the company level and how to calculate emissions per product (carbon footprint).

Looking ahead, in addition to refining CO₂ emissions data, we aim to clarify specific avenues for reducing emissions associated with purchased parts, and we will continue strengthening our collaboration with suppliers.



Study session on carbon neutrality for suppliers

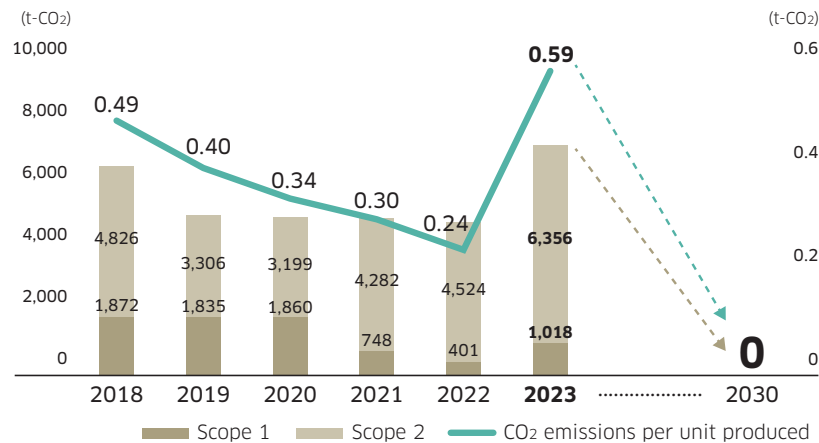
Manufacturing (Scope 1 and 2)

CO₂ Emissions at Factories and Offices

CO₂ emissions from the Robot Business Division's production activities are shown in the figure below. The division has reduced CO₂ emissions per unit produced through measures including energy-saving activities and partially switching to renewable energy.

To achieve the KHI Group's target of zero Scope 1 and 2 CO₂ emissions in Japan by 2030, we will continue to undertake energy-saving and other measures.

Changes in the Robot Business Division's Scope 1 and 2 CO₂ Emissions^{1, 2}



¹ Emissions at the main domestic sites (Akashi Works and Nishi-Kobe Works) only are included.

² In fiscal 2023, CO₂ emissions per unit produced temporarily increased due to changes in the emission factors of electric power providers and a higher ratio of city gas usage at the factories.

Measures for Reducing CO₂ Emissions

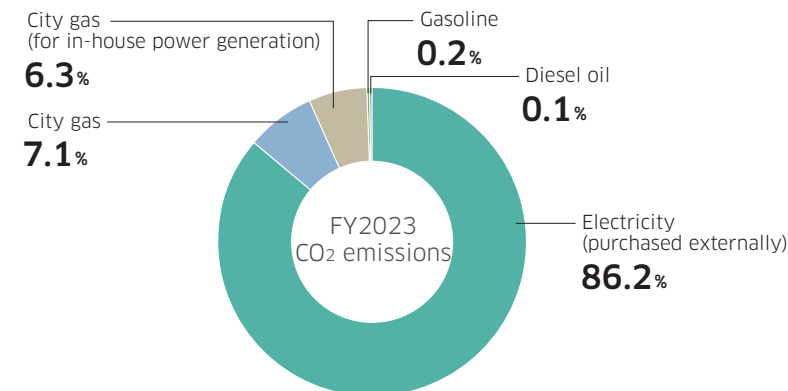
Measures by KHI Group

At the Kawasaki Group, the Head Office is taking the lead in efforts such as implementing measures to use clean energy. As a result of these efforts, we expect that Scope 1 and 2 CO₂ emissions will decrease in the future at the Akashi Works and the Nishi-Kobe Works, which are among the Robot Business Division's domestic production sites.

- Power generation from hydrogen: 100 MW-class power generation under consideration
- Solar power generation: Power generation facilities installed at the Seishin Works
- Power consignment: Trial completed for power consignment from the Akashi Works to the Harima Works
- Development of CO₂ separation and recovery technology

Measures by the Robot Business Division

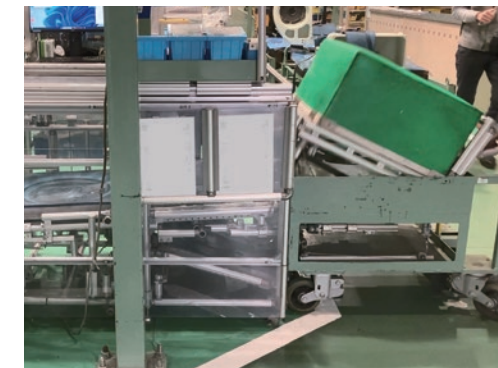
The majority of CO₂ emissions (Scope 1 and 2) in the Robot Business Division come from electricity consumption.



For this reason, we are promoting energy-saving measures at the division's factories and offices, with the aim of reducing electricity consumption.

- Partial switch to renewable energy
- Conversion of lighting to LEDs
- Introduction of power monitoring systems
- Installation of double-glazed windows (improves air conditioning efficiency)
- Implementation of improvements through innovative methods (karakuri kaizen*)
- Switch to sheet shutter interlocking
- Replacement of air conditioning units
- Installation of Lossnay ventilation systems at offices

In addition, at KRCK, our production site in China, we began installing solar panels in fiscal 2024, and now about 30% of the electricity used at the factory in production is supplied by renewable energy.



Example of karakuri kaizen: Non-powered transportation of heavy parts

* Improvements for implementing automation using only natural energy or mechanical devices without the use of power such as electricity and air.

Transportation and Packaging (Scope 3 Category 4)

Calculation of CO₂ Emissions from Product Transportation

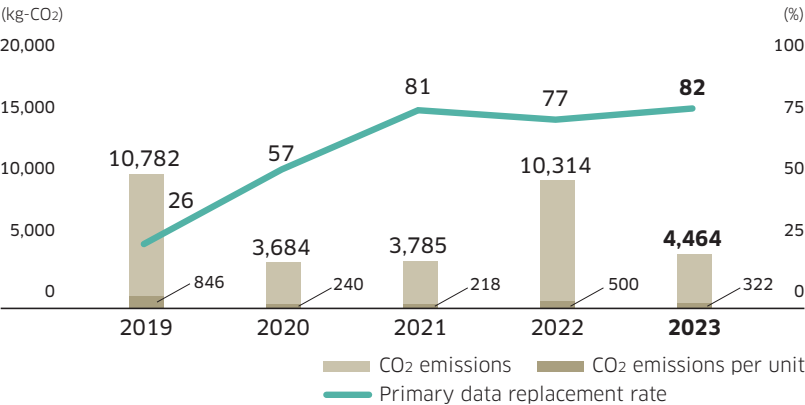
While implementing measures to reduce CO₂ emissions from product transportation, we are also working to gain a more accurate understanding of actual emissions.

In fiscal 2023, we calculated CO₂ emissions internally (secondary data) based largely on transportation costs. In fiscal 2024, we began calculating CO₂ emissions (primary data) obtained from transportation companies from past data, which include factors such as transportation distances, cargo weights, and fuel efficiency. We will continue to work with these companies to increase the primary data replacement rate¹ and produce more accurate calculations that reflect actual conditions.

We will continue to expand the use of primary data going forward, enabling improvements in efficiency and accuracy based on precise data.

1 The rate of secondary data emissions replaced by primary data emissions as a percentage of the total CO₂ emissions

Trends in CO₂ emissions and primary data replacement rate^{2, 3}



2 CO₂ emissions from downstream transportation (Robot Business Division to the customer) in Scope 3 Category 4

3 Covers from domestic production sites to domestic shipping destinations or to import ports/airports

Shift to Transportation Methods with Low Environmental Impact

As part of our transition to transportation methods with low environmental impact, in fiscal 2024 we initiated a modal shift from conventional truck transportation to railway transportation.

Currently, we are conducting trial shipments for products with high transport frequency and significant potential for CO₂ reduction, and with the cooperation of our customers, verifying whether or not this shift impacts product quality.

These rail shipments have demonstrated a CO₂ emissions reduction of more than 80% compared to conventional truck transportation, so we are working to expand the use of railway systems for other routes.

We are also exploring other modal shifts, such as from air to sea transport, to enable a wider range of sustainable transportation options.



Railway container during trial shipment

Increasing Transportation Efficiency

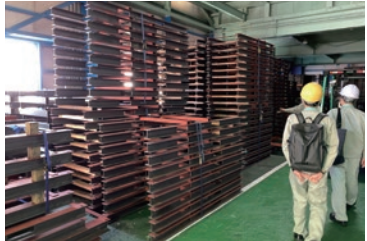
We started cooperative transportation with other divisions in 2022, reducing the number of trucks used. Going forward, we will achieve transportation with the highest loading efficiency by expanding cooperative transportation within the KHI Group and with external partners and adopting multi-stage loading at the time of transportation.



Cooperative transportation between the Robot Business Division and other divisions

Improving and Reusing Packaging Materials

We started using returnable shipping racks in 2022 and are currently shifting away from products that use the most steel over the course of a year. In the future, we will achieve optimal packaging throughout the life cycles of shipping and packaging materials including increasing the use of returnable shipping racks and transitioning to packaging materials with low environmental impact.



Reusable shipping racks

Calculating CO₂ Emissions per Product Unit (Carbon Footprint)

Toward Calculating Carbon Footprint

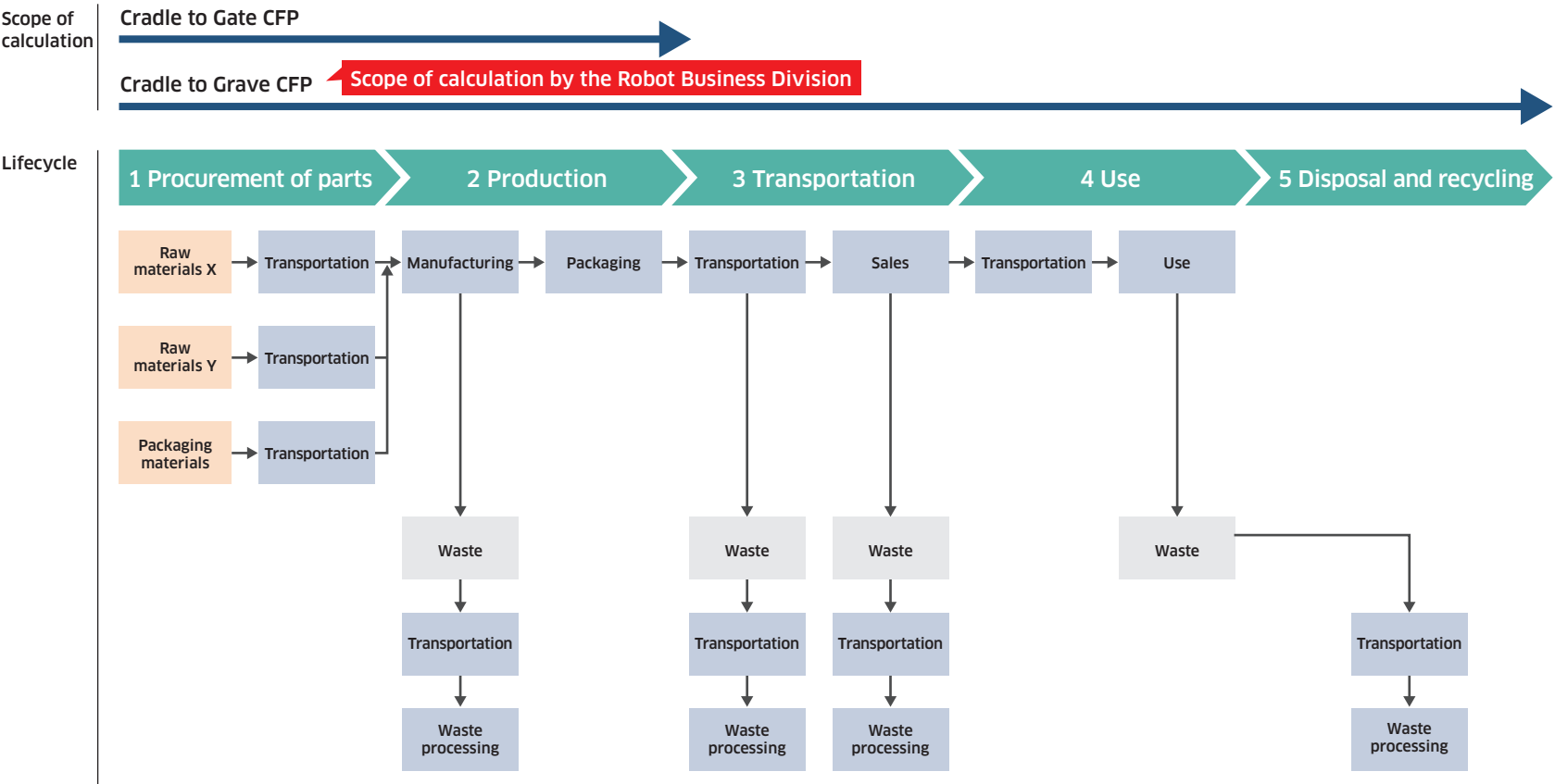
The Robot Business Division takes measures to calculate the carbon footprint (CFP), that is, the CO₂ emissions, per product throughout the entire product lifecycle from procurement of raw materials to disposal and recycling.

Currently, determination of which processes in the product lifecycle to include in the scope of the calculation is left to individual discretion, but the Robot Business Division seeks to calculate CFP based on a “cradle to grave” concept that includes all processes of the entire product lifecycle. The division is currently working in cooperation with suppliers, transportation companies, and others to calculate CO₂ emissions per product unit originating from (1) procurement of parts, (2) production, (3) transportation, and (4) use.

If all companies are able to calculate CFP, customers will be able to select low CO₂ emissions products, and it will be possible to appropriately calculate the effects of CO₂ emissions reductions by suppliers.

The division is starting by calculating the CFP of key models and models designated for specified export and plans to expand the models subject to calculation in stages.

Conceptual diagram of calculation scope setting



* Prepared by the Company based on Ministry of Economy, Trade and Industry and Ministry of the Environment, *Carbon Footprint Guidelines*

Environmentally Hazardous Substances and Waste

Waste and Harmful Chemical Substances from Factories

Management System

We collaborate with head office, plant office departments, and other organizations to manage waste, recycled materials, and harmful chemical substances generated by factories and offices. We also encourage goal setting, investigation of reduction measures, following-up on results, and collaborating when problems occur.

In addition, not only do we set targets for the Robot Business Division as a whole, we implement environmental management programs in each department within the division every year, setting targets and monitoring progress based on environmental impact assessments. Through these efforts, we strive to ensure that division-wide targets are achieved and to foster greater awareness regarding environmental contribution in each department.

Reducing Emissions of Harmful Chemical Substances

We take action to reduce environmentally hazardous substances with a focus on production activities at factories with the aim of realizing a society that coexists with nature (reducing harmful chemical substances).

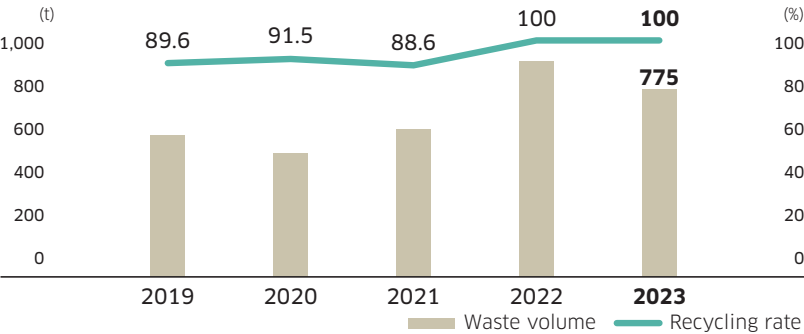
For instance, each year, we set targets, investigate measures, and verify the effects of those measures to reduce the amount of volatile organic compounds (VOCs) used, reduce painting defect rates by reviewing painting, and respond to harmful chemical substance requirements following amendment of the Industrial Safety and Health Act.

Reducing Waste Emissions

The Robot Business Division continuously takes action to reduce waste emissions. In fiscal 2023, compared to a target for waste emissions of 1,100 tons, actual emissions were 775 tons, and thus, the target value was achieved.

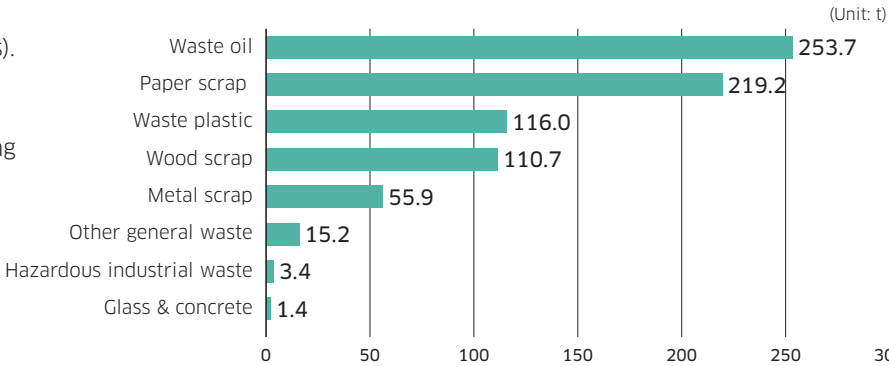
In addition, we have maintained the rate of material recycling or thermal recycling at nearly 100% for the past several years.

Waste volume and recycling* rate



* Recycling includes material recycling and thermal recycling

Breakdown of waste in the Robot Business Division (FY2023)



In the future, we will continue taking the measures described in (1) and (2) below to reduce waste emissions even further and maintain the recycling rate.

(1) Raise awareness concerning proper sorting of waste through employee training

(2) Encourage the use of reusable boxes, reuse robot frames, and go paperless by using electronic data

We have also taken measures to reduce waste oils (water-soluble waste oil, waste paint, etc.), which account for a significant part of waste material.

As a result of construction work performed in February 2024, the classification of waste liquid from the pre-painting process was changed from “waste oil” to “waste water,” leading to a significant reduction in waste oil (total amount of waste oil in the first half of fiscal 2023: 148.7 tons → the first half of fiscal 2024: 27.4 tons (81.5% reduction))

Environmentally Hazardous Substances in Products

In accordance with the laws and regulations of each country and region, the Robot Business Division requires suppliers to comply with environmental laws and regulations regarding environmentally hazardous substances in products, including omitting and managing those substances. We outlined the environmental laws and regulations to be complied with as well as the division’s environmental policies and initiatives in our Green Procurement Guidelines, which are communicated to suppliers. The division also conducts restricted substance content surveys and takes other measures as needed.

In the future, we will enhance the guidelines even further, investigate specific requests to suppliers, and take other action to reinforce coordination throughout the supply chain and develop products with minimal environmental impact.

Social



Quality

ISO9001

The Robot Business Division obtained certification under ISO 9001, an international standard on quality management systems, in 1995. The division takes measures to improve quality in accordance with the following quality policies: compliance with legal and regulatory requirements, promotion of TQM activities with the participation of all employees, and sharing information with customers to provide products and services that meet market needs and expectations. We also encourage internal auditors to obtain in-house qualifications and actively conduct audit skill-enhancement training to ensure the effectiveness of internal audits.

Kawasaki Production System (KPS)

Kawasaki Heavy Industries' manufacturing is based on a production method known as the Kawasaki Production System (KPS). The KPS safely and efficiently provides customers with products that meet the required quality in the required quantities, when needed.

The Robot Business Division evaluates KPS activities in order to create plants that put the concepts and techniques of the KPS into practice in production and improvement activities and are operated and managed in accordance with the KPS concepts. We assess a wide range of items including quality control, recurrence prevention, target management, education, maintenance, and personnel management at each worksite while taking into consideration on-site patrols, leading to improvements.

As a part of KPS activities, we implement “one team, one improvement” activities at all manufacturing worksites every year. Teams set improvement topics in line with the annual action policy and undertake improvement measures with the participation of all employees. Both Kawasaki Heavy Industries and the Robot Business Division undertake these and numerous other initiatives to enhance manufacturing quality.

Activities and training relating to the KPS (excerpt)

- Quality enhancement activities
- One team, one improvement activities
- Improvement activities when new team leaders are appointed
- KPS activity evaluations
- KPS activity company-wide conference (KHI company-wide activity)
- Grade-specific KPS training for production specialists
- KPS training for team leaders



A worksite patrol to support KPS activities

Promotion of Total Quality Management Activities

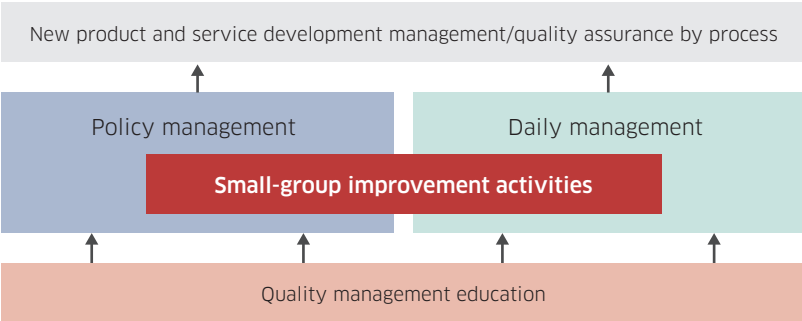
The Kawasaki Group conducts companywide total quality management (TQM) to reinforce quality management systems and create resilient organizations that can achieve continuous growth while minimizing risks under a constantly-changing business environment.

TQM comprises six elements: product and service management, quality assurance by process, daily management, policy management,

small-group improvement activities, and quality management education. These activities are designed to reform organizations so that they can respond flexibly to changing business environments with the participation of all employees.

In the Robot Business Division, the Planning & Control Division plays a central role in the promotion of TQM activities across all divisions, working with the promotion leaders of each department.

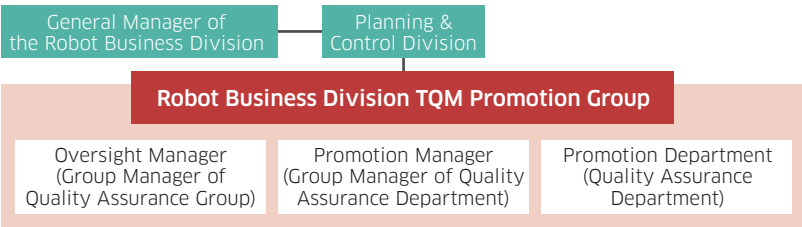
TQM constituent elements



Currently, we are newly focusing on the following items.

- Further spread of TQM activities
- Promoting self-sustaining TQM activities in each department
- Topic discussions by management
- Improving operation of competency management systems to ensure effective training of human resources

TQM activity promotion system in the Robot Business Division



Occupational safety and health

Approach to Occupational Safety and Health

In line with its tenets of maintaining respect for individuals and putting health first, the Kawasaki Group is committed to creating a workplace culture that places the utmost priority on safety and health. Accordingly, the Group will not only comply with laws and regulations related to occupational safety, hygiene, and health but also give even more careful consideration to maintaining safe, hygienic and healthy workplace settings for all those working at its facilities.

Priority items and examples of initiatives in the safety and health plan of the Robot Business Division

Priority items	Initiatives
Thorough enforcement and strengthening of measures to prevent occupational accidents	<ul style="list-style-type: none">● Identification, elimination, and reduction of risks based on risk assessment● Visualization of risk, including the creation of safety risk maps for individual workplaces● Conducting monthly safety patrols
Thorough enforcement of measures to prevent serious and similar occupational accidents	<ul style="list-style-type: none">● Safety and health education and work guidance for new employees and new entrants● Cultivating hazard awareness through the utilization of in-house hazard simulation facilities such as the Hazard Experience Education Center and the Safety Dojo for the purpose of raising awareness about proactive avoidance of unsafe practices● Conducting education for newly appointed foremen
Preventive measures against occupational illnesses	<ul style="list-style-type: none">● Enhancing the working environment based on results of working environment measurement and risk assessment of chemical substances● Acquisition of knowledge and skills through participation in the diverse statutory training programs when assigned to dangerous or hazardous work● Ensuring proper utilization of local exhaust systems and protective equipment
Mental health measures	<ul style="list-style-type: none">● Conducting counseling services with external counselors (Robot Business Division started its own counseling service in FY2022)● Implementing mental health education (grade-specific training for general employees + training for managers)● Early detection of and early response to mental health issues through the promotion of self-care and line-of-command care● Utilizing results of group analysis conducted at the time of stress checks to enhance the workplace environment
Health management measures	<ul style="list-style-type: none">● Conducting health education such as prevention of lifestyle diseases as part of grade-specific training● Proactively promoting health initiatives such as our company-wide Wellness Challenge Walking Event (Kenchare Walking Event)¹● Management of smoking zones to prevent exposure to second-hand smoke

1 A walking rally event jointly sponsored by the company, the health insurance union, and the labor union with the objective of fostering a habit of walking among company employees

Occupational Safety and Health Management Systems

Based on our occupational safety and health management systems, we implement systematic safety and health management activities as well as improvements through ongoing PDCA cycles and internal audits at workplaces. By doing so, we seek to prevent occupation accidents and facilitate the creation of a comfortable work environment. Furthermore, through risk assessment of workplaces, we are committed to continue working toward elimination and reduction of the risk of occupational accidents taking into account the business characteristic of the Robot Business Division.

Results and Targets in Occupational Safety and Health

The table below shows the past safety and health milestones achieved by the Robot Business Division. Elimination and prevention of serious accidents is our foremost goal, and we aim to continue maintaining zero cases in the future.

Results and targets related to occupational safety and health

		Results in 2022	Results in 2023	Targets in 2024
Safety	Number of serious occupational accidents	0	0	0
	Number of lost time injury	1	1	0
	Lost time injury frequency rate	1.08	3.86	0
Health	Absence rate (day basis) due to sick leave ¹	9.07	9.96	8.0 or less
	Health score ²	3.96	3.95	4.09 or more

1 Absence rate (day basis) due to sick leave = Number of days of sick leave/total number of prescribed working days x1,000
2 The health score refers to a score on a six-point scale that is based on the results of a medical examination of six lifestyle habits (diet, exercise, drinking, sleep, smoking, and appropriate weight) that affect labor productivity. The higher the score, the healthier the lifestyle.

Safety and Mental Health Education

With respect to safety, in addition to education required by law, we carry out other necessary safety and health education programs, including grade-specific training for different staff grades, operation-specific training given after a change in operational content or for employees engaged in specific duties, and general education, which includes hazard prediction training and health education.

In the context of mental health, we are committed to provisioning training on line-of-command care for mental health to managers and production supervisors as well as providing self-care training for mental health as part of the grade-specific training of general employees.

Supply Chain Management

/ The Kawasaki Group's Basic Stance

It is essential to conduct procurement activities in line with our thoughts on sustainability, including consideration of compliance, human rights, labor, occupational safety and health, and the global environment. To actively promote sustainability initiatives throughout the entire supply chain, we will respond to the requirements of customers and society by promoting sustainability activities together with our suppliers.

/ Procurement Guidelines

In 2020 we rewrote the Kawasaki Group CSR Procurement Guidelines (first issued in 2012), which presented the Kawasaki Group's thinking on sustainable procurement and specified contents by stipulating details regarding our requirements of suppliers. In view of the growing social demand for sustainability initiatives in the supply chain, we revised the document again in fiscal 2022 and renamed it as the Kawasaki Group Sustainable Procurement Guidelines, thus clarifying our policy of enhancing sustainability throughout the entire supply chain.

In the Robot Business Division, in addition to the guidelines for the Kawasaki Group as a whole, we have formulated a division-specific document, titled the Robot Business Division's Green Procurement Guidelines, and publicized it among our suppliers as our basic thinking regarding business transactions with the division.

→ [For more details about the Procurement Guidelines, refer to the website.](#)

/ Respect for Human Rights in the Supply Chain (Responsible Mineral Procurement)

We respect the Code of Conduct of the Responsible Business Alliance (RBA)* and strive to implement humanitarian and sound management and to confirm the place of origin and distribution process of minerals so that products manufactured by the Robot Business Division are derived from a responsible supply chain. Since the agreement and cooperation of suppliers constituting the supply chain are essential for this endeavor, first of all we requested, and received, written agreements to the RBA Code of Conduct from first-tier suppliers (about 300 companies).

In addition, to realize responsible mineral procurement, we are conducting surveys of the state of use of smelters in high-risk conflict regions and stipulate that certain smelters cannot be used. If an applicable smelter is being used, we ask the supplier to quickly switch to another smelter. Furthermore, we are endeavoring to realize responsible mineral procurement throughout the entire supply chain by requesting the Robot Business Division's first-tier suppliers to publicize responsible mineral procurement to upstream suppliers and make corrections where necessary.

* The Responsible Business Alliance is the world's largest organization of companies aiming to promote social responsibility in global supply chains.

/ Support for Suppliers

Briefings on production trends

We hold briefings on production trends for suppliers to directly convey to them such information as market trends in the robot business, the medium- and long-term vision of the Robot Business Division, our

production plans, and our response to carbon neutrality and environmentally hazardous substances. (These briefings were held twice in fiscal 2024, with the participation of about 150 companies each time.)

We also accept requests and so on from suppliers to our division, seeing them as a chance to make long-term improvements.

Supplier awards

The Robot Business Division has a system whereby, once a year, we award suppliers who provide us with a stable supply of high-quality parts. This commendation of suppliers who have made outstanding contributions from such perspectives as cost, quality, production, and sustainability also helps to further boost motivation in the following year and beyond.



Supplier award ceremony

Supplier inspections and education

The Robot Business Division implements manufacturing process quality inspections of main suppliers who have continuing business transactions with us and audits their state of compliance with the RBA Code of Conduct. We actually visit these suppliers and, after checking their manufacturing and quality management, observance of the items in the RBA Code of Conduct (labor, health and safety, environment, management systems, and ethics), and so forth, offer guidance for improvements.

Developing Future Human Resources for Robotics Industry

The Consortium of Human Education for Future Robot System Integration (CHERSI)

There is increased expectation around automation through the introduction of robots to address the societal challenges of recent times, such as the falling birthrate and aging population, labor shortages, and increasing productivity. Under these circumstances, it is important for the robotics industry to work together to actively develop the future human resources for robotics services.

The Consortium of Human Education for Future Robot System Integration (CHERSI), in which eight robot manufacturers including Kawasaki Heavy Industries alongside the Japan Robot System Integrator Association participate, is involved in the delivery to educational institutions of the latest technological trends as well as producer-driven solutions, and other resources.

Initiatives it undertakes include visits by teachers from higher technical colleges and technical high schools to CHERSI member companies to achieve a full view of the latest technological trends and robot application case studies, thereby facilitating the incorporation of industry know-how into higher technical college education; with CHERSI member companies in turn dispatching lecturers to higher technical colleges to directly convey information to students about the latest technological trends and robot application case studies.

Realization of “A society where people and robots coexist” will not be possible without future human resources for robotics services. The entire robotics industry is committed to working together to promote the understanding of robots and actively contribute to the fostering of human resources who will be responsible for the next generation of robot development and system integration.



Tours and classroom lectures at the Nishi-Kobe Robot Showroom for teachers from higher technical colleges and technical high schools

Become a Kawasaki Robot Engineer!

We regularly hold “Become a Kawasaki Robot Engineer!” interactive robot events for third-grade elementary school students and above, at which participants can actively observe, touch, and operate the “industrial robots” that support people’s daily lives.

These are hands-on events to allow the participating students to learn about industrial robots, which while rarely seen are in fact used in the monozukuri manufacturing which takes place all around them, including “how they work,” and “what kind of work they do,” while having fun, getting an actual experience of programming the robots and taking on challenges.

The “Become a Kawasaki Robot Engineer!” event was awarded the Children’s Smiles Award in the Children’s Smiles Odyssey organized by the Tokyo Metropolitan Government in September 2023. This award is bestowed on companies and other organizations that have implemented outstanding initiatives for children, and Kawasaki was selected in the “We Want to Experience It for Ourselves” category.

The Robot Business Division will remain actively committed to encouraging the children who will be responsible for the future by delivering fun experiences and learning to these children through robots.



A child participating in the “Become a Kawasaki Robot Engineer!” initiative

Human Resource Development and Engagement

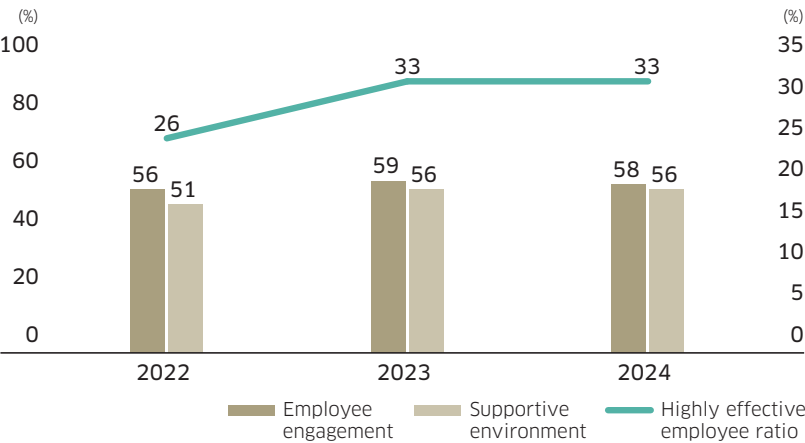
Enhancing Engagement

Engagement Survey (WinDEX)

Kawasaki Heavy Industries uses an engagement survey (WinDEX) administered once each year in an effort to enhance employee engagement.

The survey, which is widely used by global companies, is made up of two results indicators, “supportive environment” and “employee engagement,” that have a high degree of correlation with business performance. We have set a target for Kawasaki Heavy Industries as a whole to achieve ratios of more than 50% of employees who exceed the global averages on both result indicators (highly effective employees) by fiscal 2030.

Employee engagement survey (WinDEX) results (Robot Business Division)



* “Employee engagement” indicates the degree of commitment to the company and willingness to take on challenges on one’s own initiative.

* “Supportive environment” indicates the degree to which the right personnel are assigned to the right positions and to which a supportive environment that enables employees to demonstrate their maximum capabilities is present.

In the Robot Business Division, the ratio of highly effective employees in fiscal 2024 was 33%, and a target of 36% was set for fiscal 2025. To improve the ratio of highly effective employees, Human Resources Department took the lead in investigating and implementing various measures, individual departments within the division formulated and implemented action plans based on the results of the WinDEX survey for their respective departments, and the Human Resources Department also followed up on those plans.

Based on the WinDEX results, the division is focusing in particular on initiatives related to survey items such as “likelihood of achieving career goals,” “understanding of strategies and direction (leadership),” “cooperative structures,” “work processes and organizational structures,” and “resources.”

Town hall meetings

Since fiscal 2022, the Robot Business Division has been holding town hall meetings where small numbers of employees can engage in dialogue with management (the division general manager). Through fiscal 2024, a total of 20 meetings were held, with approximately 170 employees participating.

Objectives of holding town hall meetings

- (1) Create a forum where management leaders can provide information to employees in a clear manner
- (2) Promote two-way communication between management leaders and employees and, through exchanges of opinions and provision of feedback, share information on issues and problems and explore improvement measures
- (3) Instill a culture of ownership among employees and encourage employees to take action on their own initiative by providing opportunities for employees to express their own opinions to management leaders

A wide range of employees including general employees, managers, and production specialists have participated in the meetings, deepening mutual understanding with management on various topics including

business policies, individual careers, workplace issues, and proposals concerning future policy.



A town hall meeting

Support for career development

To support employees in achieving their career objectives, Kawasaki Heavy Industries conducts grade-specific career training, provides career counseling services, and takes other measures throughout the company. In addition, the Robot Business Division implements the following measures.

- Job rotations based on self-declarations, which provide opportunities for employees to declare their transfer and career aspirations, implemented companywide every year
- Promotion of matrix-based personnel transfers that go beyond the distinctions of job type and business unit (promote understanding of work between departments and reinforce collaborative systems, an area of emphasis based on the WinDEX results)
- Promotion of clarification of the skills and abilities needed in each department and the creation of role models

Small-group activities

The Robot Business Division conducts small-group activities that involve employees from different workplaces. During these activities, each employee is free to propose topics* that go beyond their normally-assigned duties, and they solve problems through creativity and ingenuity along with supporting members.

These activities, which adopt a medium-term perspective, process focus, and overall optimization as their concepts, are implemented with the following three objectives.

- (1) Invigorate business through the participation of all employees
- (2) Improve employee skills and support self-actualization by employees
- (3) Contribute to achieving our vision for business

* Concrete examples of employee-proposed topics: Using high-performance AI to make work easier, encouraging DX of software control unit specifications, Kawasaki hackathon

Activity results

FY2020	FY2021	FY2022	FY2023	FY2024
Participants from all sections	Participants from all sections	383 employees in 54 teams	424 employees in 49 teams	214 employees in 24 teams



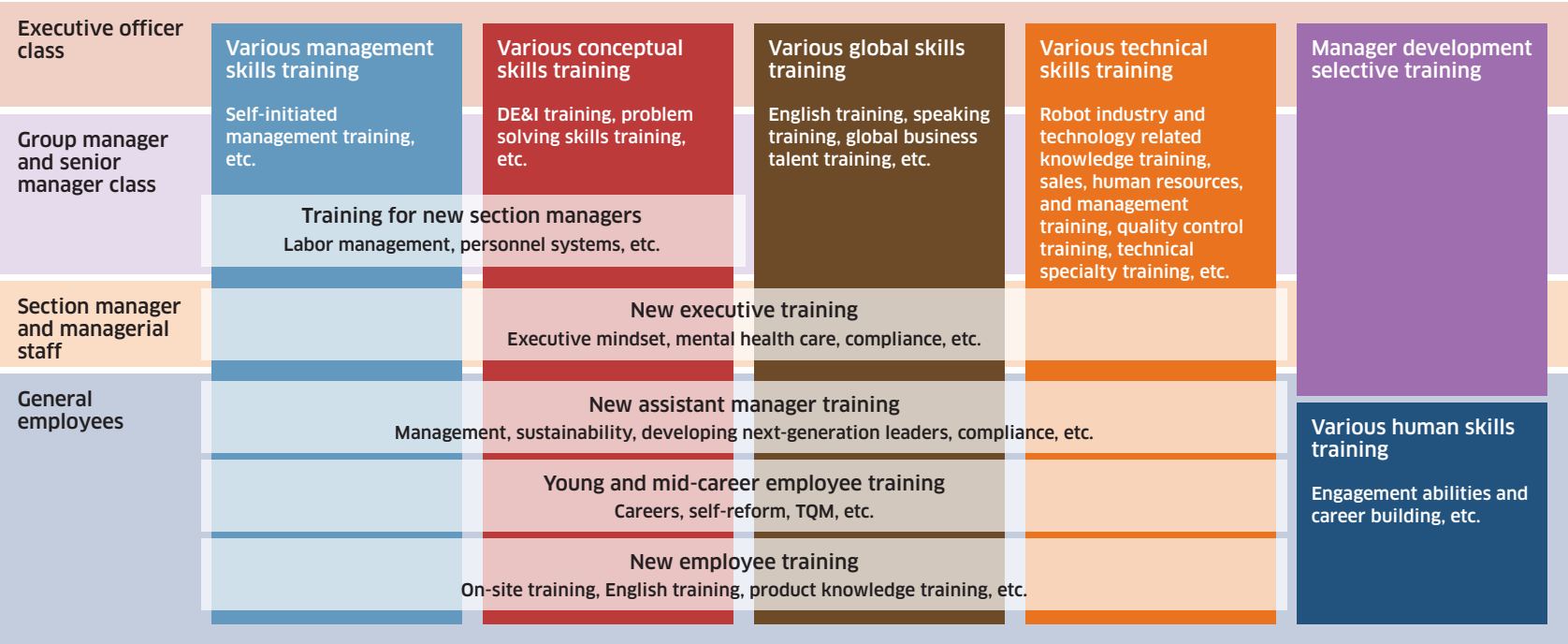
The fiscal 2024 small-group activity presentation session

Education and Training

We offer diverse training programs to a wide range of employees that contribute to the improvement of management skills, conceptual skills, global skills, technical skills (specialized knowledge), and human skills as well as selective courses for developing next-generation executives. These grade-specific and selective training programs are offered throughout Kawasaki Heavy Industries or throughout the Precision Machinery & Robot Company, and the Robot Business Division independently conducts numerous educational programs necessary for participating in the robot business and products, such as training that targets a specific job types and specialized training for technical staff.

For production specialists, the division offers a wide range of training programs tailored to their grade and position, including approximately one year of fundamental training after hiring, development of instructional skills for operators, and practical training on the knowledge and skills required for supervisors. Training is conducted at each plant under the division's authority and serves as an opportunity for interaction among different companies and divisions.

Training structural diagram (administrative and technical positions) ■ indicates selective training programs



Governance



Reorganizing Regulations in the Robot Business Division

In our rapidly growing and expanding robot business, there remained some operations that were being handled based on one or another individual’s skills as well as some rules that had not been updated to suit the actual situation and had become mere formalities. With our focus on the further expansion of our business going forward, putting in place a framework that will support sound business operations has become an urgent issue. Accordingly, since fiscal 2023 we have been pursuing initiatives to improve and establish the “Robot Business Division Regulations” and “Regulations for Division Departments” that underpin the framework for the execution of our business.

Various issues have become obvious with regard to the current regulations, including “an excess or deficiency in processes,” “an excess or deficiency in frameworks,” and “noticeability and readability.” By fiscal 2024, we had moved forward with drawing up and issuing revised regulations, improving retrievability by consolidating them into a standardized format, raising awareness of the codes through briefings for employees, and the like.

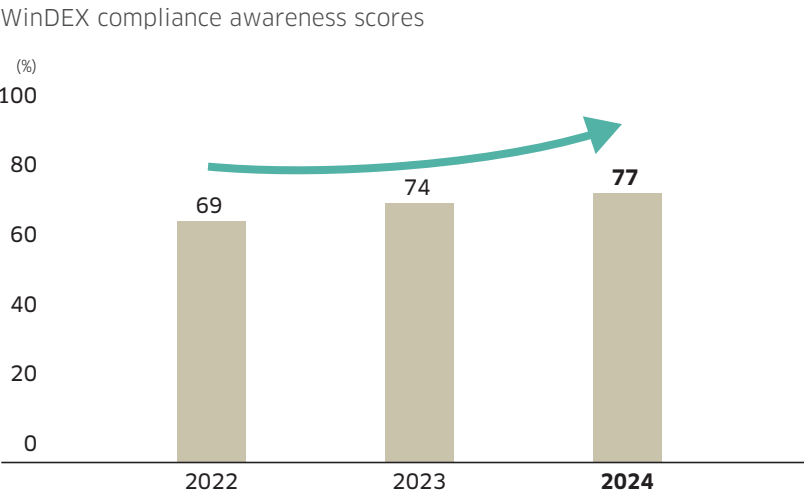
To create the framework for handling business in ways that do not depend on the individual and conform to the appropriate rules, we continue to promote activities aimed at improving regulations and establishing them among all of our employees.

Compliance

In the Robot Business Division, we are working to improve awareness regarding compliance. This includes training provided by the Head Office on preventing bribery, on compliance with the Antimonopoly Act, and for employees who are to be posted overseas. It also includes grade-specific training (i.e., for newly appointed managerial staff, newly appointed assistant managers, newly appointed section leaders, mid-career hires, and so forth) on compliance as well as harassment training for line managers.

Furthermore, each department conducts an annual joint reading of the Kawasaki Group Code of Conduct and Compliance Guidebook.

The scores in the WinDEX (employee engagement survey) for awareness and recognition of compliance have been on an upward trend for the past three years (fiscal 2024: 3% rise over the previous fiscal year).



Intellectual Property

In accordance with the Kawasaki Group Policy on Intellectual Property, we are endeavoring to ensure and utilize the intellectual property rights of the Group and striving to respect and prevent violation of the valid intellectual property rights of third parties by promoting three-pronged activities with intellectual property added to business and R&D.

Based on this thinking, the Robot Business Division, too, is working to build a solid patent portfolio and making exhaustive efforts to prevent the violation of other companies’ patents. We are moving forward with the acquisition of high-quality patents by strengthening cooperation with patent experts in Japan and overseas, as well as with developing patent experts through on-the-job training. We are also engaged with applying for patents closely tied to the various businesses within the division, as well as with constructing intellectual property strategies that conform to our business strategies.

In addition, we are continuing to provide employees with grade-specific training (i.e., for newly appointed managerial staff, for newly appointed assistant managers, for new hires, etc.), and to foster awareness of our intellectual property activities. The goal being intellectual property activities that contribute to the businesses of this Division, going forward the IP and technology departments will work together to pursue various initiatives.

Information Security

Information Security Management Structure

Information security safeguards information related to business in the possession of a company and its customers. Information security measures are recognized as a priority management challenge on a global basis as well. In the Robot Business Division, we, too, endeavor to maintain and improve information security in accordance with our company-wide Information Security Policy and related company rules.

Elements like the continuous monitoring of product-related vulnerabilities and the ability to respond appropriately when an emergency arises are extremely vital. Each department, including the Robot Engineering Department, Procurement Department, and Quality Assurance Department, must promote initiatives in the area of security for the entirety of the product lifecycle.

Our division has established a structure to address security quality across the whole division in accordance with the guidelines of the Head Office.

Security Committee structure (chaired by the Group Manager of the Technology Group)

Mission (in the Robot Business Division)	Team (responsible department)	Description of main initiatives (currently underway)
Supervision	DX Department	
Information security management at company (primarily offices)	Confidentiality Management Team (General Administration Department, DX Department)	● Related to company rules on information security
	CSIRT Team (DX Department, General Administration Department)	● Establishment of structure for incident response and entrenchment of operation ● Reinforcement of cyber security structure that includes overseas bases
Information security management at factories	FSIRT Team (Production Engineering Department, DX Department)	● Introduction of monitoring system for production site network
Information security management for products	Security QA Team (Quality Assurance Department, Research and Development Department)	● Acquisition of IEC 62443-4-1 process certification (complete) ● Acquisition of IEC 62443-4-2 F controller certification
	PSIRT Team (Quality Assurance Department, Research and Development Department)	● Establishment of PSIRT structure and member training
	PSIRT Team for Cloud Products (Research and Development Department)	● Acquisition of ISMS27001/27017 certification ● Preparation of intra-division regulations on security evaluation standards

Acquired Certification in IEC 62443-4-1, An International Standard

In 2024, the Robot Business Division acquired certification in IEC 62443-4-1, an international standard for cyber security that prescribes secure development process requirements for equipment used in industrial automation and control systems.

As initiatives to adopt IoT at manufacturing sites keep growing in speed, cyberattacks continue to grow in number. Consequently, cyber security measures are taking on greater importance. In addition, there is an increasingly active movement to require firms to bolster their cyber security, an example being the EU Cyber Resilience Act. We, too, have been working to heed that call.

By applying the development process that we recently acquired certification for to product development efforts in our division, we will provide customers with highly reliable products that satisfy a higher level of cyber security requirements.



Certification ceremony by TÜV SÜD, an international third-party certification agency

Training and Drills in Information Security

Kawasaki Heavy Industries administers training and drills in information security for the entire Kawasaki Group. Employees of the Robot Business Division are no exception.

Training includes e-learning that covers areas such as laws and social customs as well as corporate rules and examples of incidents. For drills, we conduct regular drills using simulations of targeted attack phishing emails.

In addition, our division also administers its own training, with 1,090 employees participating in fiscal 2024 (a 100% participation rate).



Kawasaki Heavy Industries, Ltd.

Kawasaki Robotics Sustainability Report Editorial Office

<https://kawasakirobotics.com/>



This report can be accessed using the 2D barcode above

June 2025