Kawasaki
Powering your potential

Kawasaki Report 2023 Kawasaki Heavy Industries, Ltd.

Kawasaki Heavy Industries, Ltd.

Kawasaki Report 2023

This report can be accessed using the 2D barcode above

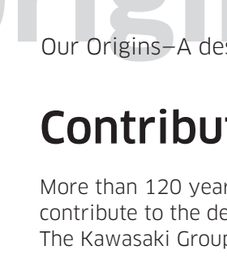
December 2023

Contributing to the nation–to society–through expertise

More than 120 years ago, Shozo Kawasaki established Kawasaki Dockyard Co., Ltd. with a determination to contribute to the development of the nation and society through technology.
The Kawasaki Group has retained this founding spirit and continues efforts to solve social problems.

Solutions provided to society by the Kawasaki Group

1878



Establishment of Kawasaki Tsukiji Shipyard in Tokyo by Shozo Kawasaki (founding of company)

1896

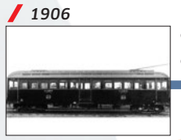
Kawasaki Dockyard Co., Ltd, incorporated in Kobe

1897

Kawasaki Dockyard's first ship, the cargo-passenger ship Iyomaru, is launched

Marine transportation changes Japan's industries and people's lives

1906



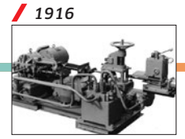
Kawasaki's first electric-drive wooden railway coach, the Nankai Railway Type 1 Wooden Coach

Railways become a key means of land transportation and modernization accelerates

1907

Production of marine steam turbines, steam turbines for use as main engines of ships begins

1916



Hele-Shaw electro-hydraulic steering gear

1922

Kawasaki's first airplane, the Type Otsu 1 Surveillance Airplane

Rapid transportation of people and goods by air transport changes lives

1942

Japan's first jet engine, Ne-0

1955

Production of finished motorcycles Meihatsu 125-500 begins

Diverse forms of energy support the economy

1964

Series 0 Shinkansen

High-speed transportation provides new value to life

1969

Kawasaki-Unimate 2000, Japan's first industrial robot, is developed

Introduction of industrial robots increases worksite productivity

1977

First delivery of the GPS200, the first gas turbine generator produced in Japan

1979

First flight of the BK117 helicopter

1982

LNG in-ground storage tank

1981

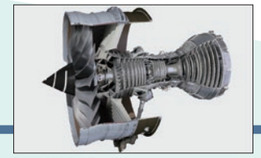
Delivers the first LNG carrier built in Japan

1987

Liquefied-hydrogen storage tanks constructed at the Tanegashima Space Center of the JAXA (former National Space Development Agency [NASDA])

Large airplanes respond to the growing demand for long-distance transportation

Hydraulic components for construction machinery



Trent XWB-97
copyright Rolls-Royce plc

Wafer transfer robot

Series H5 Hokkaido Shinkansen

Boeing 787 Dreamliner (Photo provided by Boeing Company)

Z900RS

Hydrogen gas turbine

Liquefied-hydrogen storage tank

Efforts to achieve carbon neutrality expand worldwide

Liquefied hydrogen carrier, *SUISO FRONTIER*

The *hinotori*™ surgical robot system from Medicaroid Corporation

A Safe and Secure Remotely Connected Society
(Creating new work styles and lifestyles)

Social robots that create connections with people's lives

FORRO delivery robot

Near-Future Mobility
(Proposals for new means of transportation)

K-RACER unmanned VTOL (vertical take-off and landing) aircraft

TERYX KRX4 1000

Off-road and leisure activities take root as part of new lifestyles

Kawasaki CO_2 Capture (KCC)-DAC*
* Direct Air Capture

Energy and Environmental Solutions
(Achieving carbon neutrality)

Large liquefied hydrogen carrier

Flourishing businesses in North and Central America

Kawasaki began production of motorcycles in the United States ahead of any other Japanese automobile manufacturers in 1975 at the Kawasaki Motors Manufacturing Corp., U.S.A. (KMM) Lincoln Plant. Today, we have five production sites in the United States, where we manufacture off-road four-wheelers, general-purpose gasoline engines, personal watercraft, hydraulic pumps, rail cars, and aircraft components.

Furthermore, to address the vigorous demand in the North American market for off-road four-wheelers, construction is underway on a new production site in Mexico, Kawasaki Motores de Mexico S.A. de C.V. (KMX).

❶ **Kawasaki Motors Manufacturing Corp., U.S.A. Lincoln Plant**
- Production items: ATVs (all-terrain vehicles) RUVs (recreation utility vehicles), multipurpose four-wheelers, Jet Ski® personal watercraft, rail cars, aircraft components

❷ **Kawasaki Motors Manufacturing Corp., U.S.A. Maryville Plant**
- Production items: General-purpose gasoline engines

❸ **Kawasaki Motors Manufacturing Corp., U.S.A. Boonville Plant**
- Production items: General-purpose gasoline engines

❹ **Kawasaki Precision Machinery (USA), Inc.**
- Production items: Hydraulic pumps

❺ **Kawasaki Rail Car, Inc.**
- Production items: Rail cars

❻ **Kawasaki Motores de México S.A. de C.V.**
- Production items: Off-road four-wheelers

Aerospace Systems

Kawasaki has been manufacturing cargo doors for Boeing 777X aircraft since 2017 at its Lincoln Plant. This aircraft component production line —Kawasaki’s first such line to be opened in the United States —features proprietary painting robots that provide intricate, precise paint application, and continues to introduce state-of-the-art equipment such as auto riveters with an expanded operating range and other state-of-the-art equipment in pursuit of greater automation. Our Aerospace Systems business has shed the influence of the COVID-19 pandemic and begun to paint a new stable growth trajectory.

Powersports & Engine (Kawasaki Motors)

Kawasaki Motors is currently building new production facilities at its local subsidiary in Mexico (KMX), from which it will begin production of off-road four-wheelers for the North American market in 2024. With this new construction, KMX will become our fourth North or Central American site for producing consumer products such as off-road four-wheelers, personal watercraft (Jet Ski®), and general-purpose gasoline engines. It will join KMM’s Lincoln and Maryville plants, along with the Boonville Plant that produces general-purpose gasoline engines (began operation in 2022).

Construction underway at Kawasaki Motores de México S.A. de C.V.

Rolling Stock (Kawasaki Railcar Manufacturing)

Kawasaki has a track record of delivering more than 2,200 rail cars to New York City Transit (NYCT). Orders for the R211 car began in 2018. If all options are exercised, this will be the largest ever rail car project for Kawasaki, with total production of 1,612 cars and a total order value of about US$ 4.1 billion (about 597.3 billion yen). Going forward, production at the KMM Lincoln Plant and at KRC is going to be lively.

Delivering solutions for an ever-changing society

* For more details, see the Kawasaki Vision Map 2030.

The Kawasaki Group has set out a vision for the year 2030 of "Trustworthy Solutions for the Future," and is endeavoring to create a bright and hopeful future by actively delivering innovative solutions for an ever-changing society.
The three focal fields we define in the context of this commitment are: a safe and secure remotely connected society; near-future mobility; and energy and environmental solutions. These represent the social and environmental value to be created through our business and our contributions to the SDGs. All of us at the Kawasaki Group will together create new value, with each and every one of our employees proclaiming their commitment to advanced goals, and taking on challenges to grow under their own initiative.

Kawasaki ViSiON MAP 2030

Surgical robot systems


I will contribute to the achievement of a high quality of life for patients and support of healthcare professionals through robots deployed in the sites of healthcare.

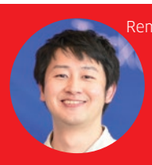
Hydrogen aircraft


I will drive research and development to envision a brighter future to achieve carbon neutrality using advances in hydrogen aircraft and other environmental and related technologies.

Delivery robots


Delegating simple tasks such as the delivery of goods to robots will allow humans to achieve the concentration to facilitate high value-added work. I will create a future where robots are an increasingly familiar and accessible presence.

Remote monitoring service for rail tracks




I will contribute to safe and secure railway systems by enabling railway track inspection work to be carried out remotely and efficiently.

Humanoid robots


I will create a future in which people and robots work together through the development of humanoid robots.

Liquefied hydrogen carriers


I will launch the world's first large liquefied hydrogen carriers, which will enable the upscaled transport of hydrogen, to bring about a complete transformation in global energy sources.

Hydraulic systems


I will contribute to the automation and autonomous operation of construction machinery through the development of innovative hydraulic systems, thus ensuring safe and secure construction sites.

Unmanned VTOL aircraft


I will create a new means of air transportation utilizing unmanned VTOL aircraft and contribute to the transport of goods and disaster relief as a solution to the social challenge of a declining workforce.

Hydrogen gas turbines


I will respond to the growing demand for hydrogen power generation by developing hydrogen gas turbines. I will set my sights on solving environmental and energy problems as well as the creation of a society in which people can live with peace of mind.

Hybrid motorcycles


I will also make a reality of hybrid motorcycles that are FUN to RIDE, by aiming to both reduce environmental burden and deliver an enjoyable riding experience.






Contents

The Kawasaki Group will continue striving to resolve social issues

For more than 120 years since its incorporation, the Kawasaki Group has constantly been on the cutting edge of technology, creating numerous national and global firsts to help solve social issues. Our Group Mission, "Kawasaki, working as one for the good of the planet," which was built on the founding philosophy , codifies the role we play with respect to society.

Determining changes directed toward the vision of the future aimed for in 2030

Announced Group Vision 2030 in November 2020 based on policies of "Pursue Growth," "Profits," and "Stability/Synergy." In line with a growth scenario that casts a steady eye on the social issues of a new era, we are encouraging changes to our business model oriented to the future.

Aim for growth by providing society with solutions in our three focal fields

In order to deliver timely solutions for a variety of social issues such as realizing a decarbonized society in order to protect the global environment, addressing aging societies and labor shortages primarily in advanced countries, eliminating regional disparities in matters such as healthcare, preventing and recovering quickly from natural disasters, and the stable supply of energy, we have established three focal fields. We are also reassessing our business model such as in the shift from the sale of goods to the sale of IP and services, working also to reform our portfolio and organization, and realizing a high revenue structure.

Create products and services relevant to each segment's growth scenario and three focal fields

With our mass production businesses such as the Powersports & Engine supporting the company's revenues, and steady expansion in order-based businesses such as Aerospace Systems, we will secure the growth investment fund needed for achieving the Group Vision 2030 and they will lead the Kawasaki Group's growth. We will also contribute through our three focal fields to the solving of social problems.

Strengthening the management foundation to accomplish priority issues

The Kawasaki Group takes into consideration such things as the connections between social issues and our business activities and the impacts for stakeholders, and identifies material issues (materiality). We divided them into two broad categories: The "social and environmental value created through business," and the "foundation of our business activities." Initiatives conducted through our main business have been defined as the most material issues to be achieved by the Group over the long term, while other issues have been positioned as basic items for achieving the most material issues. We are working to strengthen these initiatives.

In addition to financial and non-financial data, it presents basic information about the Kawasaki Group.

Editorial Policy

Since fiscal 2013, the Kawasaki Group has published the Kawasaki Report as an integrated report. The report serves as a tool for communication with stakeholders and includes information about the Group's efforts to create value for society and boost enterprise value; management policies; business environment and strategy, and environmental, social, and governance (ESG) -related content. More information on many of the topics touched upon in this report can also be found on our website.

IR information
https://global.kawasaki.com/en/corp/ir/

Sustainability information
https://global.kawasaki.com/en/corp/sustainability/

This report and the website provide complementary information

Detailed information and data related to the environment, society, and governance (ESG) are disclosed in a timely manner by updating the website as the information becomes known.

Kawasaki Report ⟷ Website

Period

This report covers fiscal 2022 (April 1, 2022 to March 31, 2023), but some fiscal 2023 content is also included.

Scope

The report covers Kawasaki Heavy Industries, Ltd., its 104 consolidated subsidiaries, and 20 equity-method affiates.
Some data, however, refer to the parent company alone.

Frequency of Publication

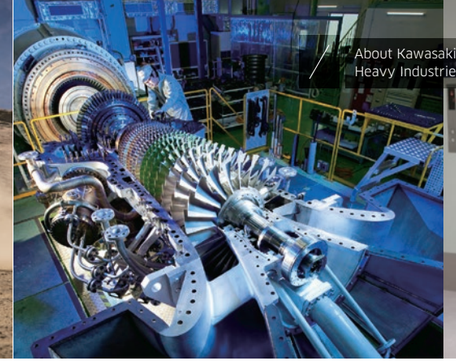
Annually, in principle
Previous edition—October 2022
Next edition—September 2024

Contact Us

Please make inquiries through the inquiry form on our website.
https://global.kawasaki.com/en/corp/profile/contact/

Guidelines

- Global Reporting Initiative (GRI) Sustainability Reporting Standards
- International Financial Reporting Standards (IFRS) International Integrated Reporting Framework
- Ministry of the Environment Environmental Reporting Guidelines (2018 Edition) issued
- Ministry of Economy, Trade and Industry Guidance for Integrated Corporate Disclosure and Company-Investor Dialogue for Collaborative Value Creation 2.0

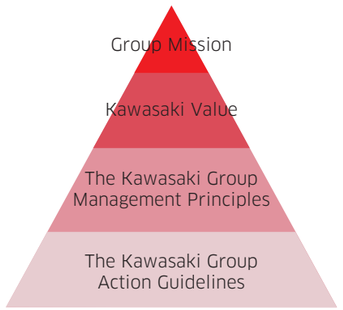


Group Mission (Our role in society)

Kawasaki, working as one for the good of the planet

“Global Kawasaki”

We are the Kawasaki Group, a global technology leader with diverse integrated strengths.
We create new value-for a better environment and a brighter future for generations to come.



Kawasaki Values (Key values: the basis for strategy and policy planning)

- We respond to our customers’ requirements
- We constantly achieve new heights in technology
- We pursue originality and innovation

The Kawasaki Group Management Principles

(Group management guidelines; principles for management activities)

1. **Trust** As an integrated technology leader, the Kawasaki Group is committed to providing high-performance products and services of superior safety and quality. By doing so, we will win the trust of our customers and the community.
2. **Harmonious coexistence** The importance of corporate social responsibility (CSR) permeates all aspects of our business. This stance reflects the Kawasaki Group’s corporate ideal of harmonious coexistence with the environment, society as a whole, local communities and individuals.
3. **People** The Kawasaki Group’s corporate culture is built on integrity, vitality, organizational strength and mutual respect for people through all levels of the Group. We nurture a global team for a global era.
4. **Strategy** Enhance corporate value based on the guiding principles of “selective focusing of resources,” “emphasis on quality over quantity,” and “risk management.”

The Kawasaki Group Action Guidelines

(Guidelines for carrying out day-to-day business activities)

1. Always look at the bigger picture. Think and act from a long-term, global perspective.
2. Meet difficult challenges head-on. Aim high and never be afraid to try something new.
3. Be driven by your aspirations and goals. Work toward success by always dedicating yourself to your tasks.
4. Earn the trust of the community through high ethical standards and the example you set for others.
5. Keep striving for self-improvement. Act on your own initiative as a confident professional.
6. Be a part of Team Kawasaki. Share your pride and sense of fulfillment in a job well done.

Kawasaki Group Policy on Sustainability Management

1. Fundamental Concepts

Guided by our founder Shozo Kawasaki’s philosophy of "contributing to the nation and to society through expertise," the Kawasaki Group for more than 120 years has been constantly taking on leading-edge technological challenges to contribute to social development through the provision of innovative products.
Today, we promote the development of solutions and new frameworks toward the future under the Group’s mission of "Kawasaki, working as one for the good of the planet," which was built on the above philosophy. Our initiatives to this end range from transitioning to hydrogen energy to advocating for novel workstyles supported by robotic technologies.
To realize the Group’s mission, this policy clarifies our long-term management approach in furtherance of our simultaneous pursuit of a sustainable society and ongoing improvement in corporate value. This pursuit will be underpinned by our efforts to create and deliver innovative solutions to various social and environmental problems confronting humanity and our planet now and in the future.
In line with this policy, we will identify material issues based on the real-time assessment of the socio-economic environment and formulate management plans backed by well-grounded growth scenarios. Moreover, we will strengthen corporate governance and engage all our stakeholders in dialogue and collaboration to create new economic, social and environmental value.

2. Policy on Sustainability Management

(1) Taking on the Challenge of Resolving Social Issues
We will take on the challenge of delivering innovative solutions to issues faced by society in the environmental, energy, and resource fields, as well as to other problems arising from ongoing societal changes on various fronts, with the aim of contributing to the well-being of people around the world and the good of the planet now and in the future. To this end, we will take full advantage of our technological capabilities, which we have developed over many years, while consolidating diverse insights both within and outside the Kawasaki Group. At the same time, we will continuously upgrade and transform the Kawasaki Group itself so that we remain capable of delivering new value as needed by stakeholders. Specifically, we will:

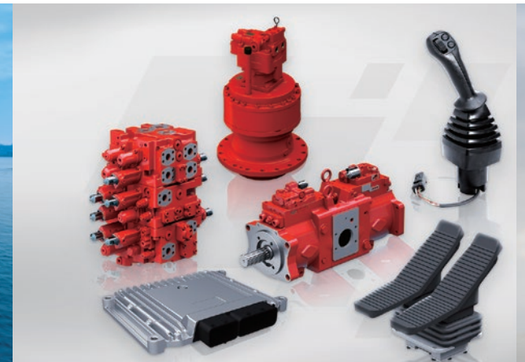
(i) Develop and implement carbon-neutral energy technologies to support international efforts to curb climate change.
(ii) Deliver solutions that upgrade industries and daily living in various forms to help create a safe and secure society in which everyone can enjoy abundant life.
(iii) Establish a business model that effectively utilizes resources and thereby contribute to the realization of a circular society.

(2) Responsible Corporate Conduct
We will remain acutely aware of the social and environmental impact of our business operations and strive to enhance the sustainability of the entire value chain by implementing countermeasures in areas where our operations might pose a negative impact. Specifically, we will:

(i) Strive to achieve net zero CO_2 emissions and, to this end, proactively work to reduce any forms of environmental burden attributable to our business activities.
(ii) Uphold international norms as well as laws and regulations enforced in countries in which we operate as part of responsible corporate conduct.
(iii) Respect the human rights of all people who come into contact with our business while taking a sincere approach to addressing human rights issues.

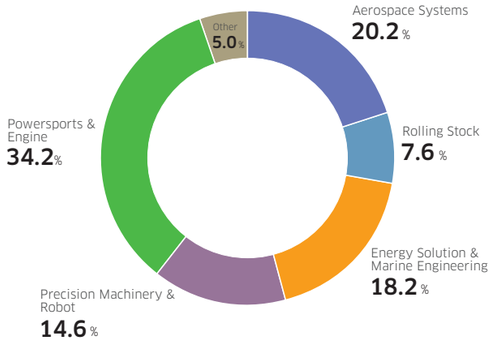
(3) Strengthening Business Foundations
We will continuously strive to enhance our corporate value through improved corporate governance, a high level of employee engagement, and dialogue and collaboration with stakeholders. Specifically, we will:

(i) Strengthen corporate governance as the basis for sustainability management.
(ii) Enhance employee engagement and organizational resilience by fostering a corporate culture that encourages employees to take on challenges and promoting active diversity.
(iii) Develop solid and trusting relationships with stakeholders via timely and appropriate information disclosure and constructive dialogue and collaboration, in addition to reflecting their expectations in our management decisions.

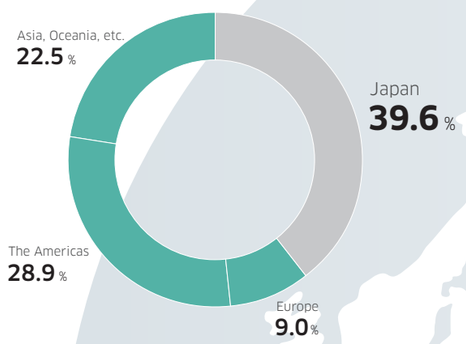


Our Businesses (Fiscal 2022)

Revenue
¥1,725.6 billion



Overseas revenue ratio
60.4 %



Aerospace Systems
20.2%

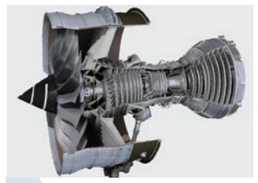
Main Products

- Aircraft for the Japan Ministry of Defense
- Parts for commercial aircraft
- Commercial helicopters
- Missiles/Space equipment
- Jet engines
- Aerospace gearboxes


C-2 Transport Aircraft


H145//BK117 D-3


Boeing 787 Dreamliner
Photo provided by Boeing Company


Trent XWB-97
© Rolls-Royce plc

Rolling Stock
7.6%

Main Products

- Electric train cars (including Shinkansen [bullet trains] and new transit systems)
- Electric and diesel locomotives
- Passenger coaches
- Bogies


Dhaka MRT Line-6 cars for Dhaka Mass Transit Company Limited in Bangladesh


4000V-series subway cars for Yokohama City Transportation Bureau


6000V-series subway cars for Kobe City Transportation Bureau


H100-series railway cars for Hokkaido Railway Company

Energy Solution & Marine Engineering
18.2%

Main Products

Hydrogen and carbon neutral
- Shipping/receiving terminals
- Liquefied hydrogen tanks
- Onshore LNG tanks
- Carbon dioxide capture, utilization and storage (CCUS)

Energy
- Gas turbine cogeneration systems
- Gas and diesel engines for power generation
- Steam turbines
- Aerodynamic machinery
- Boiler plants
- Combined cycle power plants (CCPPs)

Plant
- Industrial plants (cement, fertilizer, and others)
- Municipal waste incineration plants
- Material handling systems
- Tunnel boring machines
- Crushing machines

Marine machinery
- Marine gas turbines/reduction gear
- Marine reciprocating engines
- Marine propulsion systems

Ship & offshore structure
- Gas carriers
- Liquefied hydrogen carriers
- Jetfoils
- Submarines


30MW-class gas turbine first shipped overseas


Natural gas combustion engine for shipping vessels equipped with hybrid propulsion system


Municipal waste incineration/biogas facilities for Kagoshima City's Nanbu (south) waste processing plant


Liquefied hydrogen cargo handling demonstration terminal and liquefied hydrogen carrier, *SUISO FRONTIER*

Precision Machinery & Robot
14.6%

Main Products

- Hydraulic components for construction machinery
- Hydraulic components for agricultural machinery
- Hydraulic components and systems for industrial machinery
- Hydraulic steering gears for marine products
- Hydraulic deck machinery for marine products
- Industrial robots
- Medical and pharmaceutical robots


Hydraulic components for construction machinery


Hydrogen compressors


BX series spot welding robots for automobile body assembly lines

hinotori™ Surgical Robot System

Powersports & Engine
34.2%

Main Products

- Motorcycles
- Off-road four-wheelers (side by sides, all-terrain vehicles (ATVs))
- Personal watercraft (PWC)
- General-purpose gasoline engines


MULE PRO-FXT 1000


JET SKI® Ultra 310LX


ELIMINATOR


Ninja e-1 and Z e-1

Incorporated **1896**

Founded **1878**

Consolidated employees **38,254**

Overseas **10,671**

Domestic **27,583**

Domestic production sites **17**

Overseas production sites **23**

Trustworthy Solutions for the Future

The Kawasaki Group will make available in a timely manner innovative solutions that accommodate an ever-changing society in order to create a hopeful future.
At the same time, the Group will surpass organizational boundaries and take on challenges to expand the horizons of its potential for further growth.

Frontier

Pioneering the technology frontier with our challenger DNA

Since our founding, we have always been challengers. Throughout a history studded with national and global firsts in many sectors, including shipbuilding, rolling stock, and aerospace, we have leveraged our cutting-edge technologies and fostered a DNA characterized by a spirit of pioneering the frontier that draws on our unique perspective.

We will continue to respond to the frontier of this new era's social challenges, based on that unique perspective, in order to create a hopeful future.

New Values

Providing innovative solutions to the problems facing the world

The world is now facing an array of problems, including environmental deterioration, energy challenges, expanding populations, graying societies, natural disasters, and pandemics.

We are committed to providing new and meaningful value to a wide range of customers and society by concentrating the trusted technologies and knowledge that we have built in order to provide innovative solutions and to speedily accommodate social change.

Cross Over

Becoming a creative challenger that continues to grow by breaking barriers

To provide innovative solutions focused on social challenges, we will continue to be an open-minded, free-thinking, and creative team that goes beyond the boundaries of internal and external organizations and of product/service categories, leveraging our rich diversity.

Moreover, we will keep growing as an organization and as individuals by expanding our potential, boldly taking on challenges in unfamiliar domains and learning from the experience.

/ Management Policy

Since November 2020, the Kawasaki Group has been implementing Group Vision 2030, a vision for the Group's future.

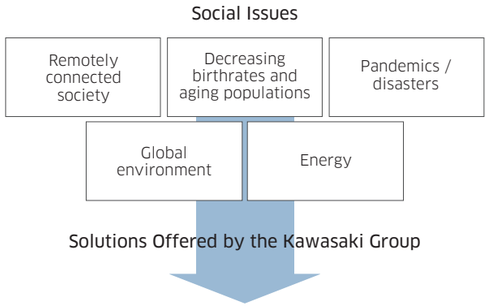
We will pursue ongoing growth by investing in growth businesses while transforming to meet evolving needs based on the three strategies of "Pursue Growth," "Profits," and "Stability / Synergy."

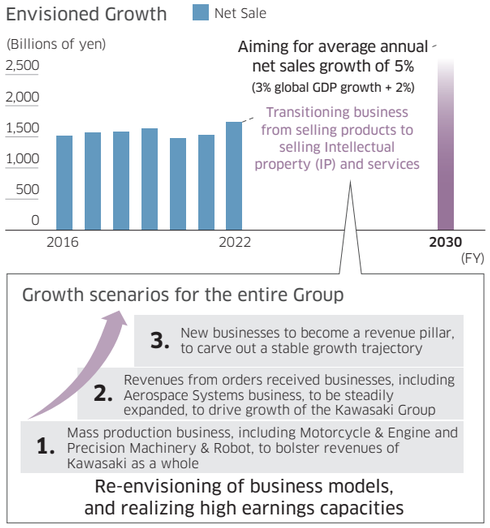
Pursue Growth	Development investment in growth fields and new businesses	Related SDGs
Profits	Business profit margin: 5%–8% After-tax ROIC: 3% or more higher than WACC	
Stability / Synergy	Realizing a conglomerate premium* * An enterprise value-increasing effect from synergy between businesses	

/ Promoting Changes to Our Business Model in Keeping with Growth Scenario

With a steady eye on the social issues of a new era, in order to deliver timely solutions for a variety of social issues such as realizing a decarbonized society in order to protect the global environment, addressing aging societies and labor shortages primarily in advanced countries, eliminating regional disparities in matters such as healthcare, preventing and recovering quickly from natural disasters, and the stable supply of energy, we have established a growth scenario around three focal fields.

Currently, our mass production businesses such as the Powersports & Engine business that posted record-high profits in fiscal 2022 are bolstering revenues, but with the full-fledged recovery in aircraft demand revenues from order-based businesses including our Aerospace Systems business will steadily expand and lead Kawasaki's growth. Our goal for the future is to see new businesses including our hydrogen business to become revenue pillars and plot a steady growth trajectory. We are reassessing our business model such as in the shift from the sale of goods to the sale of IP and services, working also to reform our portfolio and organization, and realizing a high revenue structure.





/ Indicators for Judging the Degree of Progress on Achieving Management Objectives

In order to further promote management that is aware of cost-of-capital and to encourage dialogue in response to demands from the capital market, starting in fiscal 2023 we have set indicators that judge the degree to which objectives in terms of management have been achieved as business profits and after-tax return-on-capital (ROIC). Kawasaki's current weighted average cost-of-capital (WACC) is estimated to be in the 4% range. With the goal of growth in net sales that exceeds the global GDP growth rate, we are continuing to invest in development for growth areas and new businesses. At the same time, as indicators for measuring appropriate profits, we are striving to secure a business profit margin of around 5% to 8%, and after-tax ROIC of WACC + 3% or more. As a result of improvements in these management indicators, we are also working to improve our return on equity (ROE).

Indicators through FY2022

● Profits	• Operating profit • Profit (loss) attributable to owners of parent
● Return on capital (before-tax ROIC)	EBIT (income before taxes + interest expenses) / Invested capital (interest-bearing debt + shareholders' equity)

Indicators for FY2023 and beyond

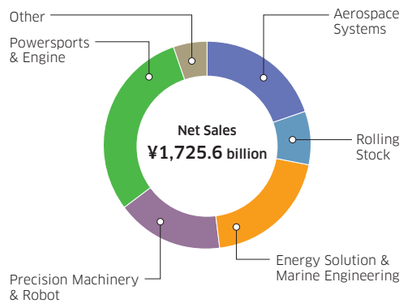
● Profits	• Business profit • Profit (loss) attributable to owners of parent
● Return on capital (after-tax ROIC)	Profit (loss) attributable to owners of parent + interest expenses x (1 - effective tax rate) / Invested capital (average of net interest-bearing debt at the beginning and end of the period + average of shareholders' equity at the beginning and end of the period)

Business Portfolio Innovations

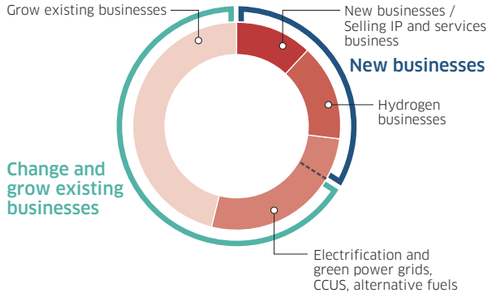
In existing businesses, our aim is for growth as we improve earning power through the development of products and services that meet market needs while we pursue business portfolio innovations in anticipation of the year 2030. We anticipate significant expansion in our hydrogen-related businesses on which we are currently concentrating and in our carbon neutral-related businesses such as for addressing electrification and green-power grids. Furthermore, we will accelerate both our shift from the sale of goods to the sale of IP and services, and the creation of new businesses that make the most of open innovation.

Our goal is to be a corporation that achieves more substantive solutions to social issues and is even more well-regarded by all of our stakeholders.

FY2022 (Results)



Vision for FY2030



Promoting a Human Resources Strategy to Achieve Group Vision 2030

Based on our awareness that the enhancement of our human capital is indispensable toward achieving the growth scenario set down in the Group Vision 2030, we are pursuing a large-scale retooling of our system related to organizations and personnel.

The new system clarifies that those areas that call for reform and taking on challenges in order to realize the Vision are the objectives for organizations and the duties of every post, and also encourages employees to voluntarily set high goals.

Also, we will aim for further growth as a corporation by proactively recruiting capable personnel within and outside the company to drive corporate transformation.

Still further, by clarifying organizational issues and working on improvements through our Employee Engagement Survey of all employees, we are continuously working to reform our organizational culture so that our employees can thrive.

By obtaining and training talented employees and encouraging them to take on challenges and corporate transformation based on these various moves, we will liven up our organizational culture and realize our Vision from a human capital perspective.

Key Topics and Progress in Reforms to the Personnel System and to Individual and Organizational Culture

Shift to a personnel system that places greater emphasis on abilities, roles, and results, and working toward a culture that aspires to growth and taking on challenges

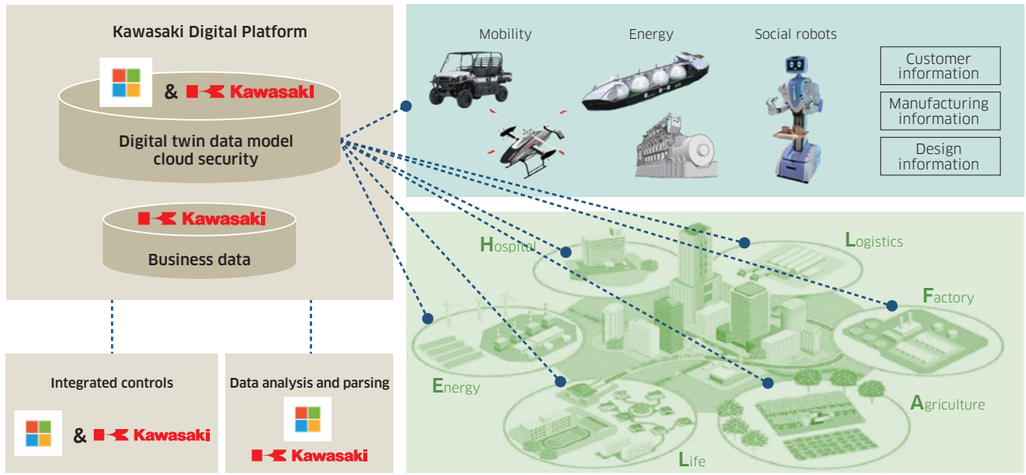
- **Hire capable employees** → After introduction of new system in fiscal 2021, realized the doing away with seniority-based treatment, the selection of younger persons for managerial staff and management positions, the recruitment of personnel from outside the company with compensation commensurate with their capabilities, etc.
- **Work-based compensation system and appointing the right personnel in the right places (mainly managerial staff)** → Developed design rules for organizations, a competency-based management capability evaluation system, mechanisms for appointing to the right person to the important job, etc.
- **Visualization of organizational culture and improvement action, based on conducting Employee Engagement Survey** → With regard to "Trust in management" and "Employee career development"—the top two items that employees stressed—in addition to carrying out activities to revitalize the organization such as roundtable discussions with senior management and one-on-one meetings, also formulated a basic policy on career development

Use Kawasaki DX to Transform Business Styles and the Processes That Support Them

In order to overcome various boundaries and rapidly provide social value from the perspective of market-in, we are making substantial changes to our business styles and the processes that support them. One aspect of these activities is Kawasaki Digital Transformation (DX).

Among these, the Kawasaki Digital Platform that we are constructing in collaboration with Microsoft will play the role of connecting our entire value chain, including the community, our customers, and our business partners. Our goal is to build an open platform that brings together a variety of companies and services. It will maximize customer value by digitizing the value chain, and connect the digital data connected to our business focused on the sale of IP and services.

Vision of the Kawasaki Digital Platform

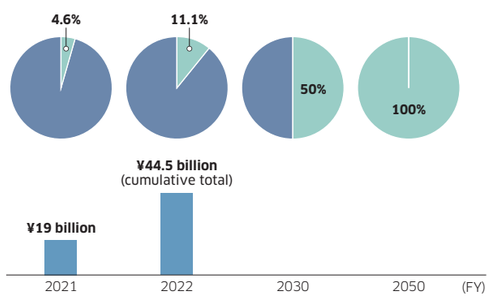


Use of Sustainable Finance

The Kawasaki Group believes that the use of sustainable finance will be conducive toward achieving our Group Vision 2030 and by extension our SDGs, and so we have set sustainable finance-related goals.

Setting the share of long-term debt accounted for by sustainable finance as a KPI, our goal is for us to be procuring 50% of our long-term debt outstanding through sustainable finance by 2030, and to be procuring all of it through sustainable finance by 2050.

Share of Long-Term Debt Accounted for by Sustainable Finance and Procurement Amounts



Sustainable Finance Record

Date Implemented	Item
July 2021	Sustainability bonds (SDG bond)
August 2021	Positive Impact Finance
March 2022	Sustainability Linked Loan
March 2022	Mizuho Bank's "Mizuho Eco Finance"
July 2022	Green bonds (SDG bonds)
November 2022	Launch of a non-framework-based sustainability linked loan
December 2022	Introduction of the Positive Impact Assessment Framework

/ Process for Identifying the Kawasaki Group's Material Issues

In 2018, Kawasaki identified material issues (materiality) by recognizing and summarizing the impact business activities have on society, in light of the diversifying expectations and demands of stakeholders and changes in the business environment. The material issues were subsequently reevaluated following the announcement of the Group Vision 2030 in November 2020.

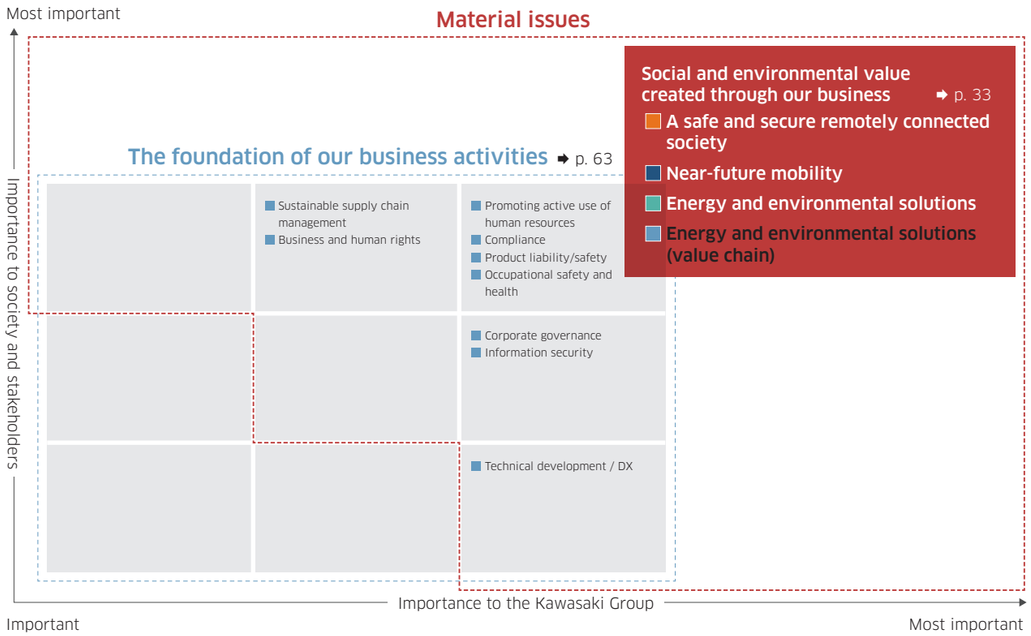
We divided them into two broad categories: The "social and environmental value created through business" and the "foundation of our business activities." Initiatives conducted through our main business have been defined as the most material issues to be achieved by the Group over the long term, while other issues have been positioned as basic items for achieving the most material issues. Going forward, we will continue to regularly review our materiality in response to changes in the business environment and the expectations of society.

➡ For more details, refer to the website.
Materiality

Process for Identifying Materiality (Overview)

STEP		Process
2018	–	**Identify material issues (materiality)** The "social value created through business" was defined as the most material issues to be achieved by the Group over the long term, with other topics positioned as the "foundation of our business activities."
2021–2022	Step 1	**Reevaluation of material issues (materiality) in line with the formulation of Group Vision 2030** In November 2020, we formulated our Group Vision 2030, considering a variety of social issues, the Company's strengths and our vision for 2030. We also established three focal fields, including a safe and secure remotely connected society, near-future mobility and energy and environmental solutions. In June 2021, upon discussion by the Sustainability Committee chaired by the President, these three focal fields were set out as the social and environmental value created through business. In light of our business strategy under the Group Vision 2030 and recent changes globally around sustainability, we additionally reviewed the "foundation of our business activities" category. We identified and sorted issues—with input from outside advisors—based on survey items from ESG assessment organizations (DJSI, FTSE, MSCI, Sustainalytics), SASB, investor stewardship principles, GRI, Future-Fit, and client company requests (Self-Assessment Questionnaire). We then mapped the material issues into two tentative categories: "Importance to society and stakeholders" and "importance to the Company."
	Step 2	**Interview outside experts and decide the material issues** We then obtained the opinions of outside experts and reevaluated this mapping. After discussion by the Sustainability Committee based on those opinions and the revised mapping, further discussions were held by the Board of Directors which then determined the final material issues. **Expert comments (excerpt)** • The Kawasaki Group has been hands-on in creating a business foundation to allow many companies to make the jump to 2030 and beyond. Because Kawasaki's own transition represents the creation of innovation for other companies, discussing that scenario in the context of value creation will make it easier to gain the understanding of investors. • I would like the Company to make visible how the "foundation of our business activities" is connected to "social and environmental value created through our business, including a time line. In the wake of the COVID-19 pandemic, investors are keeping a close eye on issues of sustainable supply chains and human rights, so these two could be elevated a bit more under social and stakeholder expectations. • The Company needs to list decarbonization and addressing TCFD among its "foundation of our business activities" issues. I think hydrogen can be considered over a somewhat longer period of time, as the technological innovations that will arise in the first half of 2030s will see the cost of hydrogen from renewable energy sources and the cost of hydrogen from fossil fuels reversed.
	Step 3	**Formulate the plan and conduct a review** We will establish departments responsible and specific numeric targets for the key issues identified, and will advance activities toward achieving those targets through steady execution and follow-up. Progress will be reported to the Board of Directors and the Sustainability Committee as we strive for improvement.

Materiality Matrix of Items Identified



Priority Items in the Foundation of Our Business Activities Category

Items selected as important issues under the "foundation of our business activities" category have been categorized as follows, and priority items have been established under each issue: 1. Items of particular importance going forward (items that will have an ever-increasing impact on future finances); 2. Items that were emphasized in the past, but which will be steadily reinforced going forward; and 3. Mechanisms to be developed as the foundation for everything.

Further, we clarified the scope of initiatives in 1. and 2. Based on a high-level view of the entire value chain, from planning and design and product use, and from the suppliers involved to the customer.

: Scope of initiatives		Suppliers*	The Kawasaki Group	Our customers
Items of particular importance going forward (items that will have an ever-increasing impact on future finances)	Energy and environmental solutions (value chain)		Decarbonization	
			Improve resilience in response to climate change	
			Effective use of resources	
	Business and human rights		Conduct human rights due diligence	
	Promoting active use of human resources		Human resource system reforms, human resource development	
			Diversity and inclusion	
	Technical development / DX		Co-creation IP strategies for new business creation	
			Open innovation	
			Promote DX	
Items that were emphasized in the past, but which will be steadily reinforced going forward	Product liability / safety		Product liability/safety	
	Compliance	Compliance with the Sustainable Procurement Guidelines	Compliance with the Kawasaki Group Code of Conduct	
			Anti-corruption measures	
	Occupational safety and health		Occupational safety and health	
	Information security		Strengthen product security	
			Strengthen information security	
			Strengthen cyber defenses	
			Privacy Policy	
Corporate governance (mechanisms to be developed as the foundation of everything)				

* Because items to be addressed with regards to sustainable supply chain management are wide-ranging, priority items are shown in the Supplier column.

Yasuhiko Hashimoto

Representative Director
President and Chief Executive Officer

Trustworthy Solutions for the Future

The management team and employees are working together to make us an even more important corporate group to society.

Record sales and profits as we advance toward Group Vision 2030

We significantly increased our sales and profits in fiscal 2022 on record highs in orders received, net sales, and profit. Since becoming president in 2020, I noticed that the biggest factor in our Group's ability to overcome the impact from the COVID-19 pandemic and reestablish our earnings performance has been the ability of our employees to get fully behind and actively implement the management's strategies.

I believe it's the "dedicated commitment" of employees that determines a company's ultimate performance. The key to business growth is whether a company is truly making and delivering what the customer wants and whether each employee has that clearly in mind as they do their job. The world was faced with an unprecedented global crisis in the last three years with the pandemic, but we were still able to grow our business because not just management but also our frontline employees were highly motivated and put in their full effort to overcome the challenges.

A prime example is our automated PCR testing service business. With an unknown virus spreading around the world, ensuring the safety and protection of medical workers from contact infection was a vital issue. When I appealed to the Company saying, "Now is the time to help society by using our robot technology we have cultivated to take the human element out of the testing process," the number of employees who stepped forward to help exceeded expectations. The large number of employees who were actively working during the crisis gave us the courage to launch the new business right away, while the pandemic was still among us. The Company received much praise for its effort.

Since we introduced Group Vision 2030 in 2020, the Group has worked together to steadily fulfill the Vision's growth scenario, and in fiscal 2022 we achieved record profits. We must remember, however, that we are only part way toward our goal, and there are still profitability issues that need to be addressed. We raised our business profit margin to 4.8% in fiscal 2022, bringing us very close but still short of the Vision target for 5–8%. Based on the progress we have already made, I would like us to aim to reach 8% as quickly as possible. I'm looking further ahead, I consider it my mission as top management to make us the Company that can sustain profit margin of 10%.

Developing an organizational culture where ambitious employees can take on challenges

I believe that for a company to survive, it must be needed in society. Many employees think about what society needs, but there is a wide gap between wanting to do what society needs and actually taking action to do it. Someone may have a good idea or the ability or talent, but people often give up because of organizational barriers or a corporate culture that makes it difficult to take action.

A company must have as many people as possible taking action for it to make significant growth. That is why I believe that as an organization we should be very open and visible about supporting employees who are taking on challenges.

When I became president, one of the first steps

I took was to reform the personnel system with "Challenge & Commitment." I wanted to make it widely known that we appreciate people who are willing to take risks and take on challenges, and I wanted to create an environment that would encourage people who had abandoned their efforts or were hesitating to start would want to take the first step. I believe reforming the system has indeed increased the number of people who are taking their own initiative and participating in new projects. Of course, we still have to make some adjustments to the system and the concept still needs time to penetrate deeper. I also recognize that those of us in management need to continue communicating to employees the true objectives for the personnel system reform.

Changing an organization's culture takes time. All we can do is keep spreading the message throughout the organization that we encourage people to take on challenges and gradually change people's mindset so that they have the courage to take action. The people who take the first steps to climb a mountain pave the way for others to follow. As more people follow the route, the path grows wider and easier to climb. Eventually we will be a company with many people taking on challenges and creating new businesses that are needed by society.

Steadily pursuing challenges in the three focal fields

Group Vision 2030 has set our three focal fields as "a safe and secure remotely-connected society," "near-future mobility" and "energy and environmental solutions."

In the field of energy and environmental solutions, the worldwide movement to attain carbon neutrality is gaining momentum as a key component in solving climate change.

Kawasaki Heavy Industries has been developing hydrogen technologies for over a decade, including R&D and efforts geared toward commercialization. In 2021, we fortified our hydrogen operations by bringing in personnel from inside and outside to form a new Hydrogen Strategy Division. In 2022, with the support of the New Energy and Industrial Technology Development Organization (NEDO), we conducted a technology demonstration of transporting hydrogen produced and liquefied in Australia to Japan using the liquefied hydrogen carrier, *SUISO FRONTIER*. The demonstration attracted worldwide attention as the world's first international maritime transport of liquefied hydrogen. This year, the *SUISO FRONTIER*, the world's first and still the world's only liquefied hydrogen carrier, was visited by governmental officials from around the world when it was displayed at the G7 Hiroshima Summit and the G7 Ministers' Meeting on Climate, Energy and Environment in Sapporo.

In June 2023, for the first time in six years, the Japanese government revised its Basic Hydrogen Strategy, announcing that it envisions a framework for public and private investment in the hydrogen and ammonia supply chain to exceed ¥15 trillion within 15 years. With the support of the Green Innovation Fund, our affiliate Japan Suiso Energy, Ltd. is conducting a commercialization demonstration project for an international supply chain of liquefied hydrogen that would form a foundation for stable and large-volume supply. At Kawasaki Heavy Industries, we are currently engineering and preparing to build a large-scale liquefied hydrogen carrier. In addition, we are examining the potential to build a supply chain for liquefied hydrogen with the Kansai Electric Power Company, Inc. Given the current international situation, access to hydrogen energy is becoming increasingly important from the perspective of economic security. We will continue working to make a hydrogen society a reality as quickly as possible.

In the focal field of a safe and secure remotely-connected society, Medicaroid Corporation, our joint venture with Sysmex Corporation, has been steadily increasing the number of surgeries carried out by the *hinotori*™ surgical robot system. The system was approved for use in general surgery and gynecological applications in October 2022, and can perform about 90% of robotic surgeries currently conducted in Japan. The system was approved for sale in Singapore in September 2023, marking the first authorization for sale outside Japan. The system has been widely praised, including receiving the Prime Minister's Award at the Ninth Monodzukuri Nippon Grand Awards. The ability of medical robots to remotely perform high-precision medical procedures will help address various problems facing the Japanese medical care industry, such as regional disparities in medical care capabilities and the shortage of medical professionals due to the country's super-aging society. We believe that our technologies and services can be developed to help countries around the world with medical issues, including countries with less-developed medical industries.

During the pandemic, our automated PCR testing service business provided support for medical professionals and helped revive the movement of people in society. The service's high level of accuracy was highly evaluated, and created relationships of trust with medical professionals as well as with governments, medical device manufacturers, and testing service companies. We plan to use the knowledge and know-how we accumulated in the PCR testing business to develop in-hospital testing and logistics and other new businesses in the healthcare field.

One of the newer businesses we have launched is *Remolink*, a service enabling users to explore new possibilities for remotely operated robots launched by Remote Robotics Inc., a joint venture with the Sony Group. Another promising business is the indoor positioning service *iPNT-K*™.

In the field of near-future mobility, we are advancing development of the *K-RACER* unmanned vertical take-off and landing (VTOL) aircraft. Engineered for practicality, *K-RACER* offers payload capacity and flight maneuverability far surpassing standard drones. The VTOL aircraft is currently being used in a project to transport items to lodges in the mountains around Ina, Nagano Prefecture, and we are looking forward to using the aircraft to transport items to more remote mountain areas and islands in the near future. We are also approaching medical institutions about using the *K-RACER* to transport medical supplies to disaster-stricken areas in the event of a disaster. Other businesses we are developing in the near-future mobility field include service robots for hospital internal cargo transport and "last mile" cargo transport and *Z-Leg*™, an easy-to-use internet-based transportation service using helicopters.

Reforming the business portfolio around our current domains

I believe that the reforms we have made are steadily improving the fundamental profitability of each business. The orders-based businesses, particularly the Aerospace Systems and Rolling Stock, are much improved, which is giving us a more balanced profit structure.

Measures are also continuing to make all of our businesses more resilient to external factors. As we

broaden our reach in the three focal fields, we are also fortifying the structures of our existing businesses and reforming our business portfolio.

Developing businesses in a wide range of fields is one of the Group's strengths, but to continuously improve our corporate value, we need to concentrate our management resources in areas that are in high demand—businesses society needs. We are therefore selecting, concentrating, and shifting businesses on the product and service level. At the same time we are looking at the overall industry and modifying the way we do business. Internally, we are changing the mindset throughout the Company so we can approach creating value from multiple angles, not just in manufacturing but also in sales with our planning, consulting, coordination, and maintenance activities. Our reforms are designed to create a virtuous cycle where taking a new approach to providing high value to society changes our mindset and leads to a culture of taking on challenges throughout the Company.

Strengthening non-financial capital to enhance our corporate sustainability

ESG initiatives are becoming increasingly critical. In the environmental field, because we provide customers with decarbonization solutions, particularly through our hydrogen business, we believe we have a duty to exhibit environmental leadership as a company that is actively reducing the CO_2 emissions from its business activities. With our hydrogen power generation systems at the center of our efforts, we have accordingly set an ambitious target to achieve carbon neutrality in Japan by 2030 for Scope 1 and 2 emissions, which account for more than 70% of our total emissions from our direct emissions and from the fuel and electricity we use. We are also seeking to be Zero-Carbon Ready in Scope 3 emissions related to the goods we procure and supply. By 2040, we aim to offer a complete lineup of CO_2-free products for our customers at all times. We will contribute to creating a carbon negative society by helping establish a hydrogen-based society and creating businesses in the carbon capture, utilization, and storage (CCUS) field. While decarbonizing our own products and services, we also intend to increase cooperation with our customers and business partners to accelerate the reduction of CO_2 emissions throughout the value chain.

In the social field, our main focus is on strengthening our human capital. Since becoming president, I have spent a considerable amount of time each year meeting with executives and employees and listening to their frank opinions about the current situation and the future. In developing human resources, education and training programs are essential, but I also believe it's extremely important for people to have opportunities to gain a wide variety of experience early in their careers. In my own career, I was put in charge of overseas business in my 20s and posted overseas in my 40s, where I was responsible for negotiating with local partners, giving presentations to clients, launching new businesses, and recruiting personnel. At the time, I didn't know why I was being made to take on so much work on my own, but looking back I can see that everything I experienced then has become useful now. Experience is important, but it is also important to have a strong awareness that there are people who do mundane and difficult work. Even if the work is mundane and difficult, it is still indispensable, and the Company is supported by the people who do such work. I believe that to be a manager you must be able to perceive and understand that fact, and that is why we seek to provide that perspective as we develop management candidates.

Our corporate governance emphasizes management transparency and the effectiveness of the Board of Directors. Recent steps have included adding another independent outside director in June 2023, so the majority of the board is now outside directors, and also increasing the number of female and non-Japanese directors. I believe these moves have made the board more independent and that the balance of knowledge, experience, and abilities as well as the increased diversity gives us a wider perspective when making management decisions. The Board of Directors discusses its regular agenda items and also actively discusses business reform, compliance enhancement, and other topics in response to the evaluations of the board's effectiveness.

In March 2023, we announced the results of the Special Investigation Committee's investigation into the quality-related misconduct discovered at our subsidiary, Kawasaki Thermal Engineering Co., Ltd. in 2022. Thorough measures are in force to prevent recurrence, and we are continuing to strengthen compliance and governance throughout the Group.

Kawasaki Heavy Industries can still grow stronger, can still move forward

From when I was relatively young, I have been involved in the several business launches. My experience has taught me that the most important thing when taking on a new business challenge is that the core people are fully dedicated to succeed and that they never give up. Of course, even if the core people are doing the best they can, that doesn't necessarily mean those around them are doing the same. But if the core people give up, then the endeavor will certainly fail.

My experience has also taught me that our Group has innumerable employees who never give up. Yet, I also see those employees often moving in different directions. I believe that if we align our targets and combine our strengths, we can bring out even greater power from the Group. In other words, I believe Kawasaki Heavy Industries still has unharnessed power, which is why I often tell people inside the Company that we still have more future potential. We have not fully realized our power. If we align our strengths, we can contribute a lot more to society.

The Group Vision 2030 slogan is Trustworthy Solutions for the Future. We will continue providing innovative solutions in a timely manner to an ever-changing society. I want to build the trust that stakeholders have in our Company even further by transcending boundaries, moving swiftly to execute plans and take on challenges, and increasing our potential.

We would like to ask all of our stakeholders for their continued understanding and support of our Group.

Representative Director
President and Chief Executive Officer

Katsuya Yamamoto

Representative Director,
Senior Corporate Executive Officer,
Assistant to the President, in charge of Finance & Accounting, Human Resources, Legal Affairs, Compliance and Corporate Communication, and General Manager, Human Resources Division

We are improving capital efficiency and strengthening human resources to realize sustainable growth.

Finance

Earnings recovering and growing in line with our growth scenario to 2030

The Kawasaki Heavy Industries Group is advancing the growth scenario outlined in the Group Vision 2030 announced in November 2020. The first step in the scenario set out by the Vision was for the Powersports & Engine, Precision Machinery & Robot, and other mass production businesses to underpin our earnings through the COVID-19 pandemic. The next step is to reestablish and steadily expand the markets for the orders-based businesses, such as Aerospace Systems. Once that is underway, we will then work on building the hydrogen business and other new businesses into new earnings pillars for the Group.

The strategies we have been implementing started producing tangible results in fiscal 2022 as we posted record levels for orders received, revenue, and profit. The accelerated decision-making achieved by setting up Kawasaki Motors as an independent company had a notably strong impact as the Powersports & Engine business posted a second straight year of record-high profits. While demand related to outdoor recreation increased, mainly in developed countries, due to the COVID-19 pandemic, earnings were being impacted by both distribution disruptions and soaring input prices. Nevertheless, the business was able to quickly implement measures to reorganize its production equipment and pass on the cost increases to continue capturing demand. Earnings in the Aerospace Systems business are finally approaching pre-pandemic levels as passenger numbers return to normal. The Rolling Stock business, which was also set up as an independent company in fiscal 2021, continued posting profits and progress continued with the expansion of its maintenance operations and other measures to reform and strengthen its business structure. Two years into the Group Vision 2030, I feel a great sense of confidence that the results we are producing match with the scenario we envisioned.

We will continue reforming our business with the medium- to long-term perspective to establish a corporate structure that is highly resilient to changes in the external environment.

Business profit margin consistently above 10% and improving cash flow

Group Vision 2030 calls for generating average annual sales growth of 5%, which exceeds the projected 3% growth for global GDP. Achieving that will require continuing to grow our existing businesses in line with our growth scenario and creating products and services that address social issues in the Vision's three focal fields of "a safe and secure remotely connected society," "near-future mobility," and "energy and environmental solutions." The keys to success will be our business profit margin and cash flow.

Business profit margin was 4.8% in fiscal 2022. The Vision target is 5–8%, but we will need to aim for closer to 10% in the long term to ensure fulfilling the growth scenario. To achieve that, we will need to take concrete steps to improve the profit margin.

Free cash flow in fiscal 2022 was negative ¥53.8 billion. This was mainly due to large outflows in working capital items in the Aerospace Systems business, where earnings are recovering, and the Powersports & Engine business, which is posting solid results. R&D and capital investments centered on the three focal fields and on allocating funds to the Powersports & Engine and the Precision Machinery & Robot businesses in order to earn cash in the short term. At the same time, the increase in profits improved the net debt-to-equity ratio, which we use as a measure of financial discipline, from above 80% in fiscal 2021 to 77.0% in fiscal 2022.

Clarifying capital costs and added value, resetting ROIC targets

We had introduced Kawasaki-ROIC Management and set before-tax ROIC of 8% as a uniform baseline for all business divisions to generate the return required for profits to exceed cost of capital. The cost of capital is often used as a baseline target. However, the internal targets we were setting for management also included added value, which had the effect of pushing the targets to excessive levels while also making them difficult to understand. To make the target more reasonable and clear, in Group Vision 2030 we made it clear how much we expect added value to contribute to the cost of capital and set a target ROIC of cost of capital plus 3%.

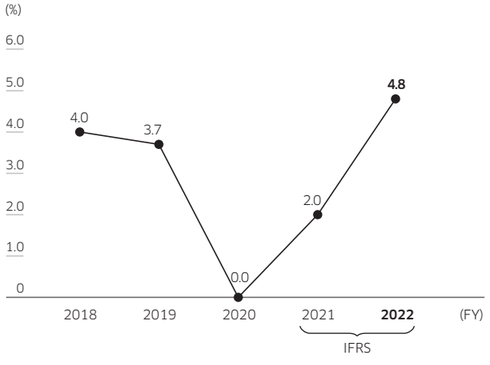
In fiscal 2023, we adopted after-tax ROIC as a management indicator and added weighted average cost of capital (WACC) to our disclosure data to improve dialogue with the capital markets and to show that the cost of capital is fully considered in our management decisions. By our calculations, our WACC is estimated just above 4%, and ROIC was higher than WACC in fiscal 2022. Since our aim is for ROIC to be WACC plus 3%, our ROIC target is above 7%. We will use this as criteria for evaluating each business division's profit targets to determine how much profit we need to generate sufficient return compared to invested capital.

Creating hydrogen synergies to establish a conglomerate premium

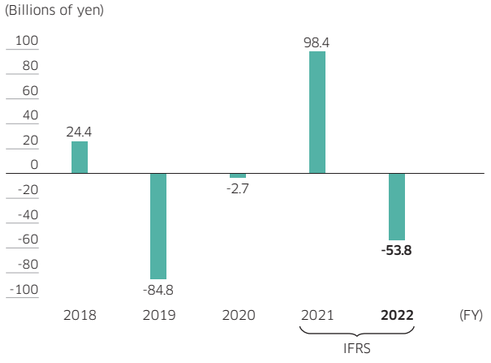
Creating business synergies centered on the hydrogen business will be key to improving our capital efficiency. To integrate the hydrogen business basic strategies and commercialization efforts, in fiscal 2023 we started introducing mechanisms for closer cooperation between the Hydrogen Strategy Division at the head office and the Energy Solution and Marine Engineering Company which is one of our business segments, including the executive appointments.

Developing the hydrogen business will require a substantial amount of funds. We plan to partner with other companies not only to reduce the financial burden on our Company, but also to establish operations and achieve commercialization as quickly as possible. We currently expend about ¥10 billion annually on activities related to hydrogen, but this does not represent the full scale of the business. The business is part of a collective public and private sector effort and also receives funds from the Japanese government's

Business profit margin



Free cash flow



Green Innovation Fund and other subsidies. Kawasaki Heavy Industries is at the forefront of the hydrogen movement, and we are highly motivated to accelerate commercialization of its hydrogen business to help achieve a hydrogen society.

Over 90% of long-term financing in fiscal 2022 was sustainable finance

In fiscal 2022, sustainable financing was used for 93% of our ¥27.5 billion funding needs and accounted for 11% of our long-term borrowings balance as of the end of March 2023.

We also formulated a framework for sustainability-linked loans and positive impact finance. We are the first company in Japan to attempt to use the same framework for financing agreements with multiple financial institutions. This approach reduces the burden on both the company and the financial institution, and we believe it will promote the use of sustainable finance in Japan.

We are aiming to use sustainable financing for 50% of our long-term borrowings by 2030 and for 100% by 2050.

Enhancing shareholder value through stable dividends and a rising share price

We are currently at the point where upfront investment is necessary for the future growth that will enable us to fulfill Group Vision 2030. As such, the cash that our existing businesses generate is allocated to capital investment and R&D as well as to investment in human capital, such as to increase wages and provide education and training. At the same time, shareholder return is a management priority, and we have set a benchmark for medium- to long-term consolidated dividend payout ratio of 30%.

With the record-high profit in fiscal 2022, we increased the annual dividend by ¥50 from the previous fiscal year to ¥90 per share, placing the dividend payout ratio at 28.4%. In fiscal 2023, our plan is to distribute an annual dividend of ¥80 per share for a dividend payout ratio of 28.5%, but we will continue striving to improve our earnings performance with the aim of raising this amount. We also recognize the importance of increasing the value of our shares in the medium and long term is essential to enhancing shareholder value. The Group growth strategies toward 2030 will be driven by a management focus on addressing social issues and on developing the hydrogen and other new businesses into earnings drivers. We will also prioritize dialogue with shareholders and investors so they will fully understand our vision for the Group's future as we steadily implement growth strategies aimed at attaining a market capitalization value of ¥1 trillion.

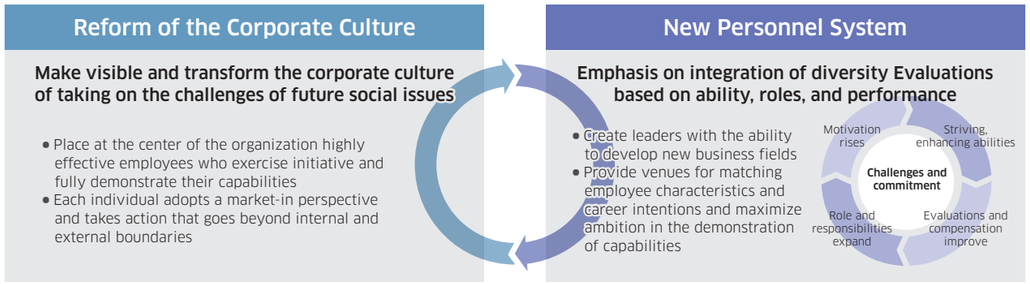
Human resources

Visualizing human resource skills and activity levels

The Kawasaki Group Policy on Human Resource Management states our commitment to continuously developing human resources who are ardent about taking on and proactively pursuing challenges and to understanding the abilities and aspirations of our human resources and to provide the work and skill development opportunities so they can fulfill their career ambitions.

Human resources are often described as an "asset," which makes them a part of a company's capital. The question in human capital management is how to increase that capital, and one of the main ways is to develop the mindset of each individual employee. Of course, it's important to improve the skill levels of employees, but I also believe that developing each employee's passion for their work will be absolutely essential to our growth as an organization.

The revisions to our personnel system apply a concept of "Challenge & Commitment" under which are seeking to fairly evaluate and treat employees seeking to increase their awareness and motivation and aim for higher goals. Key to the success of this initiative is creating a visualization of our human resources. The first step to this conducting regular interviews to accurately comprehend each employee's individual qualities. We are also conducting engagement surveys to quantitatively measure employee motivation and satisfaction with their work. Visualizing the degree of employee activity will enable us to consider issues and develop effective measures for enhancing employee mindset and to regularly verify the status of our organizational strength.



Initiatives to advance employee careers

Our corporate succession plan included the Kawasaki executive coaching program for executive candidates. Originally designed for senior managers, the training program was expanded to include section managers and accelerate their development by breaking it down into three stages of programs focused specifically on basic foundations, management, and practical application. In addition, the president and I meet individually with executive candidates to understand the management mindset on issues related to their divisions and the Kawasaki Group, and how they can apply their personal strengths to their management roles.

To increase motivation for employees to grow and develop their careers, we introduced the Career Challenge System that enables employees to seek to develop their careers by pursuing transfer opportunities geared to their personal career aspirations.

We are also actively examining areas where we can develop new business. The Presidential Project Management Division brings in personnel from each Company so we can combine our diverse range of knowledge to generate new synergies. The number of manufacturing sites using hydrogen, medical robots, and other exciting new technologies and businesses are growing, and we are updating our personnel systems to keep pace with the changes and taking steps to help employees advance their careers.

Enhancing the sense of unity through organizational management emphasizing dialogue

Respecting employees as individuals means that we must continue to develop our system for providing feedback on job evaluations and supporting career development, and to provide environment that provides employees with opportunities to pursue new challenges. My impression is that the efforts we have been making to increase employee motivation and engagement have vastly increased dialogue within the Company.

Communication has improved on all levels between management and employees, superiors and subordinates, and among coworkers. Using the results of our engagement surveys and other investigations, discussions about problem solving and new initiatives have expanded, and I believe the sense of unity in the organization is steadily growing.

My mission is not only to execute financial strategies, but also to maximize the abilities of employees responsible for implementing strategies—in other words, to strengthen human capital. We are seeking to establish sustainable growth both financially and for human capital.

Hiroshi Nakatani

Representative Director,
Senior Corporate Executive Officer,
Assistant to the President, in charge of Technology, Production, Procurement, TQM, General Administration, Digital Transformation (DX) Strategy, and the North America Project Management Task Force, and General Manager, Corporate Technology Division

We are strengthening the fundamental technologies that will be needed in the future to remain a company that society needs.

Steadfastly committed to our future-oriented growth strategy

Kawasaki Heavy Industries founder Shozo Kawasaki established the Kawasaki Tsukiji Shipyard in Tokyo in 1878 to fulfill his aspiration of “contributing to the nation–to society–through expertise.” The Kawasaki Group has continued refining its expertise, developing leading-edge technologies, and introducing a long succession of national and global firsts that have helped solve social issues in each passing era. Our founder’s drive to develop the nation and society is the origin of the Group’s sustainability management and is manifest in our Group mission that clearly states our role in society.

In one of our sustainability management policies, "taking on the challenge of resolving social issues," we aim to enhance sustainable corporate value. The evolution of our hydrogen-related business is a prime example. The thermal insulation technology we began developing in the 1970s has progressed into cryogenic technology for liquefied hydrogen tanks, which are key to creating the hydrogen supply chains necessary for decarbonization and energy security. The PCR testing service is another example. Launched to protect medical workers from the risk of contracting COVID-19 during the pandemic, the service has proven successes, built up our expertise, and earned the trust of testing and medical institutions, which has created a foundation for developing new businesses in the healthcare field.

We are continuing our history of actively addressing social issues like these to cultivate new businesses that will be future pillars of our Company in the Group Vision 2030’s three focal fields of “a safe and secure remotely connected society,” “near-future mobility,” and “energy and environmental solutions.”

Our approach to developing new technologies is to project the technical areas that will be needed to address social issues in the future. Then we backcast to determine which technologies we will need to create and focus on developing and cultivating the new technologies. We are seeking to quickly establish and fortify the fundamental technologies we will need in the future through open innovation with outside partners and technology turnover by replacing mature technologies with new technologies.

Accelerating our business transformation and creating a new business for selling IP and services with digital technology

Digital technology is indispensable to accelerating our ability to produce solutions. The Kawasaki Digital Platform we created with Microsoft Corporation provides a digital space for centralized management of our value chain from our Company to suppliers and customers. We are combining the platform with our various analysis technologies to accelerate our business transformation and further enhance our ability to deliver solutions.

We use the platform to collect data on the operating status and performance of the products we deliver, and use the information in our sales and design to continue developing new services. We are continuing to advance our remote operating services using the industrial metaverse, and are proposing solutions to enhance the efficiency and maintenance of customer manufacturing facilities. In addition, the track monitoring service for rail freight operators we launched in North America is proposing solutions to reduce damage risk, such as from train derailment accidents.

In addition to the Group’s foundation of product sales, we are focusing on digital transformation (DX) that will create a service business (sales of IP and services) turning our product operating data into new value.

Improving profitability and management efficiency through business process reform

Improving our overall business structure, including our existing businesses, is essential for the Group to continue sustainably growing in a rapidly changing business environment. To bring about the changes we need, we are currently focusing on reforming our business processes to improve both management efficiency and profitability.

The reform includes examining all design and production operations, which have been conducted separately by each business division, and applying total quality management (TQM) to improve our overall organizational management. We believe digital technology will not only allow us to move beyond people-reliant business operations and to firmly stabilize our product quality, but will also lead to an overall improvement in the quality and efficiency of our business.

In addition, the 3D design, simulation, and system evaluation technologies we have been working on are enabling us to shorten the time needed to develop new products and to reduce our fixed costs.

Profitability and management efficiency will continue to improve throughout the value chain as we continue to standardize and centralize data from our sales, design, procurement, production, and maintenance activities.

Aggressive IP activities driving our business strategies and maximizing profits

We are shifting our use of our intellectual property (IP) from the “defensive” approach we have used for past products and businesses to an aggressive “offensive” approach that will drive our business strategies.

One of our main initiatives for maximizing the profitability of new businesses is striking an effective balance between “open (standardized) ” and “closed (intellectual property) ” assets. The hydrogen-related business, for example, is a business that must create new markets. We are therefore aiming to establish standardization, such as for safety assessment standards and evaluation methods, as open assets that can be used throughout the market, which will help it grow. On the other hand, to secure profitability, our businesses will also have closed assets, such as core components like cryogenic tanks that store liquefied hydrogen at -253°C and their licenses.

Since the critical importance of intellectual property will only increase as we continue to develop new businesses, we are also initiating efforts to enhance employee IP awareness.

Developing the diverse human resources essential for growth and accelerating company-wide reform

I often think of technology as being people. Technology does not just appear out of nothing. Technology starts to take shape when one person thinks they want to make something new, they want to do something good for society, then they get together with others and bring their idea into existence. My role is to prepare fertile fields where employees can cultivate and actively work on their ideas. I believe that increasing engagement and developing our human resources will strengthen our technical capabilities.

At the same time, as social issues become more complex, technology development requires increasing diversity in human resources. We will firmly define human resources that are essential for the growth of the Group and implement development measures to strengthen human capital in areas including high-tech human resources who will be responsible for future core fundamental technologies, data scientists and other specialists in advanced technologies, management personnel with the wide-ranging knowledge for overseeing entire systems, and human resources with commercialization skills and entrepreneurial experience.

As a director in charge of technological development, I have the responsibility of passing on Kawasaki Heavy Industries’ 125 years of commitment to technology to the future generation. No one knows what the future will bring. Whatever it brings, the Kawasaki Group will continue to be a company needed by society, creating new technologies for a better future.

Approach to Sustainable Value Creation

The Kawasaki Group consistently creates new value by drawing on diverse, sophisticated technological capabilities to contribute to solutions to social issues around the world.

Group Mission

Kawasaki, working as one for the good of the planet

“Global Kawasaki”

- Global warming
- Decarbonization
- Energy problems
- Responding to changes in the movement of people and freight
- Pandemic countermeasures
- Shortage of and increasing burden on doctors
- Increase in diverse work styles, including remote work

Global Social Issues

External Environment and Risks

- Changes in Industrial Structures
  Technological innovation / The evolution of AI and IoT
- Climate Change
  Global warming / Major natural disasters
- Currency Fluctuations
  Impact on revenue due to the Group’s large proportion of overseas sales
- Economic Trends
  Impact via capital expenditure / Impact of the COVID-19 pandemic / U.S.-China trade friction

Business Activities and Strategy (Group Vision 2030)

Management Policy

- Pursue growth ⇒ Investment in growth areas and new businesses
- Pursue stability/synergy ⇒ Realizing a conglomerate premium
- Contributing to the achievement of the Sustainable Development Goals through our solutions to social issues

Financial Targets

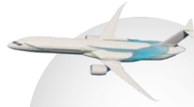
- Sales target ⇒ Average annual net sales growth rate of 5%
- Business profit margin ⇒ 5–8%
- ROIC*1 ⇒ 3% or more higher than weighted average cost-of-capital*2 (WACC)

*1 Previously the ROIC shown was the amount before tax but from fiscal 2023 it will be the amount after tax.
*2 The current weighted average cost-of-capital (WACC) is estimated to be in the range of 4%.

Kawasaki Motors, Ltd.
Motorcycles, off-road four-wheelers (SxS, ATVs), personal watercraft, general-purpose gasoline engines

Aerospace Systems Company
Airplanes, jet engines

Kawasaki Railcar Manufacturing Co., Ltd.
Rail cars, snow removal machinery



Aerospace Systems

Powersports & Engine

Rolling Stock

Precision Machinery & Robot

Energy Solution & Marine Engineering

A Safe and Secure Remotely Connected Society

Near-Future Mobility

Energy and Environmental Solutions

Precision Machinery & Robot Company
Hydraulic machinery, industrial robots

Energy Solution & Marine Engineering Company
Energy-related equipment and systems, marine propulsion machinery and systems, industrial machinery, environmental equipment, cryogenic storage equipment, hydrogen-related facilities, crushing machines, ships

Key Mechanisms Supporting the Growth Scenario

- Revise business models and develop new businesses
- Promote digital transformation (DX)
- Strengthen cybersecurity
- Overhaul the personnel system
- Advance open innovation

The Foundation of Our Business Activities (ESG Initiatives)

- Energy and environmental solutions (value chain)
- Business and human rights
- Promotion of human resource activities
- Technology development and DX
- Product liability/Safety
- Compliance
- Occupational safety and health
- Information security

Key Outputs (FY2022)

Financial capital

Cash flows from operating activities	**¥23.6** billion
Business profit margin	**4.8** %
ROIC*1*3	**5.7** %

*3 ROIC = {Profit attributable to owners of parent + interest expense x (1- effective tax rate)} ÷ invested capital (average NET interest bearing debt at the beginning and at the end of the period + average shareholders’ equity at the beginning and at the end of the period)

Manufactured capital

Key Leading Market Share Products

The global market share for semiconductor manufacturing robots*4	**No.1**
The domestic market share for stand-by gas turbine generators*5	**No.1**
The domestic market share for 401 cc and over motorcycles*6	**No.1**
The North American market share for riding mower engines*5	**No.1**

*4 Kawasaki survey based on data from SEMI and Fuji Keizai
*5 Kawasaki survey *6 Based on domestic registration data

Intellectual capital and human capital

Included in Clarivate’s Top 100 Global Innovators*7 for seven times (2015–2023)

*7 A selection of the world’s top 100 innovative companies and institutions based on an analysis of intellectual property and patents using data about patent holdings.

Social and relationship capital

Advancing hydrogen projects in coordination with other companies

IR meetings with analysts and institutional investors **242** times

Natural capital

CO_2 emissions from business activities (Scope 1, 2) **383** kt-CO_2

Reduction of CO_2 emissions through product-based contributions*8 **24,370** kt-CO_2

Kawasaki Ecological Frontiers
(formerly Kawasaki-brand Green Products)

Number of registered products*8	**68**
Net sales*8	**¥160.0** billion

*8 Total for Kawasaki Heavy Industries (non-consolidated), Kawasaki Motors, and Kawasaki Railcar Manufacturing

A Safe and Secure Remotely Connected Society

Existing businesses
- Industrial robots
- Disaster prevention products (stand-by gas turbines, doctor helicopters/disaster relief helicopters, off-road motorcycles/off-road four-wheelers
- Development of “Successor” robot system/humanoid robots

New businesses
- The *hinotori*™ surgical robot system
- Health care business
- Building the platform business connecting people who want to work with businesses seeking labor

Near-Future Mobility

Existing businesses
- Rail cars • Ships
- Airplanes • Motorcycles
- Off-road four-wheelers

New businesses
- Unmanned VTOL aircraft
- Delivery robots
- Mobility to support smart cities
- Logistics solutions

Energy and Environmental Solutions

Existing businesses
Solutions for low environmental burden
- Rail cars • Motorcycles
- Airplanes
- CCPP*9/Industrial plants
- Hydraulic Components & Systems

*9 Combined cycle power plants

New businesses
Decarbonization solutions
- Hydrogen supply chain
- Making use of hydrogen fuel
- Electrification
- Green power grids
- CCUS
- Alternative fuels

Created Social Value

A Safe and Secure Remotely Connected Society
New value creation using remote technology

Near-Future Mobility
Transforming the movement of people and freight

Energy and Environmental Solutions
Working toward the stable generation of clean energy

Focal field and goal	Main actions	Social outcomes (results)	Targets / Key Performance Indicators (KPIs)	Specific measures	Achievements in Fiscal 2022
A safe and secure remotely connected society New value creation using remote technology Create a society that is rich, safe, and secure for all with remote technology	• **Healthcare** ○ Infectious disease testing business ○ Surgery support business ○ Nursing care business • **Business in automated, autonomous, and remote technology support for manufacturing and service industries**	• **Infectious disease testing** to prevent the spread of disease and speed up recovery in the movement of people, including air travel demand • **Reduce the burden on healthcare and nursing care workers** • Advanced treatment using **surgical robot system** • **Correct regional disparities** • **Improve productivity and alleviate labor shortages**	**Targets for 2030** • **Eliminate 5% of Japan's approximately 2,000,000-person shortage in healthcare and welfare workers (market estimated at over ¥1 trillion)** • **Eliminate 5% of Japan's approximately 4,000,000-person shortage in manufacturing and service industry workers (market estimated at over ¥2 trillion)** **KPIs** (a) Remote platform active users (b) Number of cases carried out with surgical robot system	• **Infectious disease testing system** Joint PCR testing research with universities, PCR testing service at airports for departing passengers on international flights, expanding domestic use from monitoring to screening (social implementation) • **Demonstration of telesurgery** performed at a distance of 30 km using **surgical robot system** (animal testing), world's first telesurgery demonstration using commercial 5G networks • Adoption of nursing care robots in hospitals • Market introduction of personal care products that use remotely connected technologies • Development and implementation of robots for warehouses and stores • Practical application of humanoid robots • On-site work using remotely controlled robots at plants (proof of concept demonstration begun in fiscal 2021)	• **Number of tests handled by the PCR testing service: 850,000 (cumulative total for fiscal 2021–2022)** • **Surgical support robot systems** ○ Systems installed: cumulative total of 33 facilities; number of operations conducted: cumulative total of 1,158 ○ Approval of expanded indication for use from urology to general surgery and gynecology • **The Remolink™ service to connect businesses and workers using remote robots was announced at Remote Robotics Inc. in September with business verification carried out through to the spring of 2023**
	• **Offer new ways of working and living to realize a remotely connected society** Provide a platform to match workers with businesses seeking labor using remote robots (joint venture business with Sony Group)	• **Work style reforms** ○ Time flexibility ○ Eliminate strenuous, dirty, and dangerous work ○ Remote work that includes on-site operations • **Secure labor** • **Provide opportunities for all people to participate in society**		• Deliver medical service helicopters • Deliver standby generator sets	
	• **Provide transportation, power generation, and other equipment at times of disasters**	• Support for evacuees (improve quality of life) • **Save more lives**			
Near-future mobility Transforming the movement of people and freight Create a society where people and freight move safely, quickly, and efficiently using new forms of mobility	• **Offer new equipment and systems,** such as delivery robots and unmanned transport helicopters • **Offer automated, autonomous, and remote solutions** for the logistics industry • Reduce environmental burden and utilize advanced safety technology in transportation equipment	• Handle increasing logistics volumes and **alleviate labor shortages** • Provide safe working conditions • Realize a society that enables the environmentally friendly and safe movement of people and freight	**Targets for 2030** • **Eliminate 20% of Japan's approximately 200,000-person shortage in logistics workers** • **Commercialize new mobility** ○ Delivery robots ○ Unmanned VTOL aircraft (vertical take-off and landing aircraft) ○ Autonomous four-wheelers ○ Supply chain optimization services, etc. • Autonomous marine transport (Marine Collaboration Project) • **Take part in super city projects** **KPIs** (a) Number of unmanned VTOL aircraft and total volume transported (b) Number of delivery robot users and total volume transported	• **Logistics chain optimization** **Phase 1** ○ Autonomous transportation and loading equipment (autonomy that extends to the last mile) **Phase 2** ○ Supply chains (create seamless connections: improve efficiency, including for reloading systems) ○ Overseas expansion by 2030 • **New mobility** ○ Commercialize delivery robots and autonomous four-wheelers by 2025 ○ Full-scale operation of VTOL and integrated transport service business by 2030 • **Realize super cities** ○ Coordinate with municipalities to take part in super city projects (total optimization of urban transportation, including the movement of people) ○ Build overarching management systems for the movement of people and freight (local MaaS) Organically link these with other Group businesses. ○ Build cooperative relationships with logistics companies and software companies	• Commissioned by Ina City, Nagano Prefecture, for its Unmanned VTOL Cargo Transport Platform Development Project (ongoing) • Participated in the Shinshu DX Promotion Consortium; currently constructing communications systems in mountainous areas • Commenced verification tests of specimen delivery at Fujita Health University toward realizing the "Smart Hospital" concept (deployed multiple delivery robots in actual tasks and succeeded in having both human subjects and robots ride together in elevators at the same time) • Participated in cutting-edge technology service projects including 5G in Tokyo, and completed demonstration tests for food delivery and the transport and collection of medical and related materials
	• Respond to mobility as a service (MaaS) • Increase speed and efficiency of inter-city transport • Promote optimization via integrated control of marine, land, and air transport • Develop new personal mobility • **Take part in super city projects** Coordinate with municipalities to realize advanced cities	• **Realize seamless urban transportation** Increase the speed and efficiency of the movement of people and freight • **Alleviate traffic congestion and logistics delays** • **Disaster-resilient community building** Rapid transportation of emergency supplies, etc.			
Energy and environmental solutions Working toward the stable generation of clean energy Quickly achieve a stably powered, carbon-neutral society at low cost	• **Build a hydrogen supply chain** High-volume, stable supply of hydrogen • **Expand the use of hydrogen** Power generation systems, transportation equipment, etc.	• **Reduce the price of hydrogen energy** • **Help address climate change by reducing CO_2 emissions** • **Provide clean travel and transportation by land, sea, and air**	**Targets for 2030** **Hydrogen** • Hydrogen supply from Kawasaki solutions: 225,000 t/year (when commercialized) • CO_2 reduction of 1.6 million tons (theoretical value) through hydrogen energy from Kawasaki solutions **Existing products** • Manufacture of even more environmentally friendly products • Reduction of CO_2 emissions from products **KPIs** **Hydrogen** (a) Hydrogen supplied by Kawasaki solutions (b) CO_2 reductions from Kawasaki's hydrogen energy solutions **Existing products** (a) Reduction of CO_2 emissions through product-based contributions (b) Number of registered products and net sales in Kawasaki Ecological Frontiers (formerly Green Products)	• **Form a hydrogen consortium** • Technological development Establish technologies for larger scale, leveraging NEDO subsidized projects and partnerships • **Increase transport volume** (Two or more carriers in 2030; 80 or more carriers in 2050) • Develop hydrogen-fueled rolling	**Hydrogen** • Finalized shipping/receiving terminals (Australia/Japan) in commercialization verification for construction of commercial-scale international liquefied hydrogen supply chain • Concluded a memorandum of cooperation on maritime transport and other matters towards the construction of a liquefied hydrogen supply chain with Kansai Electric Power Company. Commenced surveys on the marine transport of liquefied hydrogen, in addition to those on the manufacture, liquefaction, and storage of hydrogen overseas, and its reception in the Himeji area **Existing products** (a) CO_2 reduction contribution by products: 24.37 million t-CO_2 (b) Number of registered products and net sales in Kawasaki Ecological Frontiers (formerly Green Products): 68 products registered with net sales of ¥160.0 billion
	• **Electrify products** Transportation equipment and systems as well as components for construction machinery	• Help address climate change by reducing CO_2 emissions		• Mass production of hybrid and electric motorcycles and off-road four-wheelers • Deliver hybrid and electric marine propulsions systems	
	• **Alternative fuels** Sustainable aviation fuel (SAF), biomass, etc.				
	• **CCUS** Capture and use CO_2 in fields that cannot eliminate fossil fuels			• Begin pilot-scale demonstration testing of energy-saving CO_2 separation and capture system (Kansai Electric Power Company)	
	• Reduce environmental burden throughout the value chain				

Refer to pp. 39–42 for more on the promotion of carbon neutrality. For other initiatives, please refer to information regarding sustainability on the Company website.

Focal Field 1

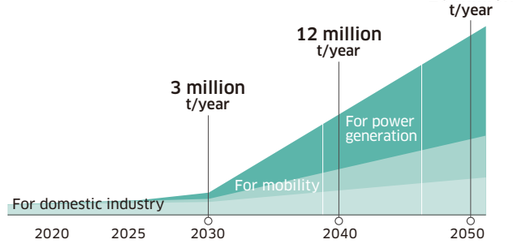
Working toward the stable generation of clean energy

1. Realizing a hydrogen society in an early stage

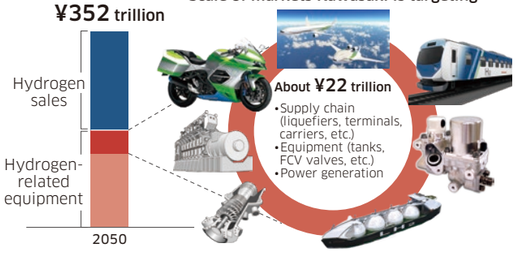
Hydrogen Market to Reach ¥352 Trillion in 2050

The Japanese government revised its Basic Hydrogen Strategy in June 2023. The new strategy sets a target of introducing 12 million tons of hydrogen by 2040 and sets milestones to increase the predictability of the existing targets of 3 million tons in 2030 and 20 million tons in 2050. Supplying large volumes of low-cost hydrogen will require the introduction of clean hydrogen from overseas. The global hydrogen-related market is projected to reach some 352 trillion yen in 2050, and Kawasaki Heavy Industries seeks to achieve a large-scale expansion in the scope of business centered on hydrogen-related equipment markets.

Hydrogen energy implementation in Japan*1



Hydrogen market in 2050*2



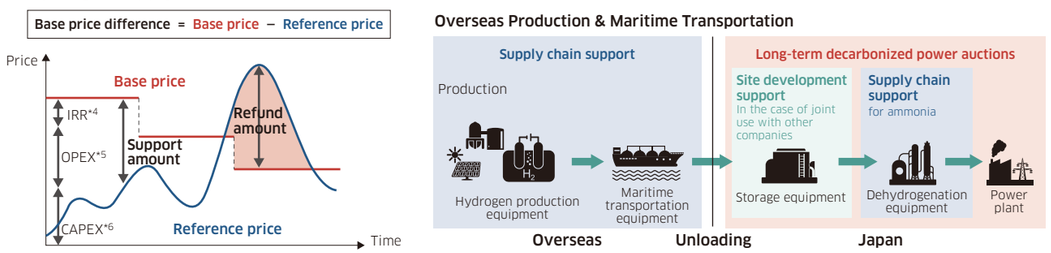
*1 Calculated by Kawasaki based on materials of subcommittees of the Ministry of Economy, Trade and Industry

*2 Calculated by Kawasaki based on Hydrogen for Net Zero, Hydrogen Council

Acceleration of Support for Social Implementation of Hydrogen

The Basic Hydrogen Strategy expressly provides for long-term support for price differentials with existing fuels to businesses that begin supplying low-carbon hydrogen in hydrogen supply chains by around 2030. In addition to supporting the development of hydrogen supply chains, the Strategy describes the details of systems for development of supply infrastructure that will contribute to the creation of demand and makes express mention of tanks and pipelines as the specific scope of support for site development. We will contribute to the social implementation of hydrogen through the provision of equipment and services for all aspects including production, transportation, storage, and utilization.

Conceptual Representation of Price Differences and Collaboration between Systems within Support for Hydrogen Supply Chain Development*3

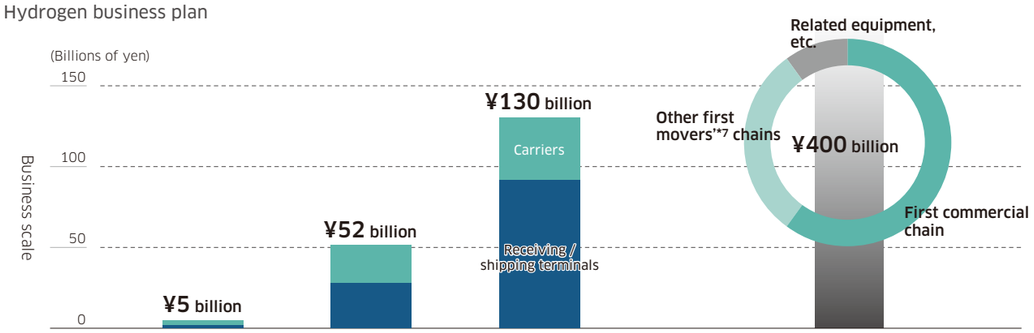


*3 Prepared based on materials of subcommittees of the Ministry of Economy, Trade and Industry (analysis by Kawasaki)
*4 Internal rate of return *5 Operating expenditure *6 Capital expenditure

Seeking a 400-Billion Yen Business in FY 2030

We are making steady progress on three steps for the development of a liquefied hydrogen supply chain. (1) In the spring of 2022, we completed a pilot demonstration of the international transportation of liquefied hydrogen for the first time in the world. (2) Currently, we plan to develop commercial-scale equipment to verify the feasibility of commercialization by fiscal 2030, and then (3) start operation of a commercial supply chain. Through the progress on these steps, we anticipate a business scale in excess of 50 billion yen in fiscal 2025 and 130 billion yen in fiscal 2026. We also anticipate supplying key parts and granting licenses to other companies by fiscal 2030 and plan on achieving a business scale including other first mover chains of 400 billion yen.

Hydrogen business plan

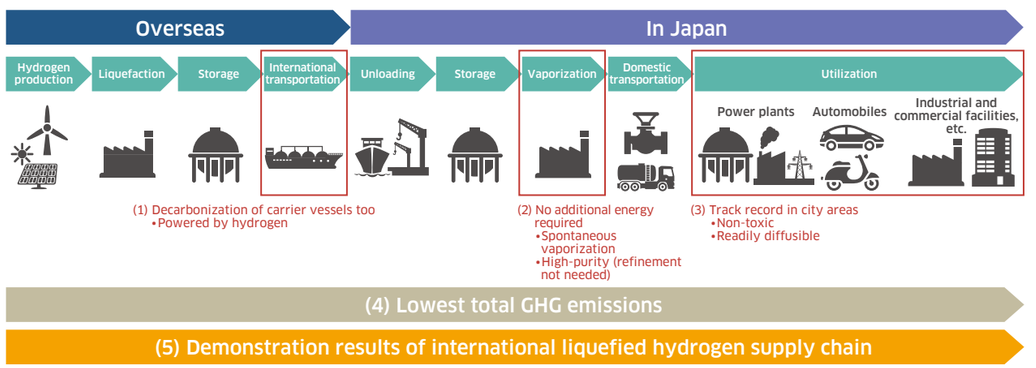


*7 A first mover is a business that plans to start supplying hydrogen by around 2030.

Superiority of Liquefied Hydrogen

We have 40 years of hydrogen handling technology and expertise in the aerospace field, and we also have an established track record with hydrogen power generation operation and electric power supply. Under the Development of Technologies for Realizing a Hydrogen Society project, a project supported by the New Energy and Industrial Technology Development Organization (NEDO) , we achieved the world's first supply of heat and electric power to hospitals and other nearby public facilities through gas turbine power generation using 100% hydrogen fuel in city areas. Since then, we have continued demonstration tests. Also, in the spring of 2022, we completed a demonstration of maritime transportation between Japan and Australia and cargo handling using the *SUISO FRONTIER*, the world's first liquefied hydrogen carrier, which we constructed, demonstrating the feasibility of an international liquefied hydrogen supply chain. Liquefied hydrogen is the least expensive and most promising energy carrier over the medium- to long-term for various reasons. It is non-toxic, and vaporized hydrogen gas can be used as fuel without treatment when transported by carrier. No work is required to crack energy carriers to desorb hydrogen, and no energy losses are incurred from refinement at demand sites such as Japan. Due to this, facilities at demand sites can be simple and compact. From an environmental perspective, it has the lowest greenhouse gas emissions in the international hydrogen supply chain.

Flow of the Entire Supply Chain and Superiority of Liquefied Hydrogen



Working Toward the World's First Commercial Liquefied Hydrogen Supply Chain
Reliably implementing verification of large-scale equipment for commercialization and ascertaining the economic feasibility of commercialization

Determination of liquefied hydrogen shipping/receiving terminals

Japan Suiso Energy, Ltd., in which we have invested, Iwatani Corporation, and ENEOS Corporation are working to deliver a "Liquefied Hydrogen Supply Chain Commercialization Demonstration Project"*1 as part of the Large-Scale Hydrogen Supply Chain Establishment project of the Green Innovation Fund Support*2 operated by the New Energy and Industrial Technology Development Organization (NEDO). This will be the world's first large-scale maritime transportation technology for liquefied hydrogen, capable of transporting tens of thousands of tons annually, demonstrating an international liquefied hydrogen supply chain that is integrated from upstream to downstream. Specifically, Kawasaki will supply the large-scale equipment needed for establishing the feasibility of commercialization including liquefied hydrogen carriers and on-land liquefied hydrogen tanks.

A decision was made in March 2023 that the shipping terminal will be the Hastings district of Victoria, Australia which has abundant natural resources, and the receiving terminal will be the Kawasaki Coastal Area (located in the Kawasaki district of Kawasaki City, Kanagawa Prefecture) in consideration of the potential demand for hydrogen from the nearby Keihin Industrial Complex as well as access to existing port infrastructure. We have taken a reliable first step toward establishing a commercial-scale international liquefied hydrogen supply chain.

*1 Demonstration project for the commercialization of liquefied hydrogen supply chains
Project period: FY2021–2030 (planned)
Project overview:
https://green-innovation.nedo.go.jp/en/project/hydrogen-supply-chain/
*2 Green Innovation Fund Support: A 10-year project that will provide continuous support from R&D and verification to social implementation to companies and other organizations that are sharing ambitious and specific targets between the public and private sectors and tackling related management issues in order to achieve Japan's goal of becoming carbon neutral by 2050.
Special website: https://green-innovation.nedo.go.jp/en/

Development of technology for cargo tanks for large liquefied hydrogen carriers completed

In June 2023, we advanced the design and manufacture of a performance-verification tank for a cargo containment system (CCS) for use on large liquefied hydrogen carriers and conducted performance verification tests. This work was carried out under a NEDO subsidy program known as the "Technology Development Project for Building a Hydrogen Society, Technology Development for Using Hydrogen Energy on a Large Scale, Development of Large-Scale Transport and Storage Equipment and Export and Import Terminal Equipment for Liquefied Hydrogen."

The CC61H type test tank designed and manufactured at this time is similar in size to the planned CCS for use in large liquefied hydrogen carriers, and by adapting the thickness of structural materials and heat insulation materials to the dimensions of the actual vessels, we verified the integrity of the new structure including the assembly, welding, and workability of insulation materials. In the final stage of development, we performed gas replacement, cooling, and heat-up tests using the test tank, confirming that efficient gas replacement can be carried out in the large internal space of the tank using inert gas and that insulation performance was achieved as planned.


Establishment of tank manufacturing technology and structural analysis technology

A 40,000 m³ class test tank

Collaboration with Kansai Electric Power Company premised on establishment of a commercial supply chain

In December 2022, we signed an MOU (memorandum of understanding) with Kansai Electric Power Company on collaboration relating to maritime transportation and other issues for the establishment of a liquefied hydrogen supply chain.

Through this collaboration, we will investigate and examine maritime transportation of liquefied hydrogen as well as the overseas production, liquefaction, and storage of hydrogen and receiving of hydrogen in the Himeji area.

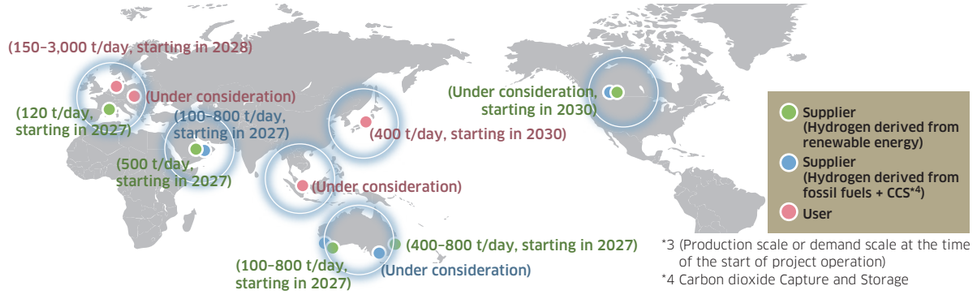
Collaboration agreement with Kawasaki City

In September 2023, we signed a collaboration agreement with Kawasaki City to pursue continuous regional economic development by creating hydrogen demand in the Kawasaki Coastal Area and the early achievement of carbon neutrality in Japan with a view to establishing a commercial-scale liquefied hydrogen supply chain.


Collaboration agreement signed with Kawasaki City

Forming Partnerships That Advance Both Hydrogen Supply and Creation of Demand

Steady progress made on requests for investigation made to us from around the world



*3 (Production scale or demand scale at the time of the start of project operation)
*4 Carbon dioxide Capture and Storage

Seeking to create massive hydrogen demand in the power generation and transportation sectors, which will be critical for achieving a hydrogen-based society

Even if it is possible to produce and transport large amounts of hydrogen energy, it will be meaningless unless there are sites for large-scale utilization. Creating hydrogen demand is an essential condition for achieving a hydrogen-based society.

At Kawasaki Heavy Industries, in addition to verifying the technologies needed to increase scale and the economic feasibility through commercialization demonstrations, we are working to generate demand for hydrogen in the power generation, transportation, and other sectors so that large-scale demand for hydrogen can be created.

Collaboration memorandum signed with Resonac on development of hydrogen power generation business in the Kawasaki district

In October 2023, we signed an MOU with Resonac Corporation on collaboration for development of the hydrogen power generation business in the Kawasaki district with a view to using hydrogen around 2030.

Through this collaboration, both companies will seek decarbonization by launching a hydrogen power generation project of at least 100 MW (equivalent to CO_2 reduction of 700,000 tons*5) at the Resonac Kawasaki business site around 2030, when an international liquefied hydrogen supply chain is expected to be established, and to supply clean energy to the electric power market as well as for use by themselves. The Kawasaki district, where the Resonac Kawasaki business site is located, is suitable for large-scale hydrogen procurement through maritime transportation from the Coastal Area. The two companies will take advantage of this geographical benefit to investigate and examine business schemes, power generation system specifications, hydrogen supply methods, and other issues relating to development of the hydrogen power generation business, which will become a major hydrogen user.


Collaboration memorandum signed with Resonac

*5 Calculated based on "Results of Evaluation of the Status of Progress of Global Warming Countermeasures in the Electric Power Business Field" (reference version) issued by the Ministry of the Environment (P. 36).

Strategic collaboration agreement signed with ADNOC

In April 2023, we signed a strategic collaboration agreement on the establishment of liquefied hydrogen supply chains with the Abu Dhabi National Oil Company (ADNOC), the state-owned energy company of the United Arab Emirates (UAE).

Through this strategic collaboration, both companies will jointly investigate large-scale hydrogen production and liquefaction, ancillary infrastructure facilities, and maritime transportation of liquefied hydrogen to users in Japan and overseas with the aim of establishing a commercial-scale international hydrogen supply chain.

Hydrogen Small Mobility & Engine Technology Research Association established

In May 2023, Kawasaki Motors, Ltd., Suzuki Motor Corporation, Honda Motor Co., Ltd., and Yamaha Motor Co., Ltd. obtained approval from the Ministry of Economy, Trade and Industry and established a technological research association called "HySE" (Hydrogen Small mobility & Engine technology) with the aim of conducting fundamental research on hydrogen engines for use in small mobility vehicles including motorcycles, Japan-originated mini-vehicles, small vessels, construction machinery, and drones. HySE will leverage knowledge and technology acquired from gasoline engines and collaborate to achieve the early creation and widespread adoption of hydrogen engines for small-scale mobility equipment. In October, HySE announced with Toyota Motor Corporation that it will compete in the Dakar Rally, which will be held in January 2024, with the HySE-X1, a hydrogen fuel engine vehicle.


The HySE-X1 (mockup)

Focal Field 1

Working toward the stable generation of clean energy

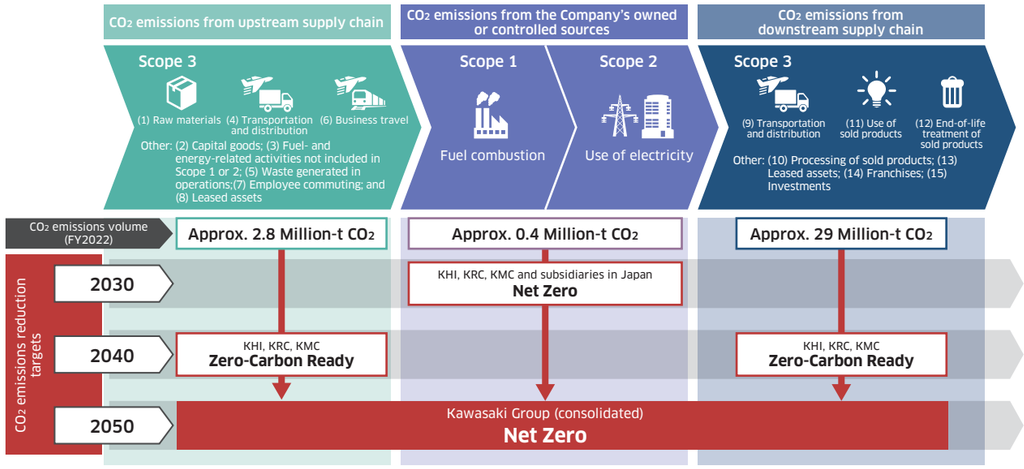
2. Initiatives to achieve zero CO_2 emissions

Carbon neutrality targets

The Group will achieve carbon neutrality for Scope 1 and 2 in Japan by 2030 through independent initiatives focused on hydrogen power generation. To address Scope 3 emissions, we will decarbonize products and services with hydrogenation, electrification, green power grid, alternative fuels, and CCUS*1 as our keywords and strive to achieve by 2040 a status where customers select our Zero-Carbon Ready decarbonization solutions.

We will expand our decarbonization solutions with business partners, and customers, contributing to the early realization of carbon neutrality.

*1 CCUS (Carbon dioxide Capture, Utilization and Storage): Capture CO_2 emissions + Store underground + Utilize CO_2



Note: KHI: Kawasaki Heavy Industries (parent only), KRC: Kawasaki Railcar Manufacturing, KMC: Kawasaki Motors

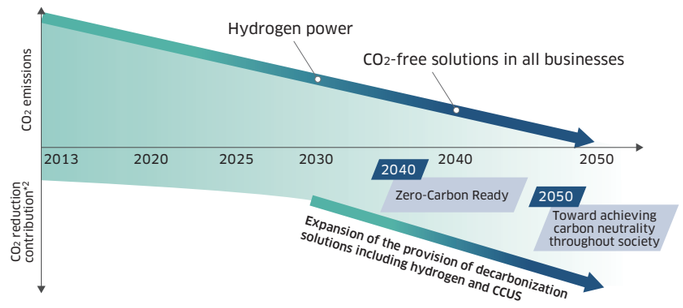
Scope 3 CO_2 emissions reduction targets

(KHI, KRC, KMC)

2040 Zero-Carbon Ready

Reduce CO_2 at least 100% in real terms by engaging in the CCUS business

- Category (i): 80% reduction (compared with fiscal 2021)
- Category (xi): Develop a lineup of CO_2-free standard solutions and facilitate global CO_2 reductions



*2 CO_2 reduction contribution: Equal to the difference between greenhouse gas emissions volumes of earlier products and services and new products and services. A quantification of the contribution to the mitigation (impact) of climate change throughout society as a whole through the provision of products and services.

Scope 1, 2

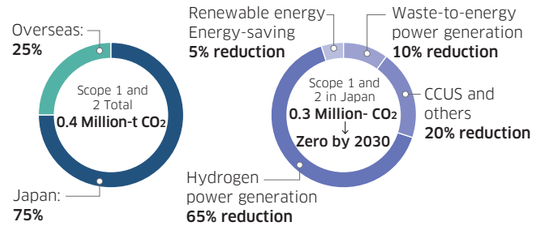
Scope 1, 2 In-house fuel and power use

Carbon Neutrality in Japan by 2030

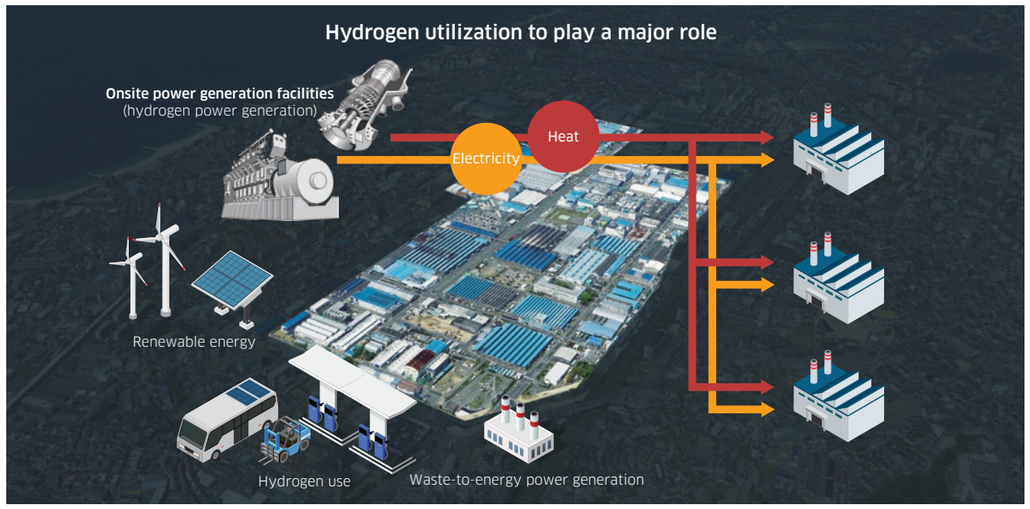
As shown to the right, the Kawasaki Group's Scope 1 and 2 CO_2 emissions are approximately 400,000 tons annually, of which Japan account for three-quarters.

We will continue efforts to save even more energy and promote electrification and the use of sustainable energy, such as solar power generation, to reduce CO_2 emissions through 2030. We will also introduce in-house hydrogen-fueled power generation facilities and achieve zero-emissions plants by combining this with power generation from waste, renewable energy, and other energy sources. Through these initiatives, we plan to achieve independent carbon neutrality with zero CO_2 emissions by the Group in Japan by 2030. We are also working to reduce CO_2 emissions overseas.

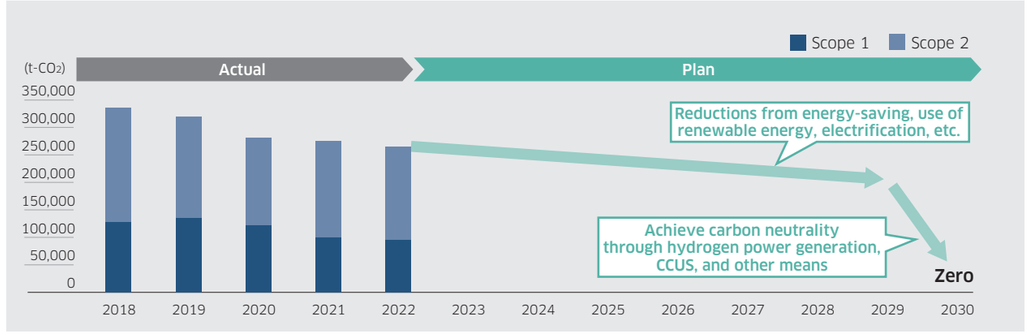
CO_2 Emissions Reduction Plan in Japan



Zero-Emission Plant



CO_2 Emissions (Scope 1 and 2) and Reduction Targets (Domestic Group)



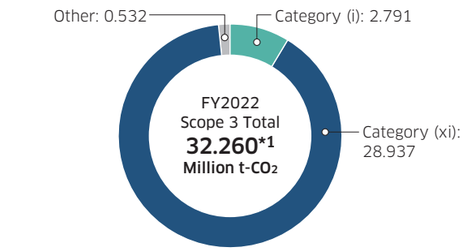
Scope 3

/ Leading Society by Advancing Toward Zero-Carbon Ready

Scope 3 Net Zero can only be achieved when all parties in the value chain including trading partners and clients become Zero-Carbon Ready. The Company will implement the maximum possible measures concerning Scope 3 to become Zero-Carbon Ready by 2040. Specifically, for category (i), we will slash CO_2 emissions by suppliers of materials and parts by 80%, and for category (xi), we will develop a lineup of CO_2-free standard solutions in all businesses. Moreover, we will reduce CO_2 emissions by more than the Company's own Scope 3 emissions by working toward achieving a hydrogen-based society and engaging in the CCUS business, thereby contributing to the early achievement of carbon neutrality around the world.

Scope 3 Breakdown by Categories

(Million t-CO_2)



*1 Category (xi) is the total for the Kawasaki Group. Other is the total for Kawasaki Heavy Industries (non-consolidated), Kawasaki Motors, and Kawasaki Railcar Manufacturing

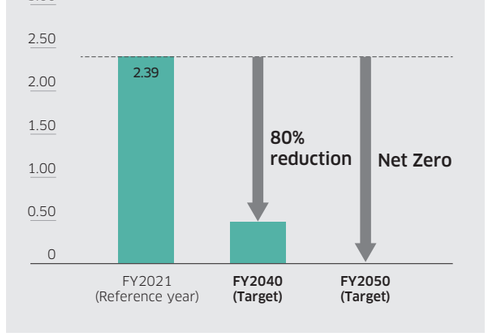
Scope 3 Category (i) CO_2 emissions from procurement of materials and parts

Support industrial initiatives with hydrogen and CCUS solutions to further accelerate reductions

The Company will deepen collaboration with business partners that supply materials and parts, including sharing emissions data, offering support for CO_2 reductions and striving for early achievement of zero emissions. This will be achieved by means not limited to in-company utilization by the Group of solutions such as hydrogen power, hydrogen fuel, and other alternative fuels, as well as CCUS, but also by providing these solutions to business partners.

As a first step, in fiscal 2023, we introduced tools for visualizing CO_2 emissions from procuring in some businesses and conducted briefings and study sessions on carbon neutrality for business partners. Going forward, we will expand these initiatives company-wide and build cooperative structures with business partners for reducing emissions.

Scope 3 Category (i) (CO_2 reductions scenarios)



Scope 3 Category (xi)*2 Providing customer solutions

Provide CO_2-free solutions to all customers

We will take action to decarbonize products and services with hydrogenation, electrification, green power grids, alternative fuels, and CCUS as our keywords.

•Initiatives in the leadup to 2030 (short term)

Through Kawasaki Ecological Frontiers, a program for certification of environmentally friendly products, and other initiatives, we will continue to reduce the energy consumption and improve the efficiency of existing products and promote the shift to hybrid electric and battery electric motorcycles and other vehicles as part of the transition to a decarbonized society. We will also conduct development for the commercialization of hydrogen energy and expand the use of hydrogen in gas turbines, gas engines, and other equipment. Furthermore, we will work toward the development of Kawasaki CO_2 Capture and DAC for the capture and use of CO_2.

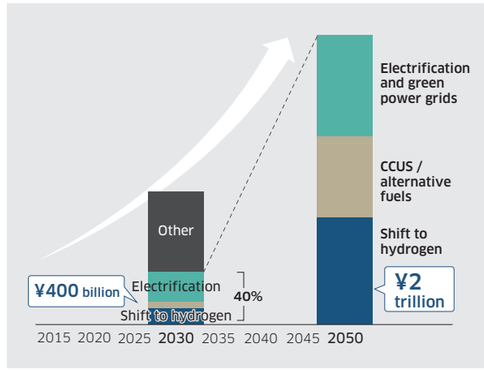
•Initiatives in the leadup to 2040 (medium to long term)

The Group will actively further the following three major initiatives.

(1) We will provide CO_2-free fuels and electrical power to society with a focus on the hydrogen business.
(2) We will make a selection of choices for electrification and CO_2-free fuels available to customers utilizing our various solutions including mobility and robots.
(3) In addition to CO_2 capture, we will promote the effective use of CO_2 including the manufacture of synthetic fuels and chemical products to achieve a circular CO_2 society.

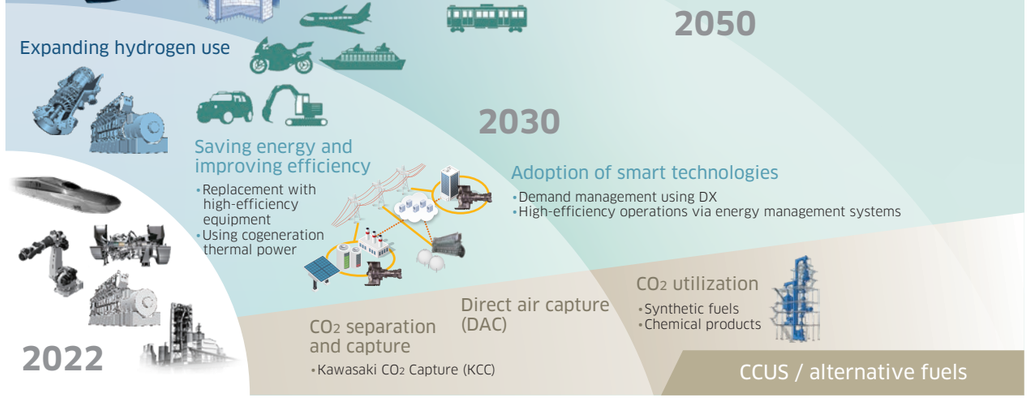
With these three pillars, the Group will make choices available to our customers of products and services (excluding defense and related; emergency products business) that contribute to the achievement of carbon neutrality by 2040, and promote global reductions in CO_2.

Envisioned Scale of Business by Future Solution

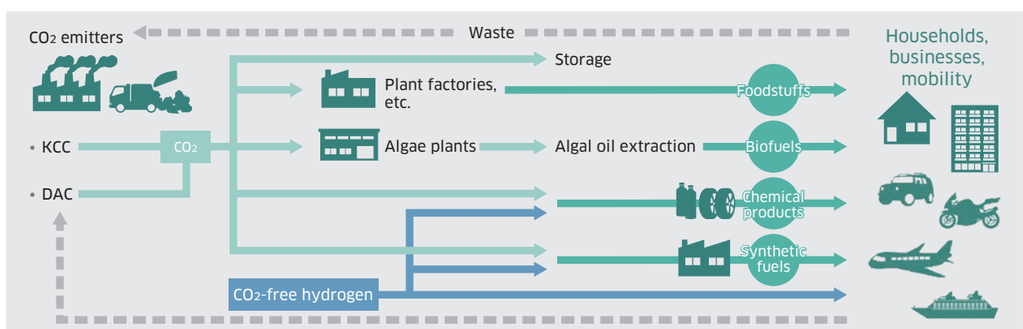


*2 From fiscal 2021, the Group modified its calculation method to allow more accurate records of emissions levels for Scope3 category (xi). Previously, CO_2 emissions levels for products such as hydraulic machinery, manufactured as parts to be incorporated in finished products, were calculated by tallying the CO_2 emissions levels of the finished products such as construction machinery. However, from fiscal 2021, these calculations will also take into account the degree of contributions and weight ratios for final products. Also, in fiscal 2022, we expanded the scope of calculation from the total for Kawasaki Heavy Industries, Kawasaki Motors, and Kawasaki Railcar Manufacturing to the entire Group.

Decarbonization Solutions



A CO_2-recycling Society



Disclosure in Line with the Recommendations of the Task Force on Climate-related Financial Disclosures

Under its Group Vision 2030, the Kawasaki Group will actively contribute to the realization of a society in which the average global temperature rise is held to 1.5°C above pre-industrial levels—the goal of the Paris Agreement—through its business, by advancing its hydrogen business, CCUS* and other efforts. At the same time, the Group is moving forward with measures, based on risk analysis, to address increasingly severe natural disasters, including business continuity planning (BCP), supply chain resilience and others. Here we report on climate change-related information based on TCFD recommendations.

* Carbon dioxide Capture, Utilization and Storage

Governance (Organizational governance of climate-related risks and rewards)

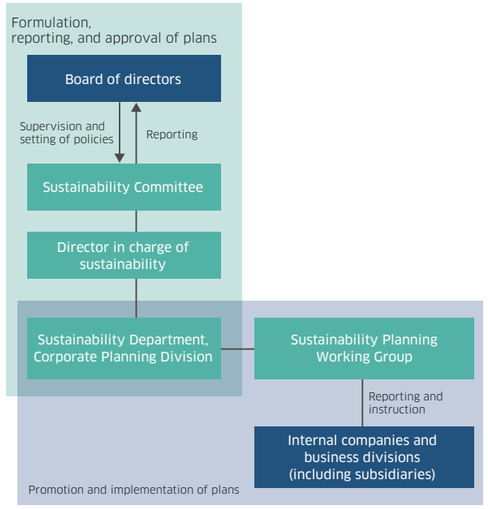
In the Kawasaki Group, the Board of Directors is the highest decision-making body that deliberates and decides fundamental sustainability policies and fundamental plans throughout the Group. The Sustainability Committee, under the supervision of the Board of Directors, determines those measures to be taken rooted in the basic plan the Board of Directors has decided and reports on their progress to the Board of Directors.

The Sustainability Committee deliberates and reports on the following items.

1. Measures contributing to realization of the sustainability of both society/environment and our Group and enhancement of our Group's corporate value, as well as their practice and state of achievement
2. Measures to understand, reduce, and eliminate the negative social and environmental impact of our Group's business activities, as well as their practice and state of achievement

The Committee in principle meets at least two times per year. In fiscal 2022, it convened three times and made reports to the Board of Directors.

Sustainability Promotion System



Metrics and Targets (Indicators and targets employed when assessing and managing climate-related risks and opportunities)

The Group has established CO_2 emissions reduction targets, as shown in the chart at right.

For domestic Scope 1 and 2, including Group companies, our goal is to achieve self-sustaining carbon neutrality by 2030 through initiatives centered primarily around hydrogen power generation. For Scope 3, targets have been established for main categories (i) and (xi).

Our goal is for zero CO_2 emissions across the Group as a whole by 2050, in line with the CO_2-free target set out in the Kawasaki Global Environmental Vision 2050.

For details regarding CO_2 emission reduction targets, see pp. 39–42.

Kawasaki Group CO_2 Emissions Reduction Targets

Scope 1, 2	Scope 3
2030 Carbon Neutrality Scope: Domestic Group companies	2040 Zero-Carbon Ready Contribute to carbon negative by realizing a hydrogen-based society and promoting commercialization of CCUS Category (i): 80% reduction Category (xi): Promote CO_2 reductions in the world Scope: Kawasaki Heavy Industries, Kawasaki Motors, Kawasaki Railcar
2050 Carbon Neutrality Scope: Entire Group (consolidated)	

Risk Management (Methods for identifying, assessing and managing climate-related risks)

The identification and assessment of risks related to sustainability including climate change are conducted by the Sustainability Committee. Changes in the business environment and in the demands and expectations from stakeholders are evaluated from a risk management perspective, and deliberated and reported on as necessary responses. With respect to regular reviews of materiality, too, risk assessments regarding various issues are conducted based on the results of these scenario analyses.

Risks affecting the entire company such as those related to the BCP are managed centrally by departments charged with risk management. They continuously assess and monitor risks with respect to items related to sustainability, particularly those items related to a global environment aimed at achieving carbon neutrality and a circular society, and items related to human capital that aim to strengthen the human capital and organizations responsible for delivering new value.

The results of these risk assessments and the identified risks are reported to the Board of Directors which, based on their deliberations over the approach to addressing them, provide the necessary feedback to those departments subject to those risks.

Strategy (Actual and potential impact of climate-related risks and opportunities on business, strategy and financial planning)

In energy and environmental solutions, one of three focal fields defined in the Group Vision 2030, the Group is actively advancing business aimed at realizing a decarbonized society through the hydrogen business, CCUS and other efforts.

Recorded below is the scenario analysis process conducted in the formulation of Kawasaki's climate change strategy.

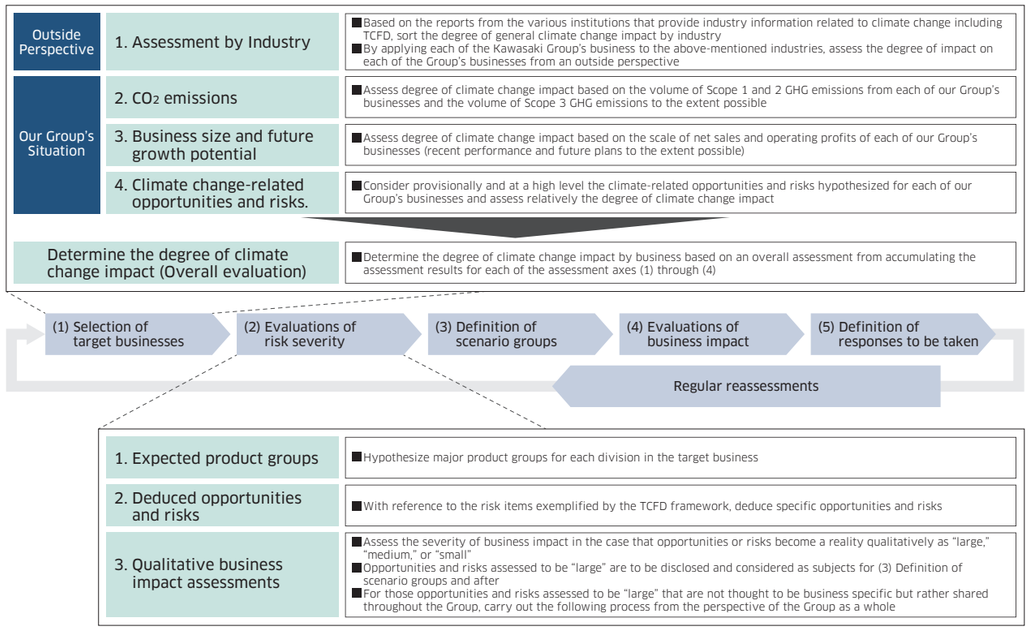
Scenario Analysis Process

Scenario analysis is conducted through a process that entails (1) Selection of target businesses, (2) Evaluations of risk severity, (3) Definition of scenario groups, (4) Evaluations of business impact, and (5) Definition of responses to be taken.

Considering consistency with the Group Vision 2030, the year 2030 was set as the target year, and the 1.5ºC and 4ºC scenarios were adopted. The business impact of the 1.5ºC and 4ºC scenarios and the results of the considerations on the measures to be taken are described on the tables on pp. 45–48.

Going forward, we will regularly conduct reviews and advance the sophistication of the scenario analysis.

Process for Scenario Analysis (1.5ºC Scenario)



Climate Change Scenario Analysis

1.5°C Scenario (As of 2030)　When the Group Vision 2030 policy is implemented

*1 Financial impact … ★: less than ¥10 billion; ★★: ¥10 billion or more, less than ¥100 billion; ★★★: ¥100 billion or more

Business Segment		Energy Solution & Marine Engineering Segment	Aerospace Systems Segment	Powersports & Engine Segment	Precision Machinery & Robot Segment	Rolling Stock Segment
Assumptions		•Decarbonization of energy will progress rapidly worldwide, and energy conservation, energy conversion and the shift toward non-fossil fuels will advance in Japan as well. •An international supply chain will be built for hydrogen and ammonia, power generation from these means will begin. Strategic placement of hydrogen stations advances. •Energy security will become increasingly important in Japan.				
		•At power plants and the like, carbon reduction and decarbonation (through the use of hydrogen fuels, biofuels, and e-fuels [i.e., synthetic fuels]) will advance.	•Global air passenger traffic will increase as the middle class grows in emerging economies. The use of sustainable aviation fuel (SAF), such as biofuels, and hydrogen will advance.	•For motorcycles and four-wheelers, electrification will advance, as does carbon reduction and decarbonation (through the use of hydrogen fuels, biofuels, and e-fuels [i.e., synthetic fuels]).	•For construction machinery and industrial machinery, electrification will advance, as does carbon reduction and decarbonation (through the use of hydrogen fuels, biofuels, and e-fuels [i.e., synthetic fuels]).	•For rolling stocks in non-electrified regions, carbon reduction and decarbonation (through the use of hydrogen fuels, biofuels, and e-fuels [i.e., synthetic fuels]) will advance. •In keeping with the realization of a hydrogen-based society, the need for hydrogen transport using railroads will grow.
Opportunities	Hydrogen-related	•Demand will increase for liquefied hydrogen plants, liquefied hydrogen storage tanks, liquefied hydrogen carriers, hydrogen gas turbines, hydrogen gas engines and marine hydrogen engines, etc.	•Efforts to develop aircraft that use hydrogen as fuel will progress toward 2040.	•Demand will increase for motorcycles and four-wheelers, etc. equipped with hydrogen engines.	•Demand for construction machinery equipped with hydrogen engines and fuel cells will increase. Installation of hydrogen stations will also advance.	•Demand for rolling stocks that use hydrogen for fuel will increase. •Demand for liquefied hydrogen container freight cars as the means for transporting hydrogen will increase.
	CCUS and alternative fuels	•Demand will increase for CO_2 recovery plants/equipment and use of CO_2. •Demand for plants that use biomass will increase.	•Demand for sustainable aircraft fuel (SAF) will increase.	•Demand for motorcycles and four-wheelers, etc., that use biofuels and e-fuels (synthetic fuels) will increase.	–	–
	Electrification	•Demand will increase for marine electric propulsion systems and marine fuel cell and storage batteries.	•Development of electric aircraft will advance.	•Demand for electric and hybrid motorcycles and four-wheelers will increase.	•Demand for the electrification of construction machinery will increase. •Accompanying electrification, demand for semiconductor manufacturing robots will increase.	•Demand for rolling stocks powered by storage batteries will increase.
	Other	•Demand will increase for reduced GHG vessels, marine LPG/LNG engines and ammonia transport.	•Demand will increase for fuel efficient engines.	•Demand will increase for fuel efficient engines.	•Demand for hydraulic advanced electronic control systems to improve fuel economy will increase.	•Modal shift from internal combustion means of transportation (automobiles, aircraft, etc.) will advance particularly for freight traffic, and demand for electric locomotives will increase.
		•Demand for such solutions businesses as digitalization and robotics that improve the productivity and energy-saving performance of factories and facilities will increase.				
Risks	Products and services	•Demand for LNG power generation facilities will decline.	•Demand for aircraft will decline (modal shift to rail cars, etc.).	•Demand for gasoline-powered vehicles will decline.	•Demand for diesel construction machinery will decline.	–
	Development investment	•R&D and capital investments related to hydrogen-based products and services will increase.	•R&D and capital investments in new types of aircraft and engines will increase.	•R&D and capital investments in EV/HEV will increase. •R&D and capital investments in solving battery issues (durability, output), e-fuel and use of hydrogen technology will increase.	•R&D and capital investments directed toward the use of hydrogen technologies and the development of hydrogen-related machinery will increase.	•R&D and capital investments toward hydrogen-powered rolling stocks and storage battery-powered rolling stocks will increase.
		•R&D and capital investments in productivity improvements and energy saving such as through digitalization and robotics will increase.				
	Other	•Due to delays in infrastructure development, etc. widespread adoption of hydrogen may fall behind our assumptions.				
Financial Impact*1	Net sales	•Carbon neutrality-related net sales, including hydrogen: ¥600 billion (FY2030)				
		★★★ (Sales of hydrogen-related products will rise)	★ (Creation of hydrogen aircraft will come around 2040 or later)	★★★ (Move first with the shift from gasoline-powered vehicles to EV/HEV, and shift to e-fuel and hydrogen will progress)	★★	★
	Investment amounts	•Carbon neutrality-related investments: ¥350 billion (FY2020–FY2030)				
		★★★ (Including use of GI Fund)	★★ (Including use of GI Fund with respect to the development of hydrogen aircraft)	★★★ (Investment of ¥150 billion for the period FY2023–FY2027)	★★	★
Kawasaki's measures to address opportunities and risks	Hydrogen-related	•With an eye toward commercialization, we have promoted the GI Fund's commercialization demonstration projects to achieve greater scale at lower cost. We are actively promoting alliances with relevant companies to realize an international supply chain.	•Kawasaki is also promoting R&D in hydrogen aircraft core technology. We are advancing studies of airport infrastructure, etc. utilizing the hydrogen supply chain.	•Stimulate demand by encouraging the development of mobility and general-purpose engines utilizing hydrogen engines.	•Bring to market energy saving-type hydrogen compressors for hydrogen stations. •Improve development efficiency and cut development costs by collaborating with other companies and moving to outsourcing on such projects as hydrogen supply systems.	•Promote the development of hydrogen-powered rolling stocks. •Promote the development of liquefied hydrogen tank container freight cars.
	CCUS and alternative fuels	•Kawasaki has completed a demonstration of a CO_2 recovery plant under NEDO*2 and Ministry of the environment projects based on the strength of our submarine technology, and are advancing efforts to scale up and strengthen cost competitiveness of the plant toward commercialization. We are investigating a wide range of possibilities for utilization of CO_2, including synthetic fuels. *2 New Energy and Industrial Technology Development Organization •Expand sales of boilers compatible with a wide variety of biomass fuels.	•Advance development of SAF-compatible engines.	•Promote development of motorcycles, four-wheelers, etc., that e-fuel compatible.	–	–
	Electrification	•Expand sales of hybrid/electric propulsion systems, etc.	•Advance development of electrification.	•Deploy EV/HEV in at least 10 models by 2025, and replace major models with EV/HEV by 2035.	•Advance responding to electrification, including with the K-Axle™ electric hydraulic pump unit. •Develop and bring to market further low power consumption technologies for the robots we manufacture.	•Promote the development of storage battery-powered rolling stocks.
	Other	•In addition to meeting immediate transport demand with ammonia carriers, provide hydrogen engines and hydrogen supply systems for coastal vessels, which are the primary target ship types for our marine LNG gas engines. •Meet demand for LNG power generation from an energy security perspective, while also promoting a conversion to hydrogen gas turbines and hydrogen gas engines.	•Promote R&D in composite materials and high-efficiency systems. •To cope with rising research and equipment costs, promote R&D in low-cost production technology using robot technology and IOT. Also increase development efficiency through alliances with other companies.	•With regards to development costs and capital investments, we will control costs by standardizing components and outsourcing, including through collaboration with other companies.	•Introduce energy-saving systems for construction machinery and expand the application of failure diagnostic systems for energy-saving purposes •Provide operational energy estimates and real-time monitoring services for robot systems. •Promote the development of surgical robot system and remote robot systems.	•Improve our ability to respond to increased demand for electric locomotives.

Note: GI Fund(Green Innovation Fund); EV(Electric Vehicle); HEV(Hybrid Electric Vehicle); GHG(Green House Gas)

Climate Change Scenario Analysis

4°C Scenario (as of 2030)　As shown below, the 4ºC scenario will invite a worsening of the global economy, and so we will make every effort to contribute to the early realization of decarbonized society (Group Vision 2030).

Business Segment	Energy Solution & Marine Engineering Segment	Aerospace Systems Segment	Powersports & Engine Segment	Precision Machinery & Robot Segment	Rolling Stock Segment
Assumptions	•Many countries withdraw from the Paris Agreement, and rising temperatures are left to take their course. Japan also fails to implement policies to reduce greenhouse gas emissions. •Typhoons, floods and other natural disasters chronically occur and intensify. Food shortages, water shortages and so forth due to climate change become chronic. This invites an increase in epidemics and a rise in death rates. •Owing to these factors, the destabilization of all countries' economies advances, and crime as well as international conflicts also increase.				
Opportunities	–				
Risks	•The frequent occurrence of natural disasters may increase damage to power generation and transmission equipment, and increase the occurrence of delays in parts procurement and delivery due to supply chain disruptions.				
	•Lack of progress in adoption of hydrogen and CCUS may cause delays in return on investments and require reevaluation of business plans.	–	•Temperature changes may reduce lawn growth and shrink the general-purpose engine market.	•With the spread of hydrogen not advancing because investment recovery is delayed, and a review of business plans may become necessary.	•Modal shift from internal combustion means of transportation (automobiles, aircraft, etc.) may not advance.
Financial Impact (Net sales, physical losses)	•FY2030 net sales: Negative impact will be large (the opportunity for ¥600 billion in carbon neutrality-related net sales including hydrogen as hypothesized in the 1.5ºC scenario is lost) •Recovery of investments will be delayed (R&D and capital investments related to hydrogen projects, hydrogen aircraft development, and EV/HEV motorcycles) •Physical losses: Based on the estimates shown below, minimum losses will be ¥4 billion for damages at production sites (loss of fixed assets) and ¥24 billion for damages from a halt in operations due to supply chain disruptions (sales decrease) •Food risks, water risks, economic instability, supply chain chaos, and other factors produced by temperature rise will have an enormous impact on operations				
Measures to address opportunities and risks	•Work to deliver at an early date our decarbonation solutions, and by making the most of the Kawasaki Group's strengths, check the growth of related systems, construction machinery, and robots. •To address physical losses that can become major losses, work to strengthen our supply chain and advance measures to raise the siting of electric damage due to increasingly serious natural disasters through, for example, distributed power sources, emergency power generators, disaster response helicopters and facilities at all of our plants.				

Note: EV(Electric Vehicle); HEV(Hybrid Electric Vehicle); GHG(Greenhouse Gas)

Process and Results for Scenario Analysis (4ºC Scenario)

With regard to damage to production sites caused by natural disasters under the 4ºC scenario, we have evaluated the business impacts as shown on the tables below as risks shared in common throughout the Kawasaki Group.

Anticipated Risks　■ A natural disaster such as flooding occurs, (A) facilities at production sites are damaged, and (B) the supply chain is disrupted, leading to a halt in operations.

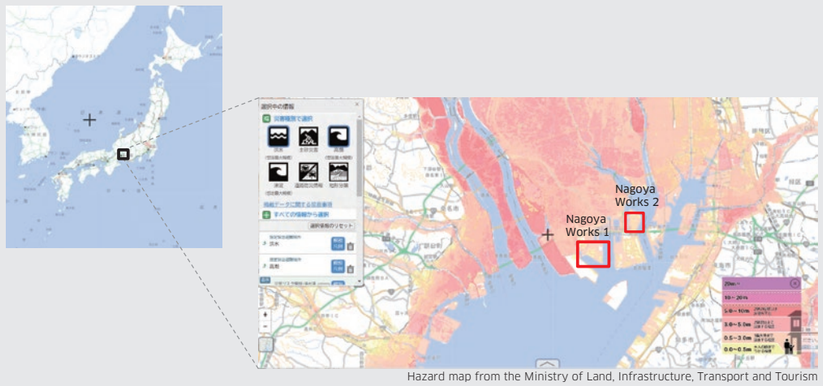
(4) Business impact evaluations

1. Identification of high-risk sites

(A) Damage to production sites

■ Identify high-risk sites based on the Ministry of Land, Infrastructure, Transport and Tourism hazard maps, the World Resources Institute "Aqueduct Water Risk Atlas," and past damage reports
- •Applies to 13 of the 26 domestic production sites
- •Applies to 8 of the 16 overseas production sites

Example of domestic production sites (26 sites)

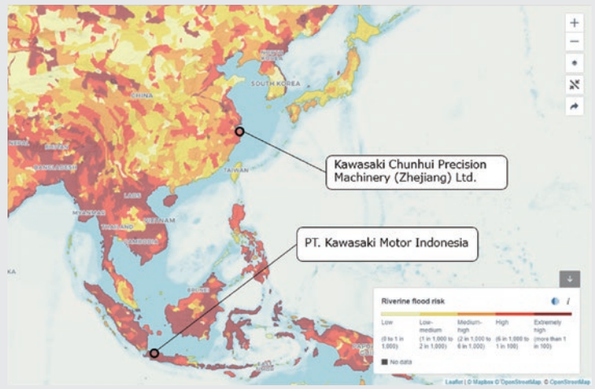


Hazard map from the Ministry of Land, Infrastructure, Transport and Tourism

(B) Damage from a halt in operations due to supply chain disruptions

■ Based on the World Resources Institute's "Aqueduct Water Risk Atlas" and past damage reports, determine high-risk sites
- •Does not apply to domestic production sites owing to a lack of past damage reports
- •Applies to 4 of our 16 overseas production sites

Example of overseas production sites (16 sites)



2. Preliminary calculation of damage

(A) Damage to production sites

■ Calculations of expected damages for 2030 at high-risk sites are below
■ Rate of increase of harm to GDP is based on the World Resources Institute's "Aqueduct Global Flood Analyzer"
■ Result: ¥4 billion

Hypothesized cost of damage at high-risk sites based on damage reports (fixed assets based on book value) x growth rate of damage to the GDP

(B) Damage from a halt in operations due to supply chain disruptions

■ Calculations of expected damages for 2030 at high-risk sites are below
■ Rate of increase of harm to GDP is based on the World Resources Institute's "Aqueduct Global Flood Analyzer"
■ Result: ¥24 billion

Hypothesized cost of damage at high-risk sites based on damage reports (based on net sales) x growth rate of damage to the GDP

Figure Sources
Japan production sites: Map created using hazard map information from the Ministry of Land, Infrastructure, Transport and Tourism <https://disaportal.gsi.go.jp/hazardmap/maps/index.html>.
Production sites outside of Japan: Map created using information from WRI Aqueduct Water Risk Atlas <https://www.wri.org/data/aqueduct-water-risk-atlas>.

Focal Field 2

New value creation using remote technology

Create a society that is affluent, safe, and secure for all with remote technology

Kawasaki's Solutions to Social Issues

- In industrial robots, we will use automation and remote technologies to offer solutions to labor issues ranging from worker shortages in developed countries to difficult and dangerous worksites.
- In the healthcare field, we will alleviate patient burden, the increasing burden on doctors, and regional healthcare disparities
- Reflecting work and lifestyle diversification, we will facilitate remote work environments that enable participation in society regardless of distance, lifestyle constraints, or health limitations as well as the use of overseas workers and skilled workers.
- We will use sophisticated and diverse transportation and energy equipment to prevent and alleviate damage from increasingly severe natural disasters and help ensure economic continuity and stability in daily life.

Of these, here we introduce the following initiatives.

Achieving Telemedicine

Related Business
- Precision Machinery & Robot

hinotori™ Surgical Robot System

Kawasaki established Medicaroid Corporation as a joint venture with Sysmex Corporation to develop, manufacture, and sell medical robots. On the basis of the industrial robot technologies that Kawasaki accumulated over a history of more than 50 years, Medicaroid developed the *hinotori*™ Surgical Robot System, and introduction of the system into medical settings in Japan has been expanding since certification was acquired in 2020. As of October 2023, the system has conducted a total of more than 2,500 urological, gynecological, and general surgeries. Since the system's launch, we have used feedback from physicians to provide upgraded versions and new models with enhanced usability while promoting business in Japan, and in September 2023, we obtained approval for sales in Singapore, a first step toward global expansion.

In addition, we are participating in remote surgery and surgery support projects and conducting demonstration testing as initiatives for solving social issues. There are high expectations that this technology will contribute to solving regional disparities in healthcare.

In October, we conducted successful demonstration testing between two sites in Singapore and Aichi, Japan, which are separated by a distance of approximately 5,000 km.

The *hinotori*™ Surgical Robot System, from Medicaroid Corporation

Transforming Work Styles with Remote Technology

Related Business
- Precision Machinery & Robot

Seeking a Remotely Connected Society in Which Every Person Can Participate

In December 2021, Kawasaki established Remote Robotics Inc., a joint venture with Sony Group Corporation. The company is working to develop this new business with the purpose of realizing a remotely connected society in which every person can participate and proposing new work styles.

The working age population (persons from 15 to 64 years old) is predicted to decline by 630,000 annually, and even as concerns regarding labor shortages heighten, the number of job-seekers within the non-working age population was 2.53 million people who want to work but find it difficult to obtain employment. Remote Robotics is contributing to solutions to social issues through the Remolink platform.

Remote Robotics began providing Remolink Builder, a service that enables users to start small in remote robot system development, in May 2023. The Company also began providing Remolink, a cloud-based service that makes possible new types of remote work via robot, in July 2023. It is proposing new options that are not limited to the choice between entirely manual work or entirely automated work and enable allocations of tasks between humans and robots through remote operation.

The Remolink platform uses remote robots to connect businesses and workers

Development of New Business in the Healthcare Field

Related Business
- Precision Machinery & Robot

Leveraging Knowledge from Our PCR Testing Service to Expand Business Fields

From 2021 to May 2023, we provided 850,000 tests in cities and at airports through our PCR testing service, contributing to infection countermeasures and the recovery of social and economic activity, and received acclaim from various quarters.

We renamed the Healthcare Business Promotion Group in April 2023 and will use the knowledge and technologies gained through our PCR testing service to develop new business in the healthcare field with the aim of contributing to the realization of 100-year healthy life expectancy in the coming aging society in collaboration with the human relationships we have established and other companies (business partners). Specifically, we seek to establish business models for services that contribute to automation and labor-saving in individualized healthcare and nursing care fields during fiscal 2023.

Use acquired knowledge and know-how to develop new business in the healthcare field

Establish a society with 100-year healthy life expectancy

Medical testing
Genomic analysis, pharmaceutical development support

In-hospital logistics
Inter-hospital transportation, human flow management

Telemedicine
Remote surgery and diagnosis

Other
In-hospital testing
Medical tourism
Pain-free medical care, palliative care
Nursing care, rehabilitation, etc.

Focal Field 3

Transforming the movement of people and freight

Create a society where people and freight move safely, quickly, and efficiently using new forms of mobility

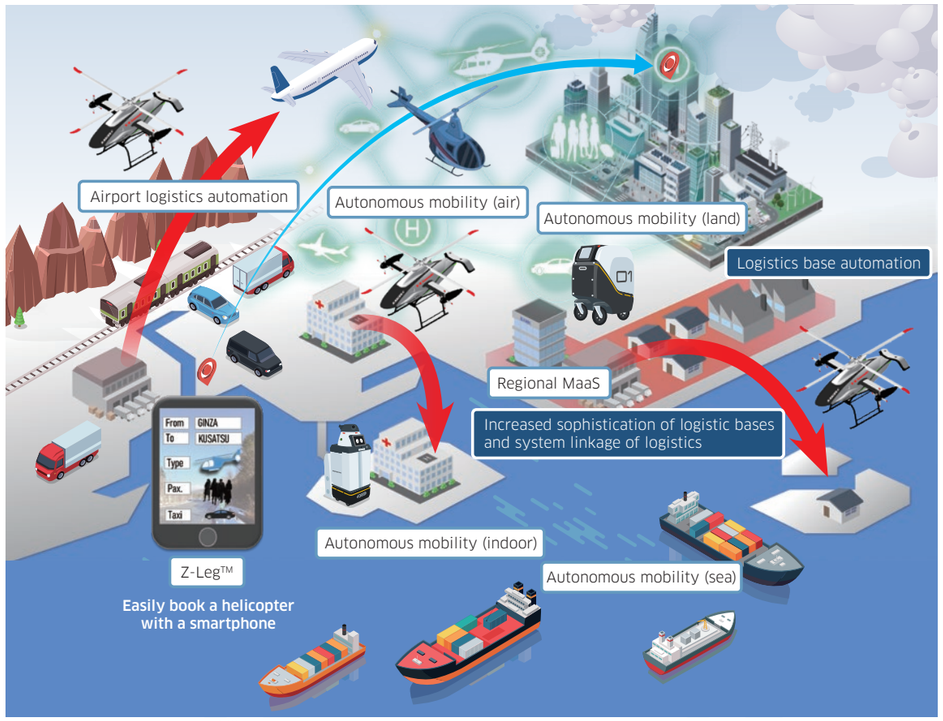
Kawasaki's Solutions to Social Issues

- We will provide new solutions based on Kawasaki's wealth of technologies necessary to the transportation chain, including those related to airplanes, helicopters, ships, rolling stocks, and motorcycles. These solutions will address the changing manner of mobility, including growth in e-commerce, sharing services, and demand for personal mobility.
- Addressing the increasingly severe issues related to labor shortages and worsening working conditions caused by growing logistics volumes, we will offer new systems that combine transportation equipment with robotics and remote technologies.
- We will offer solutions leveraging new transportation systems that combine land and air transport to address such issues as time lost in transport due to higher traffic congestion because of economic development and disruptions caused by increasingly serious natural disasters.

Working toward the social implementation of near-future mobility

We have been building strategic partnerships in logistics since fiscal 2022 with the aim of achieving social implementation in regional cities, commercial facilities, hospitals, etc.

In addition, we will also encourage deregulation and institutional development with regard to remote and autonomous mobility.



Super City Using Near-Future Mobility

Commercialization of new modes of mobility

Related Business
- Aerospace Systems
- Powersports & Engine

* Vertical Take-Off and Landing aircraft

Our Activities for Social Implementation of the K-RACER Unmanned VTOL* Aircraft

In order to address the labor shortage in the logistics industry ,we are developing the K-RACER unmanned VTOL Aircraft that combines our helicopter technology with the compact, high-power engines that our motorcycles have. Its characteristics are the ability to take off and land vertically without a runway and having a payload capacity that a drone cannot achieve. In 2021, we conducted a successful proof of concept of unmanned cargo transport through collaboration by the K-RACER-X1, which has a payload capacity of 100 kg, and a delivery robot. Going forward, we are pursuing social implementation of an aircraft with a capacity of 200 kg.

As an initiative for social implementation, we received a contract from Ina City, Nagano Prefecture for an Unmanned VTOL Cargo Transport Platform Development Project. Under this project, we will coordinate with stakeholders and perform permitting and licensing procedures pursuant to laws and regulations in order to achieve delivery of materials to mountain lodges, which are facing a shortage of pilots, weather conditions unique to mountainous regions, and other issues.

K-RACER unmanned VTOL aircraft

Automation of delivery work

Related Business
- Precision Machinery & Robot
- Powersports & Engine

Trial of In-Hospital Delivery Service Started Using Indoor Delivery Robot

Working in collaboration with Fujita Health University and SEQSENSE Inc., we started a trial of a delivery service using the FORRO indoor delivery robot on July 10, 2023 in an effort to reduce the burdens on medical professionals. Three FORRO robots worked 24-hour shifts delivering specimens and drugs, and we are confirming the frequency and volume of each delivery and the impact on medical professionals so that we can provide delivery services that are similar to actual operations.

Through this trial, we will create a system where humans and robots can work together and develop an environment for the provision of even higher-quality healthcare.

FORRO indoor delivery robot

One-stop service for air travel arrangements

Related Business
- Aerospace Systems

Provision of Z-Leg™

As the mobility as a service (Maas) industry grows rapidly, we launched Z-Leg™, an innovative solution for travelers in need of one-stop helicopter booking.

This service enables users to easily make online arrangements for a helicopter, pilot, helipad, and ground transportation all at once. In fiscal 2022, we teamed up with JTB Corp. to take a first step toward the creation of an innovation in Japanese tourism. The customers will use only highly-safe twin-engine aircraft, such as the BK117 series, which were jointly developed by the Company and its partner. In the future, we plan to expand the service so that we can provide value such as convenience and safety, not only for travelers, but also for healthcare and rescue needs.

Z-Leg™ one-stop service for air travel arrangements

Aerospace Systems

Reaching greater heights in the domains of aviation and space through the integration of cutting-edge technologies

Since Kawasaki's launch of aircraft manufacturing in 1918, we have branched out into a wide range of businesses as one of Japan's leading makers of aircraft and aircraft engines.

The spread of the COVID-19 pandemic, which began in 2020, exerted a serious impact on commercial business, but fiscal 2022 saw a full-fledged recovery of air travel demand, and Kawasaki's business picked up considerably as well. In addition, following the Ministry of Defense's policy of drastically strengthening Japan's defense capability, the defense business environment is improving too.

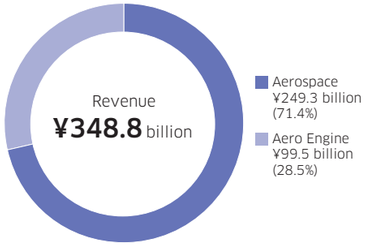
Although we are concerned about an impact due to extra inspections of engines becoming necessary in the PW1100G-JM commercial aero engine program, we will continue to secure stable revenue in our core businesses in the commercial and defense fields. Furthermore, we will continue to promote initiatives toward the creation of future opportunities, such as technological development contributing to the strengthening of defense capability and the core technological development of hydrogen aircraft toward the realization of a decarbonized society.

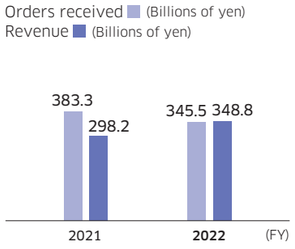
Hiroyoshi Shimokawa
President, Aerospace Systems Company

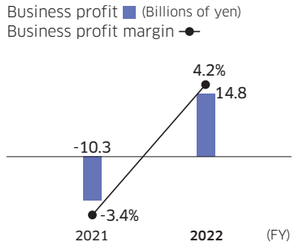
Main Products

- Aircraft for the Japan Ministry of Defense
- Parts for commercial aircraft
- Commercial helicopters
- Missiles/Space equipment
- Jet engines
- Aerospace gearboxes

Achievements in Fiscal 2022







Orders received	Change from previous fiscal year ↘	Decreased compared to the previous fiscal year when major orders were received from MOD despite an increase in component parts for commercial aero engines
Revenue	Change from previous fiscal year ↗	Increased due to an increase in component parts for commercial aero engines and Boeing
Business profit	Change from previous fiscal year ↗	Improved due to revenue increase and a profitability improvement in component parts for commercial aero engines

SWOT Analysis by Business

Core Competence (Strengths)	Aerospace	•Technological capabilities as a manufacturer of finished aircraft acquired through the defense aircraft business (system integration capabilities) •Technological capabilities based on international joint development with Boeing, and sophisticated, large-scale production facilities •High quality and productivity through the Kawasaki Production System (KPS)
	Aero Engine	•Sophisticated technological capabilities built through international joint development projects and developing engines for defense aircraft •High quality and productivity through leading-edge production technology
	Shared	•Broad expansion of development, manufacturing, and services to aircraft and aero engines
Challenges (Weaknesses)		•High degree of reliance on specific customers (high-volatility revenue structure) •Businesses that require large volumes of invested capital
Opportunities	Aerospace	•Substantial recovery in commercial aircraft demand due to the post-COVID rebound •Long-term growth in air passenger and air freight volume in line with economic growth in emerging countries •Increase in defense budget and ongoing development and production of domestically-manufactured defense equipment •Improvement in profitability of defense equipment •Prospects of defense equipment exports
	Aero Engine Shared	•Increase in demand as a result of long-term growth in the commercial aircraft market •Decarbonization of the aircraft industry
Risks (Threats)	Aerospace	•Fiercely competitive environment, reflecting competition for market share between Boeing and Airbus •Rise of manufacturers in emerging countries •Supply chain risks throughout international joint development structures
	Aero Engine	•Development risks related to introducing cutting-edge technologies •Substantial impact if risks materialize (risks borne by other companies) in international joint development projects (commercial aero engines)

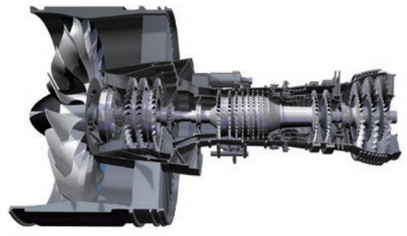
Initiatives to Achieve Group Vision 2030

A safe and secure remotely connected society	–
Near-future mobility	•Developing vertical take-off and landing (VTOL) aircraft to link logistics bases and cover the last mile •Realizing urban transportation that seamlessly connects people and freight •Provision of Z-Leg™ (Zeta Leg), a one-stop service for arranging air travel
Energy and environmental solutions	•Studying CO_2-powered (hydrogen-fueled) air transportation systems

Priority Measures and Concrete Initiatives

Securing stable revenue in core business	•Reducing costs for existing orders for aircraft from Boeing and for Aero Engine for commercial aircraft to secure profit •Re-development of supply chains and systems for increasing production in conjunction with the recovery of demand •Steadily promoting existing developmental orders and mass production contracts for defense aircraft and helicopters
Revising technology strategy in accordance with market changes	•Promoting development of technology including the use of civilian technologies to expand orders in the defense business and reinforce defense capabilities •Initiating development of environmental technologies for a decarbonized society leveraging the NEDO Green Innovation Fund
Strengthening the financial base	•Reviewing the fixed cost structure •Reducing inventories through production innovation

RC-2



PW1100G-JM
Photo provided by Japanese Aero Engines Corporation

Rolling Stock

A railway systems manufacturer meeting customer needs by delivering the highest standard of technology

Since Kawasaki began the manufacture of rail cars in 1906, we have expanded our business centering on plants in Japan and the United States as Japan's top manufacturer possessing the highest levels of technology.

Continuing from fiscal 2021, in fiscal 2022 our structural reforms bore fruit, and we were able to yield a profit for the second consecutive period. Furthermore, in our North American business, due to the credibility we have gained through our extensive track record, we received an option order from New York City Transit Authority for an additional 640 new-generation R211 subway cars. This order provided a firm foothold toward the stability of our North American business.

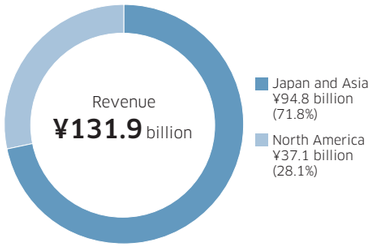
Against the background of structural reforms carried out since our split from Kawasaki Heavy Industries, Ltd. in October 2021, we will strive to enhance profitability by accepting orders at reasonable prices, promoting concentration on focal markets, and introducing the production know-how of the Kawasaki Group.

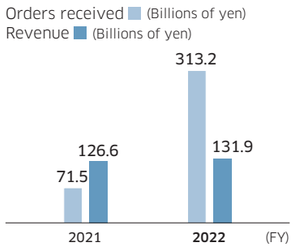
Hiroshi Murao
Representative Director, President and Executive Officer,
Kawasaki Railcar Manufacturing Co., Ltd.

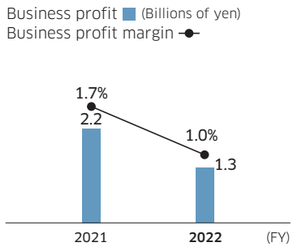
Main Products

- Electric train cars (including Shinkansen [bullet trains] and new transit systems)
- Electric and diesel locomotives
- Passenger coaches
- Bogies

Achievements in Fiscal 2022







Orders received	Change from previous fiscal year ↗	Increased due to major orders such as optional R211 subway cars for New York City Transit
Revenue	Change from previous fiscal year ↗	Increased due to an increase in the U.S. and Japan
Business profit	Change from previous fiscal year ↘	Deteriorate due to the impact of delays in Long Island Rail Road project in the U.S., despite an increase in revenue

SWOT Analysis by Business

Core Competence (Strengths)		•Ability to fulfill contracts cultivated from extensive domestic and overseas track record •Partnership capabilities with other companies in execution of overseas projects (Kawasaki Initiative) •High-tech expertise built on comprehensive heavy industry strengths leveraging synergies with other business areas
Challenges (Weaknesses)		•Small business scale in comparison with major overseas competitors •Business model centered on rolling stock supply (fulfilling railway system needs through facility to engage in external partnerships)
Opportunities	Domestic Market	•Demand for rail cars that contribute to carbon neutrality •Shift of cargo transportation to railways
	Asian Emerging Nations Market	•Demand for urban transportation infrastructure •Participation in high-speed railway project in India
	North American Market	•Demand for subway and commuter train rolling stock •Provision of remote track monitoring
	Common to all Markets	•Expanding stock demand including components, maintenance contracts, and repair and rebuild work for rolling stock
Risks (Threats)	Domestic Market	•Decline in operations at domestic plants due to lower investment in rail cars during the COVID-19 pandemic •Intensifying price competition due to declining demand
	Asian Emerging Nations Market	•Country risk in new markets for Kawasaki •Emergence of Chinese companies
	North American Market	•Soaring prices for materials and equipment •Securing human resources

Initiatives to Achieve Group Vision 2030

A safe and secure remotely connected society	•Streamlining of rolling stock and rail track maintenance, promotion of condition monitoring projects aimed at automation and labor saving
Near-future mobility	•Achieving railways mobility which seamlessly connects people and commodities
Energy and environmental solutions	•Catering to carbon-neutral needs for internal combustion rolling stock

Priority Measures and Concrete Initiatives

Compliance with delivery schedules for overseas projects	•Dhaka MRT Line-6 Fiscal 2023: Delivery of last rail cars and depot equipment •U.S. R211 Fiscal 2024: Delivery of last rail cars (base contract) Fiscal 2025: Start of delivery of mass production rail cars (Option 1 contract)
Achieving quality levels trusted by customers	•Reduction of failures and reworking expenses •Further advancement of the Kawasaki Production System (KPS) and deployment at plants in North America
Expansion of component and aftersales service sales and of maintenance businesses	•Expansion of remote track monitoring equipment in North America and development of a service provision platform •Expansion of sales of rolling stock condition monitoring equipment for domestic railways operators

Dhaka MRT Line-6 cars for Dhaka Mass Transit Company Limited in Bangladesh

4000 series subway cars for Yokohama City Transportation Bureau

Energy Solution & Marine Engineering

Seamless progress from low carbon to decarbonization through highly efficient products and hydrogen technologies

Ever since the establishment of the Kawasaki Tsukiji Shipyard in 1878, we have been developing business in the four fields of energy, plants, marine machinery, and ship and offshore structures based on our strengths in technological prowess and quality. In addition, we have set “hydrogen and carbon neutral” as a new business field in fiscal 2023.

In fiscal 2022 revenue improved from the loss incurred in fiscal 2021 due to the increased price of steel material, and there also was a considerable increase in orders for submarines for the Japan Ministry of Defense, LPG/ammonia carriers, and power generation facilities.

In our existing businesses, we will endeavor to maintain and improve earnings power through appropriate risk management. Furthermore, we will promote the development of products and transition products that contribute to the low-carbon and decarbonized society and aim to achieve high growth in the domain of “energy and environmental solutions” set out in the Group Vision 2030.

Motohiko Nishimura
President,
Energy Solution &
Marine Engineering Company

Main Products

Hydrogen and carbon neutral
- Shipping/receiving terminals
- Liquefied hydrogen tanks
- Onshore LNG tanks
- Carbon dioxide capture, utilization and storage (CCUS)

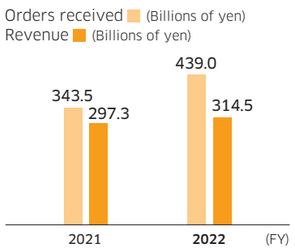
Energy
- Gas turbine cogeneration systems
- Gas and diesel engines for power generation
- Steam turbines
- Aerodynamic machinery
- Boiler plants
- Combined cycle power plants (CCPPs)

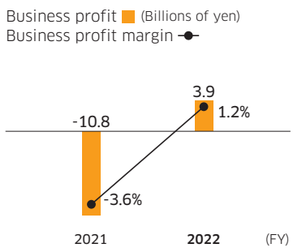
Plant
- Industrial plants (cement, fertilizer, and others)
- Municipal waste incineration plants
- Material handling systems
- Tunnel boring machines
- Crushing machines

Marine machinery
- Marine gas turbines/reduction gear
- Marine reciprocating engines
- Marine propulsion systems

Ship & offshore structure
- Gas carriers
- Liquefied gas carriers
- Jetfoils
- Submarines

Achievements in Fiscal 2022





Orders received	Change from previous fiscal year	Increased due to an increase in submarine for the Japan Ministry of Defense, LPG/ammonia carriers, and power generation facilities
Revenue	Change from previous fiscal year	Increased due to an increase in Energy business and construction work for submarines for the Japan Ministry of Defense, despite a decrease in construction work for domestic municipal waste incineration plants
Business profit	Change from previous fiscal year	Improved due to revenue increase and an improved equity in gains, despite a deterioration in some projects

SWOT Analysis by Business

Core Competence (Strengths)	• Proposal of solutions that use synergies generated through combinations of high-efficiency core components • Hydrogen production, storage, transportation, and use (power generation) technology • Sales structures with close ties to local communities that use overseas sites in the energy business • Integrated engineering prowess acquired and refined through various plant projects • Streamlining of capacities for business proposals for all optimal ship propulsion systems, centered on core components • Energy-saving, environmental burden-reducing technologies, and ability to develop new ship designs • High-efficiency and high-performance core components that can seamlessly achieve a transition from low carbon to decarbonization while using customer assets
Challenges (Weaknesses)	• Number of construction projects undertaken at overseas hydrogen-related plants • Recognition of energy products in overseas markets • Cost reduction of domestic commercial vessel built at domestic shipyard and propulsion systems for private vessels
Opportunities	• Acceleration of trend to realize the goal of carbon neutrality, including strengthening of environmental regulations • Expanding demand for facilities that can use both existing fuels and hydrogen in response to increasing needs for decarbonization • Growing demand for energy and infrastructure in emerging and resource-rich countries
Risks (Threats)	• Weakening investment appetite paralleling economic slowdowns in emerging countries and resource-rich countries • Energy policy trends in respective countries (taxonomy regulations, amendments to subsidies systems, changes accompanying geopolitical risks, etc.) • Global-level changes to steel materials prices, raw materials and materials costs, logistics costs, and energy prices

Initiatives to Achieve Group Vision 2030

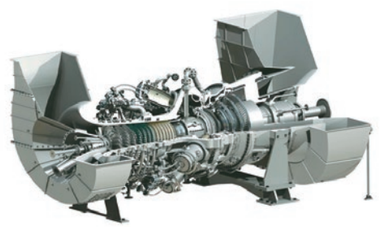
* Autonomous Underwater Vehicle

A safe and secure remotely connected society	• Promoting the uptake of the Successor-G remotely-operated robotic system that enables diverse work styles • Providing solutions for disaster response, such as stand-by gas turbines • Promoting the automation of waste incinerator operation • Developing AUVs* (SPICE)
Near-future mobility	• Promoting the uptake of electric and hybrid propulsion systems (gas engine hybrid-propelled/battery-propelled) for environmentally-friendly vessels • Demonstration testing of advanced safety berthing support system
Energy and environmental solutions	• Quickly establishing a hydrogen supply chain (production, transportation, storage, utilization) • Accelerating initiatives aimed at the realization of a hydrogen-based society by working with stakeholders • In an environment where variable renewable energy is increasing, social implementation of gas turbines and gas engines that can provide “adjustability” and energy storage systems with virtual synchronous generator (iVSG®) functions that can provide “inertia” • Undertaking development aimed at the practical application of carbon recycling technology

Priority Measures and Concrete Initiatives

Providing products that contribute to the achievement of a low/decarbonized society	• LPG/ammonia carriers • High-efficiency gas turbine/gas engines • New municipal waste incineration plants (energy-saving) • Large-capacity battery propulsion systems for electrically-operated tankers
Developing products for the transition to decarbonized energy	• Commercialization of liquefied hydrogen carriers • Commercialization of hydrogen shipping/receiving terminals • Development of marine hydrogen boilers and marine hydrogen-fueled engines • Development of the markets for gas turbine modification work and combustors for hydrogen mixed fuel • Promotion of the introduction of energy-saving systems that use gas turbines and gas engines and can support the transition from low-carbon (natural gas-fired and hydrogen mixed fuel) to decarbonization (hydrogen-only fired) • Development of technologies to separate and capture CO_2 in municipal waste incineration plants

86,700 m^3 LPG-fueled LPG/ammonia carrier



L30A 30 MW ultra-high-efficiency industrial gas turbine

Precision Machinery & Robot

Building the future for people and society through integrated solutions that use hydraulic systems and robots

We are contributing to the development of industry both in Japan and overseas, in the field of hydraulic components and systems as a top maker with the industry's foremost scale and production equipment and in the field of robotics as a pioneer of industrial robots.

In fiscal 2022, on the one hand we achieved our highest ever revenue for robots for semiconductor manufacturing equipment, but on the other we struggled due to the tight lockdown policy and stagnation of the construction machinery market in China. In addition, it is expected that in fiscal 2023 semiconductor market conditions will temporarily decline and the construction machinery market in China will slump, so the business environment is becoming increasingly severe.

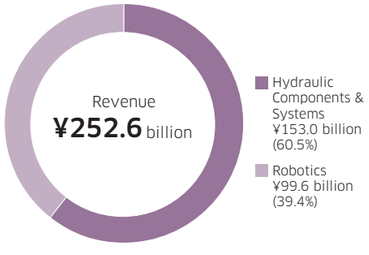
In the field of hydraulic components and systems, our aim is to improve our profitability by utilizing Kawasaki's strengths in quality and development capability to introduce new products and systems in response to the electrification and automation of construction machinery. And in the field of robotics, through open innovation we will tap new fields with high levels of growth potential, such as medical care and logistics.

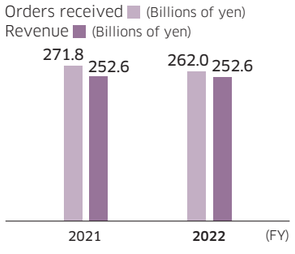
Hidehiko Shimamura
President,
Precision Machinery & Robot Company

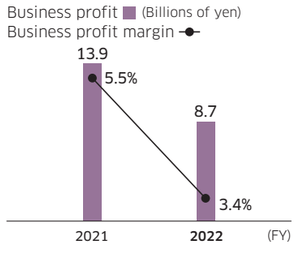
Main Products

- Hydraulic components for construction machinery
- Hydraulic components for agricultural machinery
- Hydraulic components and systems for industrial machinery
- Hydraulic steering gears for marine products
- Hydraulic deck machinery for marine products
- Industrial robots
- Medical and pharmaceutical robots

Achievements in Fiscal 2022







Orders received	Change from previous fiscal year ↘	Decreased due to a decrease in hydraulic components for construction machinery market in China despite an increase in Robotics
Revenue	Change from previous fiscal year →	Remained at the same level due to an increase in Robotics despite a decrease in hydraulic components for construction machinery market in China
Business profit	Change from previous fiscal year ↘	Decreased due to higher prices of raw materials and electrical components, temporarily reduced operations due to the China's lockdown, and decrease in hydraulic components for construction machinery market in China

SWOT Analysis by Business

Core Competence (Strengths)	Hydraulic Components & Systems	•Accumulated world-class, leading-edge technology, systemization capabilities, and brand power in the area of excavator hydraulic machinery •Ability to respond to customer requests
	Robotics	•Diverse production sites within the Group as a comprehensive heavy industries enterprise •Ability to develop applications and make system proposals closely matched to customer needs •Ability to create new technologies and new fields in such areas as medicine and remote control technology
	Shared	•New product development capabilities in the field of motion control based on the integration of hydraulic technologies and robotics
Challenges (Weaknesses)	Hydraulic Components & Systems	•Sales expansion for aftersales service business •High percentage of sales to the Chinese construction machinery market
	Robotics	•Need to expand business to realize merits of scale
Opportunities	Hydraulic Components & Systems	•Advances in electrification and automation of construction machinery •Need to expand sales in such fields as agricultural machinery and forestry machinery
	Robotics	•Expansion of fields of robot application through the realization of coexistence and collaboration between humans and robots •Expansion of demand intended to eliminate labor shortages and raise quality •Progress in use of robots beyond industrial applications (such as medical treatment and nursing care)
Risks (Threats)	Hydraulic Components & Systems	•Emergence of competing manufacturers and intensifying competition in the Chinese construction equipment market •Long-term slump in the Chinese construction machinery market
	Robotics	•Increasingly fierce competition with rival companies •Sluggish demand for semiconductor manufacturing machinery
	Shared	•Rising materials costs

Initiatives to Achieve Group Vision 2030

A safe and secure remotely connected society	•Developing healthcare-related businesses, such as the *hinotori*™ surgical robot system and a robotic operating table •Building the remote robot platform business connecting people who want to work with businesses seeking labor
Near-future mobility	•Creating delivery robots to link logistics bases and cover the last mile •Trial of in-hospital delivery services started using the FORRO indoor delivery robot
Energy and environmental solutions	•Developing hydrogen fuel-related products •Reinforcing and expanding the hydraulic machinery and systems solutions business

Priority Measures and Concrete Initiatives

Developing electrification and automation technologies for construction machinery	•Developing and supplying the latest hydraulic machinery and systems for electrification and automation to support customers' development of future-oriented construction machinery
Developing hydrogen-related products for realization of a decarbonized society	•Started accepting orders for energy-saving hydrogen compressors for hydrogen stations
Promotion of open innovation	•Accelerating the launch of new products through collaboration with start-ups (lineup of collaborative robots in EMEA regions)

Development of hydraulic machinery and systems in response to the electrification and automation of construction machinery

Nyokkey social robot relating to a safe and secure remotely connected society and near-future mobility

Powersports & Engine

Let the Good Times Roll! Kawasaki delivers the ultimate in excitement

Ever since Kawasaki commenced the production of engines for motorcycles in 1953, we have been turning out innovative products based on our company mission of “Let the Good Times Roll.”

Fiscal 2022 was a difficult year. The outdoor leisure boom sparked by the COVID-19 pandemic showed signs of subsiding, and the impact of rising material and component cost and logistics confusion continued. Nevertheless, our shift to reasonable prices backed by improved brand power and timely management utilizing our agility as an independent company were effective, and we were able to achieve further growth over fiscal 2021.

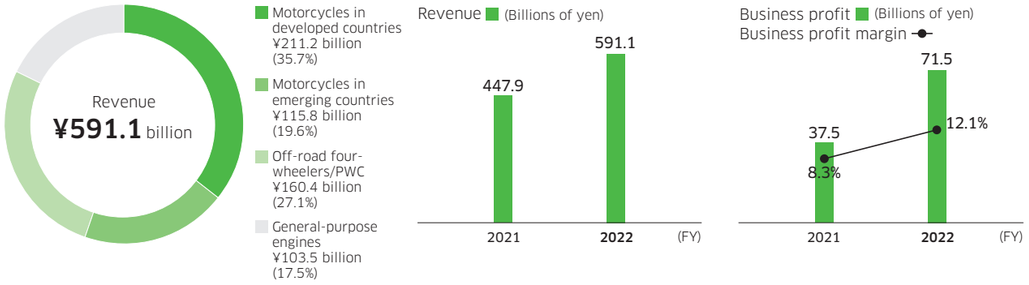
Going forward, in the off-road four- wheeler segment, which is expected to see continued market growth, we will expand production capacity through the construction of a new factory and strive to expand the business. We will also promote positive management, such as accelerating the development of battery electric vehicles and hybrid electric vehicles with an eye on future low-carbon emissions and decarbonization.

Hiroshi Ito
Representative Director, President and Chief Executive Officer, Kawasaki Motors, Ltd.

Main Products

- Motorcycles
- Off-road four-wheelers (Utility vehicles, ATVs)
- Personal watercraft (PWC)
- General-purpose engines

Achievements in Fiscal 2022



Revenue	Change from previous fiscal year ↗	Increased due to an increase in motorcycles for North America and Southeast Asia, four-wheelers for North America, and general-purpose gasoline engines, in addition to the impact from the depreciation of the yen and appropriate pricing
Business profit	Change from previous fiscal year ↗	Improved due to a revenue increase, despite rising raw material and logistics costs

SWOT Analysis by Business

Core Competence (Strengths)		•Sales and marketing capabilities that realize unique, premium brands •Development, production, procurement, and quality assurance capabilities that create products embodying both heritage and innovation •Global production, sales, and service structure •Advanced technology expertise built on comprehensive heavy industry strengths leveraging synergies with other companies in the Kawasaki Group
Challenges (Weaknesses)		•Securing production capacity to respond to rapidly rising demand •Building agile organizational structures that can respond to rapid change
Opportunities	Motorcycles	•Stable demand in developed countries with mature markets •Medium- to long-term market expansion in emerging countries due to expanding populations and economic growth
	Utility vehicles, ATVs & PWC	•Market expansion in North America due to well-established demand for outdoor leisure
	General-purpose engines	•Firm growth of the lawn-related market, reflecting U.S. housing market expansion
	Shared	•Collaborations and alliances with other companies •Establishing a brand image in the carbon neutrality field
Risks (Threats)	Motorcycles	•Expansion into the leisure sector by brands from emerging markets, such as China and India •Intensifying price competition in emerging markets
	Utility vehicles, ATVs & PWC	•Intensifying product development competition and price competition •Rising customs tariffs and parts costs accompanying intensification of U.S.-China trade friction
	Shared	•Attenuating demand due to global inflation and tightened monetary policies, including increased interest rates in the U.S. •Difficulty procuring engine parts in conjunction with advancing electrification •Higher development expenses and product prices due to tightening of environmental regulation

Initiatives to Achieve Group Vision 2030

A safe and secure remotely connected society	•Providing advanced rider and driver support •Providing disaster response solutions
Near-future mobility	•Realizing a society equipped to achieve the safe environmentally-friendly mobility of people and commodities •Commercializing new modes of mobility towards the elimination of manpower shortages in the logistics field
Energy and environmental solutions	•Making use of hydrogen fuel •Shifting to battery electric vehicles/hybrid electric vehicles

Priority Measures and Concrete Initiatives

Supplying products as much as demanded	•Continuously introduce new models •Flexibly change production and sales plans •Maintain appropriate inventory levels
Expansion of the off-road four-wheeler business and decarbonization/ electrification solution	•Investing in development toward the enhancement of product competitiveness •Start and stabilization of operations at new Mexican plant •Development and launch of electrified and hybrid models •Joint research on hydrogen engines with other companies
Promoting business process re-engineering through DX	•Increased efficiency of global operations through digitalization •Reduction of development times and higher efficiency through the use of digital technologies
Securing free cash flow	•Securing stable free cash flow for future investment

MULE PRO-FXT™ 1000 LE RANCH EDITION

Ninja e-1 and Z e-1

The Foundation of Our Business Activities | KPIs and Results for Materiality

Material issues (materiality) are divided into two broad categories: “social and environmental value created through our business” and “the foundation of our business activities.” We set quantitative targets and KPI for each item of the latter and are monitoring progress in our business activities.

Process for Identifying Materiality ➡ p. 17

The foundation of our business activities		Goals of Group Vision 2030	Priority matters	Target indicators (or key performance indicators)	Fiscal 2022 results
Items of particular importance going forward (items that will have an ever-increasing impact on future finances)	**Business and Human Rights**	• No violations of human rights throughout the value chain and no complicity in human rights violations.	• Implement human rights due diligence among subsidiaries and suppliers	Number of subsidiaries confirming prohibition of child labor and forced labor (implementation at subsidiaries where the company president has changed)	26 companies
				Number of participants in human rights training	Release of educational videos on business and human rights on the company-internal portal (total number of video views in the three months following the release: 3,429 times)
				Number of subsidiaries and suppliers subject to human rights audits and corrective measures	Implemented SAQ*1 targeting six overseas subsidiaries
	Promotion of Human Resources Activities	• Strengthen and effectively use human capital (efficient allocation and human resource development) to achieve Group Vision 2030. • Enhance employee engagement and build a company culture in which employees can continue to work with enthusiasm. • Promote diversity and inclusion to build an organization in which a wide array of employees can maximize their individuality and potential.	• Implement the personnel system reform and human resource development in ways that enhance corporate value • Promote diversity and inclusion	Ratio of employees for whom both “supportive environment” and “employee engagement” are high (employee engagement survey results)	29% (Kawasaki Heavy Industries, Kawasaki Railcar Manufacturing, Kawasaki Motors)
				Rate at which women, foreign nationals, and individuals with mid-career hires are promoted to senior manager or above	7% (Kawasaki Heavy Industries, Kawasaki Railcar Manufacturing, Kawasaki Motors)
				Rate at which male employees take childcare leave	17.8% (Kawasaki Heavy Industries, Kawasaki Railcar Manufacturing, Kawasaki Motors)
	Technological Development / Digital Transformation (DX)	• Deliver new products and new businesses to market which contribute to the resolution of global environmental and social challenges. • Successfully acquire and utilize intellectual property rights linked with business strategies. • Promote process innovation, increase sophistication of processes and integrate digital technologies throughout the value chain.	• Promotion of open innovation • Building of intellectual property strategy (strengthening of intellectual property strategy) for the co-creation of new businesses • Promotion of digital transformation (DX) throughout the value chain	Number of products and cases of commercialization in three focal fields of the Group Vision 2030	13 products and cases Commercialization of products including the self-propelled industrial robot, TRanbo-7, and of the three-wheeled electric vehicle, noslisu
				Number of cases of participation in planning of open innovation projects	8 cases Projects aimed at the implementation in urban areas of leading-edge technology services such as 5G in Nishi-Shinjuku, projects demonstrating community vitalization using “Real D You,” and launch of the open-innovation hub for robotics development, the “Future-Lab HANEDA,” among other things.
				R&D expenses	50.7 billion yen
Items that were emphasized in the past, but which will be steadily reinforced going forward	**Product Liability / Safety**	• Deliver trustworthy and safe products and services from the customer’s perspective based on consistent quality policies covering from top management to work-site operators.	• Promote TQM activities	TQM level*2 3.0 or above	Average across all business segments: 3.1
				Number of TQM training participants (Targeted attendance rate: 100%)	Participants: 1,421 (Attendance rate: 100%)
	Compliance	• Monitor as accurately as possible the risks arising from compliance violations. • Build an inclusive and effective compliance system tailored to given risks, and continuously manage and regularly update this system.	• Further improve compliance awareness throughout the Group • Strengthen anti-corruption measures throughout the Group	Number of cases of serious fraud or scandals per year	0 cases
				Number of employees taking the Code of Conduct training	Code of Conduct/Compliance Guidebook e-learning training 17,860 persons (73.3% of target)
				Degree of compliance permeation in employee awareness surveys	70 points
	Occupational Safety and Health	• Ensure that there are no serious occupational accidents Group-wide. • Reduce the need for sick leave. • Maintain and improve employee health.	• Implement appropriate occupational safety and health measures: to prevent work-related accidents, to reduce the need for sick leave, and to encourage employees to improve lifestyle habits	Lost Time Injury Frequency Rate (LTIFR)	0.30 (Kawasaki Heavy Industries, Kawasaki Railcar Manufacturing, Kawasaki Motors)
				Health score*3	3.93 (Kawasaki Heavy Industries, Kawasaki Railcar Manufacturing, Kawasaki Motors)
	Information Security	• Maintain and manage cyberattack response and the protection of customer and product information with the world’s highest level of security.	• Strengthen information security governance throughout the Kawasaki Group	Number of employees taking information security training: 20,000	9,803 persons
				Frequency of targeted threat mail training: 20 times	5 times
				Number of receivers of targeted threat mail training: 4,000	2,308 persons
				Scores of 80 points or more for all domains owned by KHI from security risk rating	Percentage of domains exceeding target values: 84%
A wide range of items to be addressed (activities relating to both of the above)	**Sustainable Supply Chain Management**	• Remain aware of environmental, human rights, and other risks associated with the entire supply chain and work with suppliers to promote sustainability.	• Revise and distribute sustainable procurement guidelines • Implement sustainable procurement survey of suppliers and review or audit based on their responses • Initiatives including human rights due diligence, promotion of decarbonization, and efficient use of resources, in the supply chain	Sustainable procurement guidelines	Completion of revision and distribution
				Number of major suppliers responding to our sustainable procurement survey	Completion of selection of suppliers (535 companies) targeted for survey in fiscal 2023
				Number of reports from our supplier hotline	Completion of installation of the hotline

*1 Self-assessment questionnaire (self-assessment sheet)
*2 Our company’s original index for evaluating the status of promotion of TQM activities in all business segments, based on the standards set by the Japan Society for Quality Control (on a 5-point scale: standard status is 3)
*3 Kawasaki’s internally generated index based on a scoring of six lifestyle habits that affect labor productivity, derived from the results of health checkups. A higher score (with a maximum of 6) reflects a healthier lifestyle.

Promotion of Human Resource Activities

Personnel System Reform toward Realization of Our Vision

Realization of a “culture of challenge” and “treatment regardless of age”

Toward the achievement of our vision and further growth beyond, Kawasaki has introduced a new personnel system since 2021 that places importance on the abilities, roles, and results of employees and carries out evaluation and treatment regardless of age. Additionally, to promote the growth of employees, the new system gives greater credit to people who challenge difficult issues and encourages a spirit of challenge among our employees.

“Challenge & Commitment”

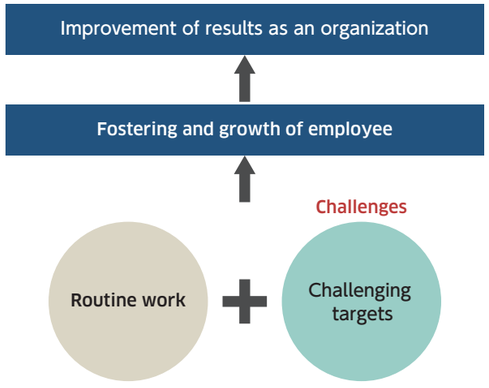
“Challenge & Commitment” is an initiative that promotes challenges in new fields so as to achieve our further growth as a Group.

By not only conducting routine work but also setting more challenging targets and boldly making challenges, we will enhance our results as an organization. At the same time, our aim is to foster and grow our employees through detailed conversations with supervisors at the time of setting goals and follow-up. In addition, to further clarify reflection in performance assessment, through absolute evaluation we reflect target achievement directly in bonuses and have increased the portion paid in accordance with the degree of target achievement.

Abolishing the seniority factor

We have revised the wage, bonus, retirement pay, and personnel evaluation systems, abolishing age-linked payments determined by age and giving higher marks to those who display a high level of competence, those who play important roles, and those who achieve better results.

Challenge & Commitment” Image



“The right personnel in the right places” and “pay for mission”

Instead of seeing the existing organization and human resources as the point of departure, based on the concept of the “right personnel in the right places,” first of all we will establish the organizations and posts necessary for achieving our vision (“right places”). Then we will clarify the conditions required of people doing this work, decide the suitable human resources, and make assignments accordingly (“right personnel”).

In considering assignments, we are introducing a mechanism with a high degree of accuracy in matching posts and human resources throughout the Group, conducting assessments of management ability based on 360-Degree Surveys and competency and taking account of expert knowledge and other factors.

On top of that, we introduced a “pay for mission” scheme that determines wages by stipulating job ranking in accordance with the results required in the work and taking account of the contents of individual challenges.

Through these initiatives, we will realize the establishment of “right places” and assignment of the “right personnel” and promote personnel strategy in tune with management policy.

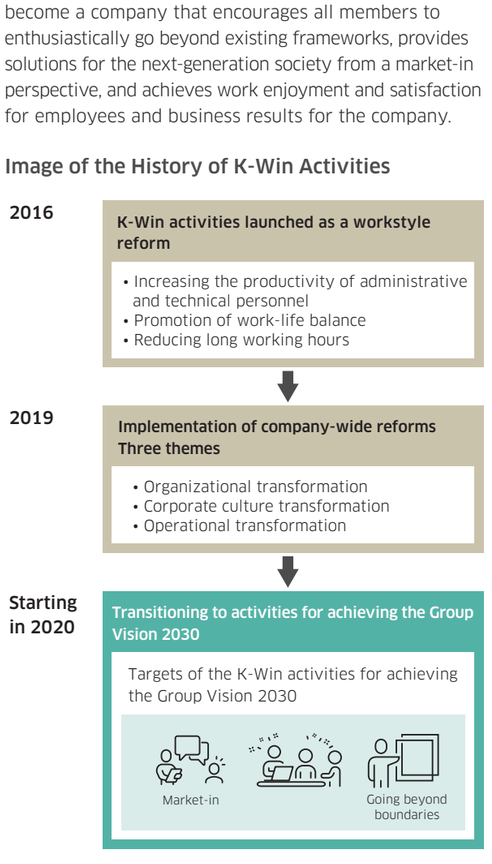
“Right Personnel in the Right Places” Image

K-Win Activities

The Kawasaki Group launched K-Win activities, an effort to promote workstyle reform, in fiscal 2016 with the objectives of increasing the productivity of administrative and technical personnel, promotion of work-life balance, and reducing long working hours. Through these activities, we pursued three areas of transformation, namely, operational transformation, organizational and corporate culture transformation, and system transformation. K-Win activities are currently integrated with Group management and have been expanded to include overall corporate innovation to change the corporate culture and employee awareness for the purpose of achieving the Group Vision 2030.

Instead of performing existing business in the same ways as in the past, we seek to transform our corporate culture as well as individual awareness so that we can become a company that encourages all members to enthusiastically go beyond existing frameworks, provides solutions for the next-generation society from a market-in perspective, and achieves work enjoyment and satisfaction for employees and business results for the company.

Image of the History of K-Win Activities



Employee Engagement Survey

We conduct engagement surveys (WinDEX) to visualize the current status of progress of K-Win activities. Through these engagement surveys, we regularly gain an understanding of individual awareness and organizational climates. By comparing the results with information concerning domestic and overseas competitors, we identify issues and investigate effective measures.

This survey, widely used by companies around the world, verifies the linkage between engagement and performance. We have set a target of achieving at least 50% of employees with high levels for “supportive environment” and “employee engagement” on a consolidated basis by fiscal 2030 (the result in fiscal 2022 was 29%).

Forming ties with management

The company’s key drivers for enhancing engagement revealed by the WinDEX survey are “Trust in management” and “Employee career development.” To reinforce ties with management, after disclosing the result of WinDEX, comments from the president and specific future actions are included in the in-house newsletter and distributed to all employees at the same time. In this way, we take proactive measures to inform personnel, ensuring that it is not simply not a questionnaire.

Individual business segments are also taking independent action. The Energy Solution & Marine Engineering Company, for example, conducts “meetings in a circle,” and more than 2,300 employees have participated. As a next step, it is holding works meetings for managers in 2023. We also create opportunities for management to directly explain policies to employees and for employees to engage in two-way communications including expressing their opinions and posing questions.

Employee career development

The Group is taking action to achieve career development with emphasis on the wishes of individual employees so that we can provide opportunities for employees to discover what they want to do and then do it and so that employees can play key roles in the Kawasaki Group.

For instance, to enable our employees to actively shape their careers, we provide them with information about our career development support measures through the “Career Support Guidebook” and offer theme-based career seminars and career counseling opportunities. We also conduct career support seminars for supervisors, promoting an environment where supervisors can support the growth and career development of their subordinates in the workplace.

We also have a Career Challenge Program that enables employees who want to transfer to apply for positions in departments that are recruiting and are announced once each year. We introduced a Career Development Leave Program that allow employees who want to re-learn skills while making use of outside educational institutions including overseas universities, encouraging and supporting independent career development by employees.

Human Resource Development Policies

The Kawasaki Group Policy on Human Resource Management, our fundamental policy on human capital, also declares our commitment to continuously fostering human resources with the mindsets to resolutely challenge change and to follow through on their own initiative. This commitment entails identifying by appropriate means the talents and ambitions of employees and enabling them to realize their ideal careers through work and skill development.

Based on the above, the Kawasaki Group conceptualizes the development of human resources as follows:

- We carry out human resource development to grow our corporate performance, and improve our employees' capabilities as well as their purpose in life.
- OJT (on-the-job training), self-development, and rotation are the foundations of human resource education.
- Off-JT is provided to support these activities in ways where the results of Off-JT can be practically applied in the workplace.
- The line manager is responsible for human resource education.
- Human resource education is to be conducted on an individual basis in a planned manner and on an ongoing basis. Opportunities for developing one's abilities are provided to all employees from the time they are newly employed upto the time of their retirement.

Main Human Resource Development Initiatives

	Purpose	Details	Targets
Project Manager Training	Training for project managers who can carry out projects for entire systems, including peripheral facilities	• Project Management Seminars to impart the know-how required to lead projects to success conducted by individuals from inside and outside the company with previous experience in large-scale projects as lecturers • The Project Management Course to acquire a systematic knowledge of project management	Project managers (including candidates)
Nurturing Management Successors (Kawasaki Executive Coaching Program)	Reinforcing development of managers who can continuously lead business reform	• Visualizing the qualifications required of managers and using external assessments • Interviews conduct by the president and Senior Corporate Executive Officers	Executive candidates
	Systematic manager development	• Kawasaki executive advanced programs, Kawasaki executive coaching programs, Kawasaki executive introductory programs, and other executive development programs	Executive candidates
Development of Global Human Resources	Further development of human resources who can support the business expansion worldwide	• Global business talent seminars to instill a mental preparedness to work from a global perspective and learn skills related to overseas business • Global basic skills seminars to instill a systematic understanding of differences in diversifying values • Introduction of the overseas internship system and the Asian business training program with the aim of globalizing domestic human resources • Training support for local engineering employees at overseas sites	All employees

Promoting Diversity

Crucial to the continued growth of the corporate value is the development of an organization that maximizes the ability of our employees worldwide to fully demonstrate their potential and attributes, regardless of such factors as their nationality, gender, age, religion, and disability.

We employ people with wide-ranging attributes including disabled persons, foreign nationals, and seniors. To bring together these diverse attributes with employee skills and to achieve our vision of "Trustworthy Solutions for the Future," we undertake various measures including promoting active participation by women, supporting employees balancing work with childcare and nursing care, promoting active participation by non-Japanese nationals, promoting understanding of LGBT individuals, and achieving workstyles with awareness of the life-work balance as well as results and efficiency.

Promoting the active participation of women

The Company has set targets for 2025 to double the fiscal 2020 number of female managerial staff to over 116 and to maintain the female ratio for career-track administrative positions to at least 30-40% and that of career-track technical positions to at least 5-15% among newly hired graduates.

We hold seminars for managers of workplaces to which female employees are assigned for the first time to help them understand how to nurture such employees over the medium to long term. We also host joint seminars with other companies to incorporate insights from external role models on how to help women achieve personal growth. In recognition of these efforts, in 2016 Kawasaki received Eruboshi (2nd level) certification in recognition of outstanding efforts in promoting the active participation of women in the workplace.

Supporting employees balancing work with childcare and nursing care

To create an environment that facilitates continued employment by employees who are having difficulty performing both childcare or nursing care and work, we created systems that exceed national standards including a childcare leave system that is available until an employee's children reach age three, a family care leave program that is available for up to three years, and an accumulated leave program that allows employees to accumulate and flexibly use up to 60 days' of unused annual paid leave, thereby supporting a good balance.

Measures to prevent excessive working hours

Measures to prevent excessive working hours include proper management of attendance and labor affairs as well as labor-management meetings for reducing total working hours. We are currently investigating measures based on the results of the discussions at those meetings. In addition, to prevent health problems that can be caused by overworking, we have set stricter standards than those mandated by law, requiring employees who have worked 45 hours or longer of overtime in each of two consecutive months or 60 hours or longer in one month to undergo checkups for long-hour workers as well as checks for cumulative fatigue. Based on the results of these examinations and such factors as the number of overtime hours worked, employees are interviewed by an industrial physician and necessary measures put in place.

Promoting participation by people with disabilities

We are committed to hiring more people with disabilities, and they participate in a wide range of workplaces. In September 2013, we established our special subsidiary Kawasaki Heartfelt Service Co., Ltd., which promotes the active Group-wide employment of people with disabilities in order to maintain and improve their employment rates.

Item	FY2023 (Results)
Employees with Disabilities	484 persons*
Percentage of Employees with Disabilities	2.52%*

* Kawasaki Heavy Industries, Kawasaki Railcar Manufacturing, Kawasaki Motors, and Kawasaki Heartfelt Service

Occupational Safety and Health

Implement appropriate occupational safety and health Measures

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 create a virtuous cycle of improvement in these systems, prevent occupational accidents, and facilitate the creation of a comfortable work environment.

The safety and health management systems at all of our business sites are at an OSHMS third-party certified level (Sites with third-party certification: Kobe Works shipyard, Sakaide Works [ISO 45001], Kobe Head Office Works of Kawasaki Railcar Manufacturing Co., Ltd. [OSHMS certification according to the method of the Japan Industrial Safety and Health Association]).

Promotion of health management

In the Health & Productivity Management Outstanding Organizations Recognition Program, which commends large corporations, SMEs, and other organizations practicing especially outstanding health management, Kawasaki was certified as an Outstanding Health & Productivity Management Organization 2023 in the large enterprise category.

We will continue to promote the physical and mental wellbeing of our employees and maintain safe and secure work environments while proactively implementing various measures for practicing health management.

External Evaluation

Human Rights Due Diligence Initiatives

Policies Relating to Human Rights Due Diligence

The Kawasaki Group Policy on Human Rights

The Kawasaki Group adopted the Kawasaki Group Policy on Human Rights in fiscal 2019 to complement the Kawasaki Group Code of Conduct. The policy was subsequently revised in August 2023 in response to the growing demand for human rights initiatives. We recognize how essential it is for the realization of our Group Mission that the human rights of all stakeholders be fully respected and that the Kawasaki Group's employees uphold high ethical standards; and we have established policy to be actively engaged in such key issues of human rights as prohibition of forced labor and child labor, prohibition of discrimination and harassment, diversity and inclusion, approving freedom of association and the right to collective bargaining, and ensuring a safe and healthy working environment.

The Kawasaki Group Policies for Material Procurement and Sustainable Procurement Guidelines

The Group set forth the Kawasaki Group Policies for Material Procurement, which contains the Group's sustainable-procurement philosophy, and its expectations for its suppliers in that regard, as well as the Kawasaki Group Sustainable Procurement Guidelines, which further fleshes out the content of the aforementioned policy by stipulating by-laws on its expectations for its suppliers. In fiscal 2022, based on growing social demands for sustainability initiatives in the supply chain, the name of these guidelines was changed from its initial name of the Kawasaki Group CSR Procurement Guidelines, and the contents were revised. When revising the guidelines, the RBA*1 Code of Conduct was referred to, every aspect, including consideration for compliance, human rights, labor, occupational safety and health, and the global environment, was covered, and the Kawasaki Group Code of Conduct was incorporated to clarify the Group's policy to enhance the sustainability of its entire supply chain.

*1 Responsible Business Alliance

Promotion System

The Kawasaki Group Policy on Human Rights states that the responsible officer and department for human rights-related management and issues are the director in charge of sustainability and the Sustainability Department, respectively. Based on our sustainability promotion system, the Sustainability Committee chaired by the Kawasaki president and attended by all directors is responsible for deliberating on human rights-related efforts under the board of directors' oversight. Regarding day-to-day responsibility, in cooperation with human resources or compliance divisions in internal companies and subsidiaries, the Sustainability Department monitors human rights risks in its business activities and develops measures against human rights abuses.

Procurement activities in our daily operations are carried out under the responsibility and authority of each internal company. As a cross-company body, we hold the Procurement Department Head Meeting, attended also by the director in charge of procurement, twice a year. At this meeting, in addition to deciding on common Group-wide procurement measures and policies, including those related to sustainable procurement, participants monitor the procurement-related KPIs set by each internal company and share their annual plans.

Impact Assessments

We implement human rights risk assessments and impact assessments for the Group's main businesses in cooperation with the U.S.-based nonprofit Business for Social Responsibility (BSR) relating to stakeholders including customers, employees, employees in the supply chain, and local residents in countries and regions in which it conducts business and identified the following nine areas in particular as presenting significant human rights risks. We have formulated and are implementing risk reduction measures for priority issues within the Group and in the supply chain where human rights risks have been identified as particularly significant.

Nine Areas with Particularly Significant Human Rights Risks

- Safety and health of employees
- Safety and health at manufacturing sites
- Child labor at manufacturing sites
- Forced labor at manufacturing sites
- Safety and health in supply chains
- Wages, benefits, and work hours in supply chains
- Child labor in supply chains
- Forced labor in supply chains
- High-risk customers

Monitoring/Corrective Measures

	Past initiatives	Forthcoming initiatives
Initiatives targeted at Group companies	● Confirmation of the prohibition of child labor and forced labor at domestic and overseas Group companies ・Ratified by the presidents of each Group company during changes of president ● Monitoring by means of risk-based approach utilizing SAQ*2 ・In-house drafting of SAQ based on RBA Code of Conduct ・Implementation at six Group companies located in India, Indonesia, the Philippines, Thailand, and Brazil in fiscal 2022	● Expansion of monitoring for Group companies utilizing SAQ ・Expansion of scope to include domestic and overseas production sites ・Follow-up surveys on items of concern ● Formulation and implementation of corrective measures plans to reduce human rights risk ・Evaluation of monitoring results; planning and implementation of remedial measures according to impact levels
Initiatives targeted at suppliers	● Questionnaire survey on CSR for domestic and overseas suppliers ・Implementation of questionnaire survey for domestic and overseas suppliers from fiscal 2016 ・Survey implementation in fiscal 2021 of major suppliers in Japan with replies received from 395 companies	● Questionnaire survey on sustainability for domestic and overseas suppliers ・Implementation with the aim of confirming compliance with procurement guidelines ・Request for improvements and follow-up surveys based on questionnaire results ● Request for cooperation from suppliers aimed at enhancing sustainability initiatives throughout the supply chain

*2 Self-assessment questionnaire

Capacity Building for Suppliers

In keeping with the "CO_2 Free" laid out in the Kawasaki Global Environmental Vision 2050, we are aiming to eliminate all CO_2 emissions throughout the entire Group by 2050. We report on the state of our own initiatives in seminars on SDGs to ensure that our business partners understand this policy. In the Kawasaki Group Sustainable Procurement Guidelines, we also ask our suppliers to reduce emissions of such greenhouse gases as CO_2, methane, and chlorofluorocarbons in their own business activities; pursue energy efficiency improvements; and make efforts toward protecting the global environment.

July 2022	Implemented questionnaire survey for major suppliers on CO_2 emissions, with management status of CO_2 emissions confirmed for 89 companies.
February 2023	Reported on the status of Company initiatives aimed at the realization of a carbon-neutral, low-carbon society to 93 persons in attendance, including representatives from 22 of Kawasaki's suppliers, at a briefing hosted by a financial institution.
June 2023	Implemented briefing session by Robot Business Division on initiatives aimed at achieving carbon neutrality, with 108 suppliers given overviews of methods for managing CO_2 emissions and initiatives aimed at reducing CO_2 emissions.

Addressing Human Rights Issues in the Supply Chain

Responsible mineral procurement

The Group posted its Policy Regarding Procurement of Conflict Minerals on its website. This policy states that the Group has no intention whatsoever of being party to conflicts or inhumane acts in the Democratic Republic of the Congo and neighboring countries through the procurement or use of the tin, tantalum, tungsten, and gold—the so-called conflict minerals—that are produced in these countries.

We also ask our suppliers to make similar efforts in the Kawasaki Group Sustainable Procurement Guidelines while actively responding to requests fielded at the Group from suppliers.

Establishment of the supplier hotline

To promote procurement activities that conform to our thinking about sustainability such as compliance and giving consideration to human rights, labor, occupational safety and health, and the global environment, we have created a point of access (supplier hotline) for receiving reports from business partners when they become aware of (or have concerns about) any behavior by any Group officers or employees with whom they are involved that violate any laws or regulations, the Kawasaki Group Code of Conduct, the Kawasaki Group Polices for Material Procurement, or the Kawasaki Group Sustainable Procurement Guidelines.

Compliance

/ Compliance Policy

Strict compliance should be at the foundation of all Kawasaki Group business activities, and all Group officers and employees must engage in business with a proper awareness of compliance.

The Group has established the Kawasaki Group Code of Conduct as a set of ethical standards to guide the decision making of Kawasaki Group officers and employees. The code was established following consultations with the Management Committee and approval by the Board of Directors, and the same procedure is followed when making revisions as needed.

/ Compliance Promotion Structure

The Company-wide Compliance Committee is chaired by the Kawasaki president. The committee meets at least twice a year. Its functions are to discuss and determine measures to ensure strict compliance within our Group and to monitor the status of achievement and compliance. All members of the Board of Directors attend meetings of the Company-wide Compliance Committee and supervise compliance-related matters. To ensure that the objectives of the Company-wide Compliance Committee extend to all corporate structures, Business Segment Compliance Committee meetings are held at the Head Office and internal companies at least twice a year to promote compliance throughout the Group.

In addition, the Kawasaki Group formulates annual Group-wide compliance activity plans with various measures that, following the approval of the Company-wide Compliance Committee, it carries out.

Main Initiatives in Fiscal 2022

Compliance education measures	In addition to e-learning for employees in Japan, new e-learning programs were conducted at overseas subsidiaries.
Compliance awareness survey	Surveys of awareness were conducted in Japan and at overseas subsidiaries.
Enhancement of whistle-blowing system	Rules were revised, employees were designated, and other measures were taken to reflect amendment of the Whistleblower Protection Act.

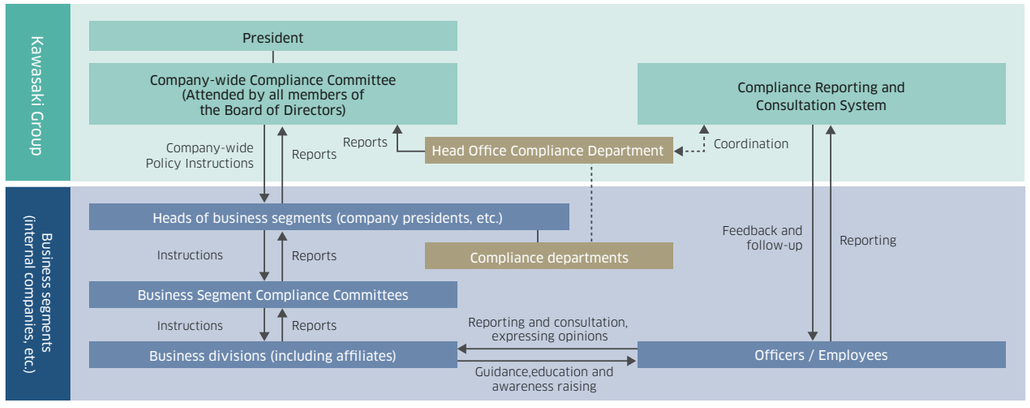
/ Strengthen Anti-corruption Measures Throughout the Group

The Group's business entails numerous opportunities for contact with government agencies and public officials, and we are aware that there is a high likelihood of exposure to corruption risk. Accordingly, the Group takes action through its business activities and employee training under a compliance system in accordance with various policies to prevent all forms of corruption including bribery of domestic and foreign public officials, bribery of business partners, embezzlement, and money laundering.

We use a risk-based approach that makes reference to the Corruption Perceptions Index from Transparency International to identify high-risk sites, and take measures to establish the bribery prevention rules at our overseas subsidiaries. As of June 2023, all subsidiaries in Asia and South America had completed the adoption of rules.

We additionally implement compliance training on bribery prevention annually for employees in Japan.

Compliance Promotion Structure



Information Security

/ Information Security Policy

The Group has established the necessary information security management practices as corporate regulations to ensure compliance with domestic and international laws and contracts with clients and to protect our businesses. These corporate regulations are comprised of the underlying Policy on Information Security, along with various other Group policies as well as the internal rules and regulations for establishing administrative management guidelines, including those for the development, implementation, and use of information systems.

We have also established the Product Security Policy as our policy for providing safe and secure products and services by preventing breaches from cyberattacks. In addition, we maintain guidelines to ensure proper security in activities throughout the entire product lifecycle, from product and service planning, development, and manufacturing to their operation.

/ Information Security Management Structure

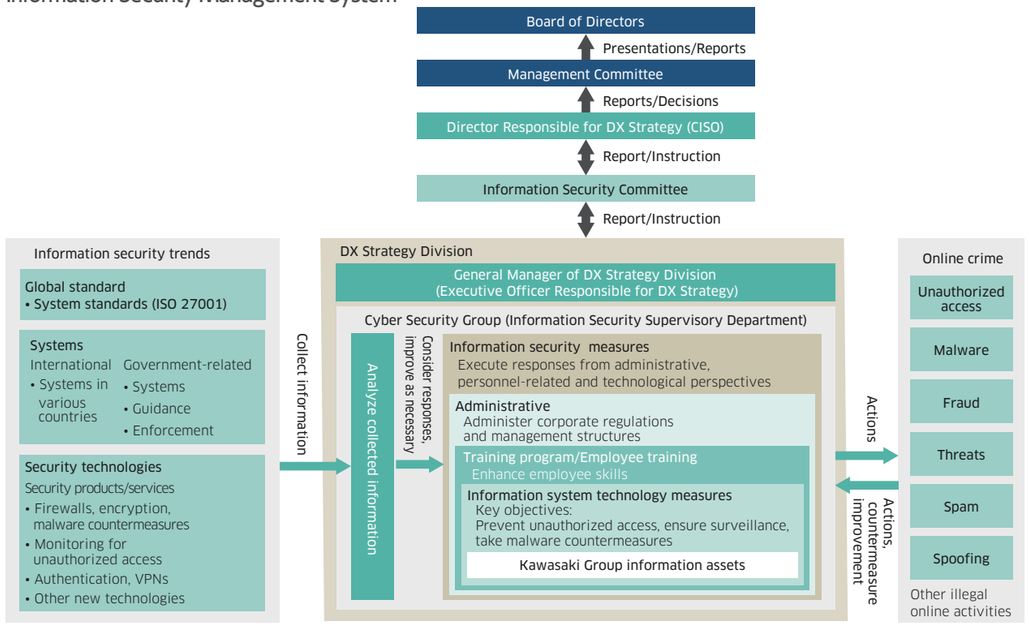
The Director in charge of DX strategy at the Group serves as chairperson of the Information Security Committee, while the General Manager of the DX Strategy Division, who is also an executive officer, oversees the execution of the cyber security strategy and has jurisdiction over the Cyber Security Group, which is the main department responsible for managing information security.

We have established a dedicated framework under the Corporate Risk Management System to handle information security management for the Group. We adhere to a management cycle with an emphasis on rules, training, and technology measures to address constantly changing information security risks while systematically implementing, maintaining, and enhancing information security measures.

/ Information Security Education and Training

We regularly conduct education and training focused on information security for Group employees. This instruction covers laws and social customs as well as corporate rules and examples of incidents, and course content is tailored by position, with content for newly hired employees, general employees, and managerial staff. Training includes regular drills using simulations of targeted attack phishing emails to help employees learn how to avoid damaging situations, such as cyberattacks and online crime, which can occur in the course of daily business operations.

Information Security Management System



Corporate Governance

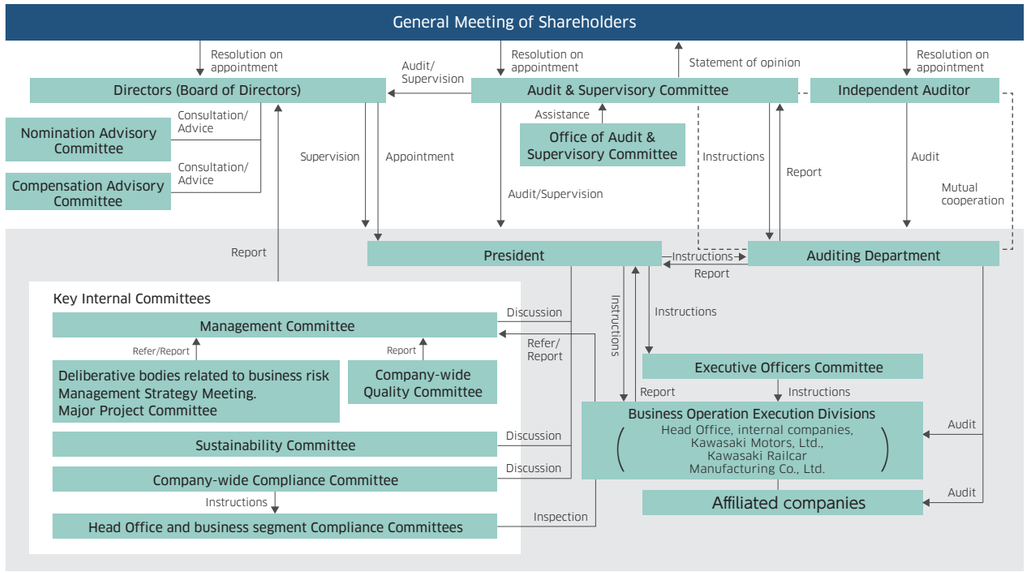
Basic Views on Corporate Governance

The Kawasaki Group's basic stance on corporate governance is to raise enterprise value through effective and sound management while forming solid relationships with all stakeholders, including shareholders, customers, employees, and communities, through highly transparent management practices. Our Group is striving to further strengthen and enhance corporate governance systems as appropriate for its businesses and scale.

Corporate Governance System

Kawasaki is a company with an Audit & Supervisory Committee and has voluntarily established a Nomination Advisory Committee and a Compensation Advisory Committee as advisory bodies to the Board of Directors as a well as a Management Committee, an Executive Officers Committee, and other governance bodies.

Corporate Governance System Diagram (as of July 4, 2023)



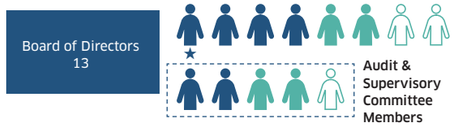
Our main deliberative bodies and their details are as follows.

Legend: Internal (male) / Outside (male) / Outside (female) / ★★ Presiding officer

Board of Directors

The Board of Directors comprises 13 Directors (of whom, five serve as Audit & Supervisory Committee Members), with the addition in June 2023 of one Outside Director who is independent from business execution. As a result, seven of the 13 Directors are Outside Directors (of whom three serve as Audit & Supervisory Committee Members), comprising a majority of the Board. In addition, three of the Directors are women, and two are foreign nationals, providing a balance of knowledge, experience, and skills and enhancing diversity. By avoiding having Directors serve concurrently as officers responsible for specific businesses (the internal company presidents, etc.), the Company seeks to enhance the separation of management oversight and business execution and thereby further reinforce the Board of Director's oversight functions. Chairman of the Board serves as presiding officer pursuant to a resolution of the Board.

In addition to deliberating on individual proposals submitted in accordance with the decision-making rules, the Board of Directors also discusses topics set based on the results of evaluations of the effectiveness of the Board. For the current fiscal year, the Board examined business reforms, policies to reinforce compliance, succession plans, ensuring the diversity of the Board, DX strategies, and other issues. We also created a system whereby the Board discusses fundamental policies on key management issues, such as sustainability, compliance, risk management, and quality control, and can request reports on the status of these issues from the business execution side.



Nomination Advisory Committee & Compensation Advisory Committee

The Nomination Advisory Committee and the Compensation Advisory Committee have been established for the purpose of improving the transparency and objectivity of its deliberations. The Nomination Advisory Committee deliberates on the policies and standards regarding the appointment and dismissal of Directors and the appropriateness of such, and the Compensation Advisory Committee deliberates on the policies and systems regarding the compensation of Directors and the appropriateness of the individual compensation, and reports or advises the Board of Directors, respectively.

Audit & Supervisory Committee

The Audit & Supervisory Committee comprises five Directors, including three Outside Directors. To secure effective oversight, the two internal Directors have been appointed as full-time Audit & Supervisory Committee Members. To ensure the reliability of financial reports, at least one person with sufficient knowledge of finance and accounting is appointed to the Committee.

Business Execution Framework

Kawasaki has adopted an executive officer system in order to facilitate response to rapid changes in the business environment. To accelerate decision making, a great deal of authority over business execution decisions is delegated to the executive officers, who are appointed by the Board of Directors.

Management Committee

Kawasaki maintains a Management Committee, comprising mainly Representative Directors and internal company presidents, as an advisory body to the president. The Management Committee discusses matters that are important to business execution.

For the sake of auditing business execution, Directors who serve as full-time Audit & Supervisory Committee Members also attend the committee's meetings.

Executive Officers Committee

Kawasaki maintains an Executive Officers Committee, comprising all of the executive officers, with the President as the presiding officer, to build unified consensus in Group management and smoothly advance business execution. This committee issues business execution policy based on management policy and plans determined by the Board of Directors as well as decisions made by the Management Committee. It also discusses management issues.

For the sake of auditing business execution, Directors who serve as full-time Audit & Supervisory Committee Members also attend the committee's meetings

Major Project Committee

To manage risk before bidding on and making investment decisions regarding major projects that could significantly impact operations and performance, Kawasaki maintains a Major Project Committee, attended by representatives from related Head Office divisions and divisions related to specific projects, with the general manager of the Corporate Planning Division serving as presiding officer. The Major Project Committee evaluates and considers ways of addressing the risks of such projects.

Management Strategy Meeting

The Management Strategy Meeting, chaired by the President and attended by Representative Directors, internal company presidents, and General Managers of Planning & Control Division, was newly established in fiscal 2023 to formulate and review management strategies and management plans for each business segment. This is a modified version of the Short-Term Plan Conference and Mid-Year Review Conference conducted until fiscal 2022, where the formulation and revision of management plans were considered. At the Management Strategy Meeting, they discuss Company-wide business strategies and action plans based on analysis of the business environment of each business segment.

Company-wide Quality Committee

To reinforce quality control throughout the Company, Kawasaki maintains a Company-wide Quality Committee, comprising representatives from the Corporate Planning Division, Corporate Technology Division, and the related divisions of the internal companies and other related companies, with the Senior Corporate Executive Officer in charge of technology serving as the presiding officer. The Company-wide Quality Committee discusses Company-wide quality control policy, ensures its application, and shares information.

Sustainability Committee

To promote the sustainability of society, the environment, and the Kawasaki Group, Kawasaki maintains a Sustainability Committee, comprising the Directors (excluding the Audit & Supervisory Committee Members and Outside Directors), the internal company presidents, the executive officer in charge of sustainability, the general managers of the Head Office divisions, and others, with the President serving as presiding officer. The Sustainability Committee discusses and decides measures to promote sustainability and monitors the achievement of targets and compliance with such policy.

Outside Directors also attend the committee's meetings for the sake of reflecting external insights and opinions in the committee's decisions. In addition, Directors who serve as Audit & Supervisory Committee Members also attend the committee's meetings for the sake of auditing business execution.

Company-wide Compliance Committee

To ensure rigorous compliance throughout the Kawasaki Group, Kawasaki maintains a Company-wide Compliance Committee, comprising the Directors (excluding the Audit & Supervisory Committee Members and Outside Directors), the internal company presidents, the executive officer in charge of compliance, the general managers of the Head Office divisions, and others, with the President serving as presiding officer. The Companywide Compliance Committee discusses and decides measures to ensure thorough compliance and monitors the achievement of targets and compliance with such policy.

Outside Directors also attend the committee's meetings for the sake of reflecting external insights and opinions in the committee's decisions. In addition, Directors who serve as Audit & Supervisory Committee Members also attend the committee's meetings for the sake of auditing business execution.

Initiatives to Strengthen Corporate Governance

Background of Improvement Measures

Year	Initiative
2001	• Adopted the executive officer system • Reduced the number of Directors from 26 to 11
2002	• Increased the number of Outside Audit & Supervisory Board Members to two • Adopted a performance-based compensation system
2005	• Abolished the retirement benefit system for Directors
2013	• Appointed an Outside Director
2015	• Increased the number of Outside Directors to two • Took steps in response to the introduction of Japan's Corporate Governance Code • Established the Nomination Advisory Committee and Compensation Advisory Committee • Began evaluations of the effectiveness of the Board of Directors
2016	• Added stock purchase funds to Director's compensation
2017	• Increased the number of Outside Audit & Supervisory Board Members to three • Revised matters requiring resolution by the Board of Directors (expanding the scope of delegation to executives)
2018	• Increased the number of Outside Directors to three • Revised the Director and executive officer system
2019	• Reduced the number of Directors from 12 to 11
2020	• Transitioned to a company with an audit & supervisory committee • Reduced the number of Directors not serving as Audit & Supervisory Committee Members from 11 to 8 • Eliminated overlap between Directors and officers responsible for specific businesses
2021	• Revised the Director compensation system (adopted a performance-based stock compensation plan)
2022	• Reduced the number of internal Directors not serving as Audit & Supervisory Committee Members from 5 to 4 • Proportion of Outside Directors set to reach 50%
2023	• Increased the number of Outside Directors to seven • Proportion of Outside Directors set to be a majority

Changes in the Number of Directors and the Proportion of Outside Directors

Internal (male) / Outside (male) / Outside (female)

Year	Number of Directors	Outside Director
Until 2001	26 or more (internal Directors only)	Proportion of Outside Directors 0%
2001	11 (internal Directors only)	Proportion of Outside Directors 0%
2013	10 (nine internal Directors and one Outside Director)	Proportion of Outside Directors 10%
2018	12 (nine internal Directors and three Outside Directors)	Proportion of Outside Directors 25%
2020	13 (seven internal Directors and six Outside Directors)	Proportion of Outside Directors 46%
2022	12 (six internal Directors and six Outside Directors)	Proportion of Outside Directors 50%
2023–	13 (six internal Directors and seven Outside Directors)	Proportion of Outside Directors 54%

Approach Regarding the Balance, Diversity, and Size of the Board of Directors

Candidates for Director are nominated by the Board of Directors in accordance with its established "Qualifications Expected of Directors." As the Company has various business segments with different business activities, the Board of Directors appoints internal directors with broad experience as managers of each business and head office function, and external directors with rich experience in corporate management, legal affairs, and public administration, respectively. As a result, the Company has secured a diverse Board of Directors, taken on the whole, with the needed balance of knowledge, experience, and ability as well as gender, race, nationality, and other attributes, as summarized in the following table.

The items listed in the skills matrix are based on the definition of the fields of supervision necessary to realize Group Vision 2030 as "vision, strategic thinking, and governance to increase enterprise value," "business structure transformation," and "growth initiatives related to infrastructure development". To realize these fields of supervision, the following areas* designate expectation and experience required of each director.

* An area in which the Board of Directors is expected to use its knowledge and experience to lead discussions

Position at the company Name	Areas of expectation							Required experience			
	Business strategy	Governance	Finance and accounting	Personnel & organizational management	Monozukuri (technology, development, production & quality)	Sales & marketing	IT, DX & security	Corporate management	Global	Legal & administration	Finance & research organizations
Yoshinori Kanehana Chairman of the Board	✓	✓			✓	✓		✓	✓		
Yasuhiko Hashimoto Representative Director	✓	✓		✓	✓	✓	✓	✓	✓		
Katsuya Yamamoto Representative Director	✓	✓	✓	✓				✓	✓		
Hiroshi Nakatani Representative Director	✓	✓			✓		✓	✓			✓
Jenifer Rogers Outside Director	✓	✓	✓						✓	✓	✓
Hideo Tsujimura Outside Director	✓	✓		✓	✓	✓		✓	✓		
Katsuhiko Yoshida Outside Director	✓	✓				✓		✓			
Melanie Brock Outside Director	✓	✓				✓			✓		
Akio Nekoshima Director Audit & Supervisory Committee Member	✓	✓	✓					✓	✓		✓
Nobuhisa Kato Director Audit & Supervisory Committee Member	✓	✓	✓					✓	✓		
Atsuko Ishii Outside Director Audit & Supervisory Committee Member	✓	✓		✓						✓	
Ryoichi Saito Outside Director Audit & Supervisory Committee Member	✓	✓	✓	✓				✓	✓		
Susumu Tsukui Outside Director Audit & Supervisory Committee Member	✓	✓								✓	

Evaluating the Effectiveness of the Board of Directors

The Board of Directors strives to ensure that its members, including independent Outside Directors, engage in free, vigorous discussion based on their insights and experience and reach appropriate management decisions. As part of these efforts, since fiscal 2015, the Board of Directors annually evaluates and analyzes the effectiveness of its operations.

Efficacy Evaluation Methods

The evaluation was conducted via anonymous questionnaire to all directors with the advice and assistance of external experts. The specific evaluation procedure is as follows.

① Confirm the status of initiatives to address issues identified via the previous evaluation of the Board of Directors and determine evaluation methods to be used, key items to be surveyed and other matters pertaining to the upcoming evaluation.

↓

② Conduct a survey of all of the members of the Board of Directors.

↓

③ Compile and analyze the survey results for discussion at Board of Directors meetings.

↓

④ Determine issues to be addressed at Board of Directors meetings and policies for countermeasures based on findings from analysis and results of the Board of Directors' discussion.

Items Surveyed

The survey questions (main items) are as follows, with a 5-point scale and free writing section.

Also, these questions take into account the changes made in the revision of the Corporate Governance Code while maintaining continuity with previous surveys.

Survey Question Item

(1) Optimal status of the Board of Directors
(2) Composition of the Board of Directors
(3) Operation of the Board of Directors
(4) Discussions of the Board of Directors
(5) Monitoring function of the Board of Directors
(6) Training
(7) Interactions with shareholders (investors)
(8) Actions by the respondent
(9) Audit & Supervisory Committee
(10) Summary

Evaluation Results and Results of Deliberation by the Board Based on Those Results

The analysis of survey results found that the Board of Directors' operations were evaluated highly overall, as was the case in the previous year, and the weighted average values for all questions (excluding the free writing section) were higher than the previous year.

The item with the highest score was that relating to "Enhancing the content of the Board of Directors' discussions regarding medium- to long-term management policies," and many respondents highly evaluated the structure that enables regular deliberation of important issues by the Board.

Also, the item with the greatest score improvement was that relating to "Strengthening risk management structures." This was the result of high evaluations of measures to improve systems for reporting to the Board of Directors.

In addition, among the items raised as issues for the Board in the previous fiscal year, "Committing to the fulfillment of the requirements for Director candidates" and "Formalizing leadership succession plans" continued to receive high scores. It is believed that this is the result of steady progress on these firmly establishing processes that were newly introduced.

On the other hand, the item relating to "Strengthening group-wide internal control systems" received the lowest score. As a result, it is desirable that the Company reinforce systems that can oversee and control compliance issues and scandals for the entire group including overseas subsidiaries (for details of specific measures, referred to "Measures to Address Prior Issues").

In light of these results, we will continue to make efforts for improvement. Please refer to "Initiatives to Further Improve Effectiveness" for details.

As a result of discussions at the Board of Directors meeting based on the results of the above analysis and other factors, the operations of the Board of Directors have been deemed effective.

Measures to Address Prior Issues

Issues identified in the course of preceding evaluations	Status of initiatives
Committing to the fulfillment of the requirements for Director candidates	We elected Directors for the next term in accordance with our policy of enhancing human resources in terms of both diversity of attributes, such as gender, race, and nationality (demographic diversity) and diversity of perspectives and ways of thinking (cognitive diversity). By preparing a skills matrix, a method of selecting human resources that balances business strategies and the Board of Directors is taking root, and we will continue our efforts to recruit human resources appropriate for conditions.
Firmly establishing leadership succession plans	We are creating a system by making repeated improvements to the human resource hiring process for selecting the President, Vice President, company presidents, and executive officers and report on the progress to the Board of Directors.
Strengthening internal control systems and risk management structures	With regard to confirmation of the status of overseas subsidiaries, which was a concern with the internal control system, we are moving forward with the introduction of hybrid operation of remote audit methods and on-site audits for business audits. Also, the President has taken responsibility and each internal company president as well as the Presidents of Kawasaki Railcar Manufacturing and Kawasaki Motors serve as deputies, promoting group-wide quality control and compliance enhancement. Issues identified through monitoring are reported to the Board of Directors as appropriate, and the Board deliberates on measures to prevent reoccurrence. To strengthen risk management structures, we created a system for regular risk monitoring reports to the Board of Directors, and that system has taken root. Also, we established and put into operation a system that enables immediate reporting of emergency situations to Directors in accordance with established reporting routes and reporting criteria.
Securing diversity among core human resources	In accordance with the policy of hiring diverse human resources, including women, foreign nationals, and mid-career personnel with varied work histories in excess of 20% of leaders and professionals who are involved in management on the general manager level and higher by 2030, in fiscal 2022 we conducted mid-career hiring in priority fields, such as the hydrogen business, based on securing human resources in line with our business strategies. We also established a system for actively supporting the empowerment of women by setting a quota for women in executive training with the objective of developing core female human resources internally.
Enhancing the content of the Board of Directors' discussions regarding medium- to long-term management policies	In the previous fiscal year, we raised and discussed reinforcing compliance, leadership succession plan, the diversity of the Board of Directors, DX strategies, reinforcing external affairs, business reforms, and financial strategies for raising corporate value as important issues.

Initiatives to Further Improve Effectiveness

Issues identified via the latest evaluation	Initiatives
Firmly establishing leadership succession plans	The details of initiatives to be undertaken in the future are as follows. •We will continue to firmly establish succession plan by developing the human resource recruiting system currently being implemented and establishing stable operations. •We will promote the systemization of training measures for future successor candidates and raise the effectiveness of training and assessments. •We will take action to expand the competencies (behavioral characteristics) needed for management to all officers by thoroughly informing them. •We will reinforce systems and operations by regularly creating opportunities for information sharing and discussion with members of the Board of Directors.
Securing diversity among core human resources	We will investigate mechanisms for developing diverse human resources through succession plans, discuss specific action plans in the Board of Directors, and take action to ensure diversity suited to the Company's management status of business characteristics.
Strengthening group-wide internal control systems within quality control	With the objective of reinforcing governance further, this fiscal year we will again position quality as an important management issue, review business processes, foster a quality-first organizational culture, create a system for reporting to the Board of Directors, and reinforce monitoring of internal control system development and operating evaluation results for the entire Group, including subsidiaries.
Enhancing the content of the Board of Directors' discussion regarding medium- to long-term management policies	This fiscal year, we will continue to select themes in line with important issues for achieving the Group Vision 2030, conduct deliberations in the Board of Directors, implement set policies on the executive side, and take further measures that will lead to specific action. Priority Themes That We Plan to Investigate This Fiscal Year Review of the portfolio, enhancement of human capital, diversity, securing diversity among core human resources, human resource development policies, development of the internal environment, implementation of DX, intellectual property strategies, etc.

Director Compensation

The compensation system for Directors is based on the following basic policy with the aim of achieving the Group Vision 2030, "Trustworthy Solutions for the Future," established in November 2020.

Basic Policy

Placing stronger emphasis on contribution to the Company's goals, the revised compensation system is designed to reward each recipient based on their responsibilities and accomplishments. To this end, it not only provides short-term incentives but also rewards Directors for their contributions to medium- to long-term improvement in corporate value. In this way, we aim to promote the sharing of value between Directors and stakeholders, including shareholders.

Compensation for Directors (Excluding Audit & Supervisory Committee members and Outside Directors)

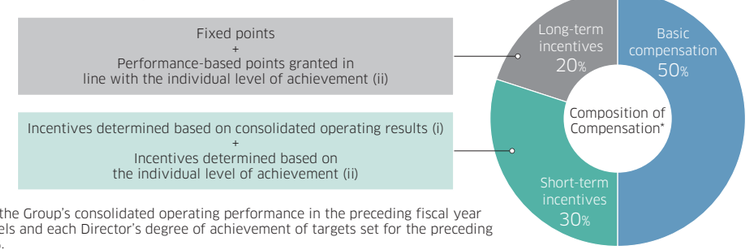
Compensation for Directors consists of basic compensation, short-term incentives, and long-term incentives. Basic compensation and short-term incentives are paid in cash. Long-term incentives are paid in the form of performance-based stock compensation to promote the sharing of benefits and risks between the Directors and shareholders in addition to more strongly incentivizing medium- to long-term contribution to corporate value.

For long-term incentives, points granted may be revoked in whole or in part by resolution of the Board of Directors, in given circumstances such as when an eligible Director is dismissed or resigns due to damage caused to the Company.

These three components of director compensation account for approximately 50%, 30%, and 20%, respectively, of the total, assuming that the Group's consolidated operating results in the preceding fiscal year reached target levels and that each Director's individual performance targets for said fiscal year are fully met.

	Payment method	Details
Basic compensation (fixed compensation)	Cash	Each Director's pay grade is determined based on the missions assigned to them.
Short-term incentives (performance-based compensation)	Cash	Performance-based compensation is determined in line with single-year operating results and other indicators. Specifically, the amount of this compensation is determined based on consolidated operating results and the level of achievement of each Director's individual performance targets. Profit attributable to owners of the parent is used as the indicator for assessing consolidated operating results, with the aim of providing incentives for the steady accomplishment of single-year operating results targets and promoting the sharing of value with shareholders. The payment ratio applied to this performance-based compensation is determined based on the profit attributable to owners of parent for the year, as presented on the next page (see (i)). Details of the process for determining the level of achievement are presented in (ii) on the same page.
Long-term incentives (fixed portion and performance-based portion)	Stock	Long-term incentives utilize a stock benefit trust and are determined based on fixed points granted to Directors in line with their periods of service as well as performance-based points granted for their accomplishments vis-à-vis individual performance targets. In principle, these incentives are paid to the recipients in the form of both Company shares and cash (the latter being in an amount equivalent to the value of a portion of said shares after conversion) at the time of their retirement as Director. The proportions of fixed points and performance-based points are designed to account for 50% each when the recipient's level of achievement is at a standard level. For the time being, the ratio of the fixed portion and the performance-based portion will be set at 50%:50%, but in the future, the ratio of the performance-based portion will be raised to increase incentives to enhance corporate value over the medium- to long-term. Details of the process for determining the level of achievement are presented in (ii) on the next page.

Composition of Director Compensation



* In the case where the Group's consolidated operating performance in the preceding fiscal year reached target levels and each Director's degree of achievement of targets set for the preceding fiscal year is 100%.

(i) Payment Ratio Based on Profit Attributable to Owners of Parent

Profit Attributable to Owners of Parent	Payment ratio (%)
less than 0	–
0 to less than ¥25 billion	0% to 45%
¥25 billion to less than ¥45 billion	50% to 95%
¥45 billion to less than ¥70 billion	100% to 195%
¥70 billion or more	200%

(ii) Process for Determining Level of Achievement of Individual Performance Targets

Setting of Targets

Each Director sets their own targets in terms of addressing short-, medium- and long-term issues, including those associated with business units and operations under their supervision and Company-wide issues, with the degree to which these are achieved reflected in short-term and long-term incentives. These include targets pertaining to important financial indicators as well as targets associated with initiatives aimed at realizing the United Nations Sustainable Development Goals (SDGs), efforts to improve employee engagement, and other aspects of non-financial performance. Targets for the short- and medium-term issues are as described below, and actions and achievement levels for respective targets to be implemented by each Director toward their realization are established.

- **Targets for short-term issues:** Targets to be achieved by the end of the fiscal year
- **Targets for medium- to long-term issues**: Targets to be achieved in light of the Group Vision 2030

Methods for Assessing the Level of Target Achievement

The targets set by Directors are assessed at the end of each fiscal year, and the degree of achievement is reflected in compensation. The assessment of each Director is determined as described below.

- **President**: All Outside Directors who serve as members of the Compensation Advisory Committee conduct individual, face-to-face interviews with the President and make a determination through deliberations among those Outside Directors.
- **Senior Corporate Executive Officers**: Outside Directors who serve as members of the Compensation Advisory Committee conduct individual, face-to-face interviews with the Senior Corporate Executive Officers and make a determination through deliberations among those Outside Directors and the President.
- **Other Directors**: The President conducts individual, face-to-face interviews with the individual Directors jointly with the Senior Corporate Executive Officers, and formulates an assessment through deliberations with the Senior Corporate Executive Officers, before referring the matters to the Compensation Advisory Committee for a decision.

Compensation of Audit & Supervisory Committee Members and Outside Directors

To ensure their professional independence, compensation for these individuals consists only of fixed compensation and is not linked with performance.

Methods for Determining Compensation

The total maximum amount of compensation for Directors (excluding Audit & Compensation Committee Members) is set by a resolution passed at the General Meeting of Shareholders. Within this limit, the amount of compensation is determined by the resolution of the Board of Directors based on the deliberations of the Compensation Advisory Committee. The presiding officer and a majority of the members of the Compensation Advisory Committee are Outside Directors.

The Board of Directors may also resolve to entrust the President with the responsibility of determining the amount of compensation for each Director (excluding Audit & Compensation Committee Members). In such cases, however, the President is required to honor the conclusions reached via the deliberations of the Compensation Advisory Committee and comply with policies regarding the determination of the amounts of Director (excluding Audit & Compensation Committee Members) compensation and methods for calculating such compensation.

Compensation for Audit & Supervisory Committee Members is determined by deliberations among Directors who serve as Audit & Supervisory Committee Members.

Notes: In accordance with application of the International Financial Reporting Standards (IFRS), the Board of Directors, at its meeting of March 31, 2023, adopted a resolution to replace the evaluation indicators for short-term incentives since the performance-linked remuneration based on results from fiscal 2022 onwards as indicated below. Changed from net profit under Japanese standards to profit attributable to owners of parent under the international standards.

Fiscal 2022 Compensation

Type of officer	Total compensation (millions of yen)	Total compensation by type (millions of yen)			Number of recipients
		Monetary compensation		Stock compensation	
		Basic compensation	Performance-based compensation		
Directors (excluding Audit & Supervisory Committee Members and Outside Directors)	353	210	70	72	5
Audit & Supervisory Committee Members (excluding Outside Directors)	73	73	–	–	3
Outside Directors	83	83	–	–	8

Notes: 1. For stock compensation, the amount recorded as expenses for the current fiscal year is indicated based on performance-based stock compensation introduced pursuant to a resolution of the 198th Ordinary General Meeting of Shareholders held on June 25, 2021 and differs from the actual amount paid.
2. The totals indicate the number of people who actually received payments.

Establishment of a Risk Management Framework

The Kawasaki Group has built a Group-wide enterprise risk management (ERM) framework to ensure the visualization of risks and the effectiveness of risk response. We seek to identify and respond to important risks that could exert a serious impact on our management, and we are endeavoring to further enhance our risk management as prescribed in our Group's management principles.

To promote this Group-wide ERM framework and ensure sustained efforts, we are striving to bolster our risk management system for discussing important matters relating to risk management and monitoring their state of implementation. In addition, we have granted secretariat functions to the Risk Management Department in the Head Office's Corporate Planning Division, and each division at the Head Office cooperates in promoting and supporting ERM. Furthermore, each business segment has built a similar setup, with the business segment manager in charge, and is establishing a system for tackling ERM activities.

To properly deal with various risks based on this ERM framework, management methods, management systems, and so on are established and operated in the responsible committees or divisions depending on the type of risk. At the same time, a setup has been established to uniformly monitor the effectiveness and practicality of each management activity. In this way, risks are managed in both an individual and integrated manner.

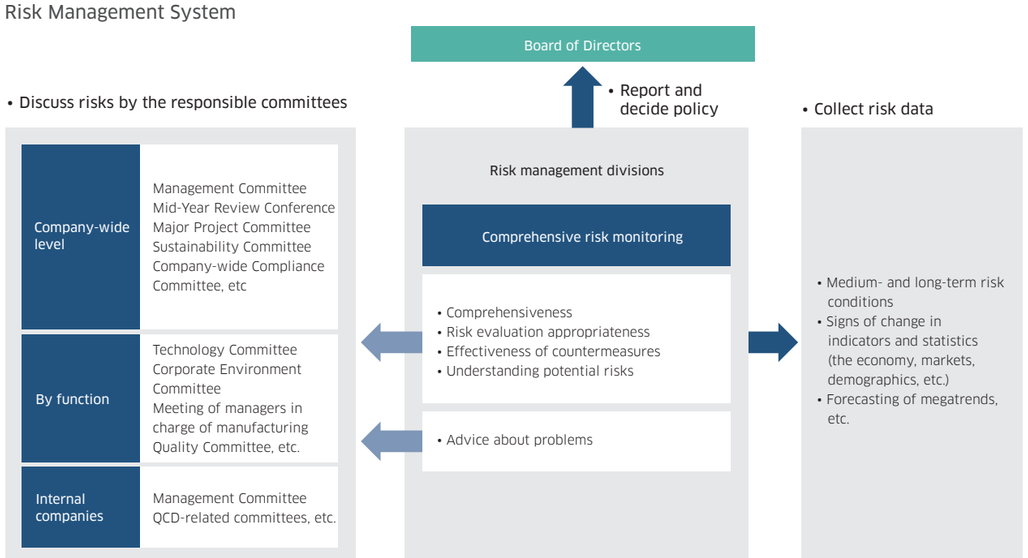
Furthermore , regarding risks that, judging from risk monitoring and an analysis of global risk trends encompassing Kawasaki, should be closely watched, after discussion and selection in meetings of the Board of Directors held four times a year, steps are taken to reflect them in business policy. With regard to risks that break out suddenly as a result of the recent geopolitical problems or climate, political, or economic instability, they are discussed in extraordinary meetings of the Board of Directors, and emergency steps are taken in response.

Of serious risks, especially in the execution of large-scale projects, we have been strengthening our advance risk check functions based on our recognition that it is important to conduct risk detection and proper risk assessment and to implement appropriate risk avoidance measures prior to the acceptance of orders. In addition, we have incorporated lessons learned from previous heavy loss cases and so on as strict company rules and have promoted the introduction of a risk control approach to keep the total risk of losses within a scale befitting the financial condition of the organization.

Moreover, in a form that embraced the existing Project Risk Management Committee, we introduced the Monthly Management Overview Report and endeavored to shift to and consolidate a system of monthly reports to the Management Committee and the Board of Directors concerning not only the progress of individual ongoing projects but also the state of orders received, market conditions, and matters that have the possibility of exerting a major impact on management plans and management results.

Thanks to these initiatives, a framework is being maintained by which we can understand signs of change and risks in the business environment in a broad and speedy manner. Going forward, we will strive to further strengthen our risk management setup through monitoring in the Board of Directors.

Risk Management System



Risks Covered and Risk Assessment Methods

The Kawasaki Group defines risks as "factors or phenomena that hinder the execution of business operations or the achievement of organizational goals" and works to manage all risks classified as either external risks or internal risks (with the latter further classified as strategic risk or business risk), while giving due consideration to the positive effects associated with strategic and other risks.

The Company's risk management process consists of a version of the COSO framework and ISO 31001, customized for the Company's environment and circumstances.

Risk monitoring activities are reported to the Board of Directors four times a year, and the Board selects and sets priority risks that the Company should pay close attention to currently, and based on the results, feedback is provided to the departments at risk. Further, for items judged to be high risk by the Board, we focus on risk monitoring activities called “checking the appropriateness of risk management activities.”

Risk Factors Currently Covered in the Scope of Risk Management

Types of risks					
External Environment	Government/Regulatory authorities	Laws and regulations	External Environment	Business strategy	Vision (strategies and policies) Corporate governance, etc.
	Financial institutions/ Investors	Raising capital		Business functions	Legal affairs (contracts and lawsuits)Intellectual property, security, etc.
		Market expectations		Management and efficiency	Project management Finance and accounting, personnel management, etc.
	Customers/ Consumers/Competitor companies/New entrants	Emergence of competitors, market changes Technological innovation		Technological innovation	Product development, etc.
	Job seekers	Securing human resources		Product defects	Quality management and quality assurance, etc.
	Suppliers	External procurement		Production capacity	Process control, etc.
	Business partners	Supply chain and logistics		Governance and compliance	Organizational fraud, harassment, internal control etc.
	Nature/Social culture/Population	Disasters, environmental pollution, SDGs, CSR, climate change, etc.			

Risks That the Company Should Pay Close Attention to Currently

As a result of company-wide monitoring activities, the Kawasaki Group has determined the following risks that should currently be paid close attention to in the order of severity.

Priority risks to pay close attention to	Degree of severity(risk ranking) *1		Hazard assessment			
			Status of manifestation	Timing of impact*2	Impact on profit	Difficulty of taking action
Quality management	Extremely high	1	Highest	High	High	High
Compliance	Extremely high	1	Highest	High	High	High
Contracts	High	3	High	High	High	High
Geopolitics (economic security)	High	3	High	High	High	High
Cyber security	Medium	5	High	High	Medium	Medium
Shortages of human resources and personnel	Medium	6	High	Medium	Medium	Medium
Carbon neutrality (Climate change)	Medium	7	Medium	Low	High	High

*1 The degree of severity is assessed based on the status of manifestation, timing of impact, impact on profit, and difficulty of taking action.
*2 Set to “high” in cases where the period of impact until the impact manifests is short, and set to “low” when the period is long.

Roundtable Discussion with the Chairman and Outside Directors

Enhancing the Board monitoring function to fulfill Group Vision 2030

Yoshinori Kanehana
Chairman of the Board

Jenifer Rogers
Outside Director

Ryoichi Saito
Outside Director
(Audit & Supervisory Committee Member)

Board of Directors Effectiveness

How would you assess the current Board of Directors?

Rogers: I think the board meetings are functioning much better now than when I was first appointed as an outside director for the Company five years ago. Particularly note-worthy is the changes in the meeting agenda. In fiscal year 2021, we started selecting a priority topic for an extended and in-depth discussion at each meeting, and all of the members have been actively engaging in the discussions. I believe this has given clarity to the board meeting objectives and has enabled more meaningful discussions.

Saito: When we transitioned to a company with an Audit and Supervisory Committee in 2020 to separate the business execution and supervision functions, there was some trepidation about whether it would actually work. Now, however, the separation seems like a matter of course. Authority is being delegated to the executive side, and the supervisory side is better able to focus more on the longer-term perspective for important topics.

Kanehana: The Group Vision 2030 was adopted in 2020 as a guideline for our growth strategies, but right now the business environment is changing at an extremely fast pace. The reason the board decided to have a special discussion was to make sure that in this changing environment we are continuing to make tangible progress toward fulfilling the Vision, and because we knew that it would be crucial to continually monitor our progress from various perspectives, such as in the organizational structure, human resources, and investment.

Saito: The special discussion topics initially focused on the business portfolio and structural reforms, but we've recently been covering various topics like human resource strategy, sustainability management, and corporate transformation (CX).

Rogers: Deciding to hold ongoing discussions on key topics like carbon neutrality has also allowed us to delve deeper into this important topic. Another positive element is that the internal directors are also contributing more by sharing their experience and ideas.

Kanehana: The discussions have become even more dynamic with the addition in fiscal 2023 of Melanie Brock, a foreign national, which brought the number of outside directors on the board to seven, making a majority of the 13 members. I think the Board of Directors has a very good balance of demographic diversity of innate attributes like gender and race and

cognitive diversity of ways of thinking and experiences. Outside directors also help by clearly pointing out things that we may consider as common sense internally, but that may not be from an external perspective. In that way, they provide an extremely effective monitoring function, for which I am truly grateful.

Which Board of Directors discussion has left the greatest impression on you?

Saito: We covered a lot of topics in fiscal 2022, but the one that left the strongest impression was when we discussed the inappropriate conduct in 2021 at the Group company Kawasaki Thermal Engineering. I think the board did a commendable job of engaging in various discussions to explore how to improve the situation and being open about all the details about the incident.

Rogers: We spent a considalable amount of time discussing what to do to create a culture that really prioritizes compliance. I was impressed by the high level of engagement on the executive side to find a solution to the problem. Based on my experience as a corporate lawyer, the commitment of management is an important point for future compliance reforms.

Kanehana: After the incident, we conducted a survey of all the employees at the Group companies in Japan. One respondent wrote, "there is still an atmosphere in which fraud occurs." We believe we need to be fully aware of the situation, so following our policy the survey results, including that comment, were published and distributed to all of the companies and we took steps to improve the situation.

Rogers: The act of disclosing the survey results to all of the group companies also sends the clear message that "top management is not ignoring the problem." The Company is reforming its operation and providing compliance training to prevent recurrence, but to

increase compliance awareness at all of the companies it's crucial that top management acts with integrity and conveys, continuously and on many levels, that it is serious about "doing the right thing."

Saito: I think creating a sense of openness within the organization is also important. If you feel that something is wrong but the organizational atmosphere discourages you from telling anyone, then no matter how many whistleblowing or other systems you have in place, you're never going to find the misconduct. We just have to continue working on improving until all employees feel that they can now speak up about something that they couldn't have before.

Kanehana: Unfortunately, the survey result shows that we haven't yet created an atmosphere where all employees in the Group feel like they can speak up. Not all employees even know that we have a whistleblowing system, so we need to find ways to improve starting at the very basics.

Rogers: Strengthening Group governance is also an important issue for the future. I think core Group companies should have their own internal systems that have a certain degree of independent controls, such as by having their own auditors.

Saito: From an auditing viewpoint, Kawasaki Heavy Industries has mechanisms and systems, but I feel that's a weak point for the other Group companies. They will need to put systems in place, but it will also be important for them to figure out how to train personnel to conduct audits. There is a lot of work that needs to be done.

Future Issues and Outlook

What topics are you focused on for the medium- to long-term horizon?

Kanehana: With the accelerating speed of change in

society, I would like the Board of Directors to make sustainability an area where we delve deeper.

Rogers: Sustainability is a very broad concept that goes beyond environmental activities like carbon neutrality and also encompasses business portfolio reform and issues in Group governance and compliance. My main focus for the medium- to long-term is the development of our global human resources. On a recent visit to Group sites in the United States, I talked with many outstanding employees there. Considering Japan's declining birthrate and aging population, it will be essential to more effectively utilize our international based employees like that throughout the Group. In other words, a global perspective is going to become increasingly important for our personnel strategy.

Saito: The three focal fields outlined in the Group Vision 2030 are all deeply related to social sustainability. We've clarified our strategic direction, and we are making steady progress with our internal promotion system and external collaborations and partnerships. But we need to feel a sense of speed. For example, we are at the forefront of the hydrogen field in Japan, but if you look outside the country there are companies in every region that are becoming increasingly competitive. I think we will need to bring about CX to accelerate development in all of our businesses.

Kanehana: CX will certainly be the key to sustainable growth. The heavy industry businesses that have been our area of specialization are seeing a growing number of competitive companies in China, other Asian countries, and all around the world. The Kawasaki Group needs to simultaneously implement CX in two directions—transforming our existing business domain and exploring new businesses like the hydrogen business. We will need to implement measures in all sorts of areas, including organizational development, human resource training, business process reform and DX while both remaining balanced and advancing at a furious pace.

Rogers: Our Group Vision 2030 is firmly in alignment with the social issues facing the world today, but on the business level, we need to contribute to society as well as to look closely at investment efficiency, profitability, and cash flow. The hydrogen business, for example, requires a huge upfront investment, so it's essential to consider the balance of capital investment and return, while also being aware of what our competitors are doing and ensuring we realize the social contribution.

Future Looking forward

What are your expectations for the Kawasaki Group in the future?

Kanehana: Kawasaki Heavy Industries pursues new technologies that will be useful to society and is highly capable of giving them form. However, I feel that our sales capabilities have some issues. If we want Group Vision 2030 to lead our business growth, we will need to strengthen our sales capabilities and sense of speed.

Saito: We might have a culture that thinks "if you make a good product, it will sell" or "if it's not perfect, we can't release it to the world." It is possible to release a product that is not perfect and then improve it based on how the market reacts. From that perspective, our marketing ability, our ability to discern what the market really wants, may be an issue.

Rogers: Only one of our Group companies, Kawasaki Motors, is in the BtoC business doing consumer oriented marketing and branding. I think we need to better utilize the sensibility and know-how of the BtoC business and gradually change the mindset throughout the whole Group to increase our brand appeal and speed to market.

Kanehana: It's true that heavy industry businesses tend to be perfectionists. President Hashimoto, however, is from the robot business where there is a strong tendency to "just put it out there, and then

make it better." I am hoping that he will take the lead in changing the Company's mindset.

Saito: A corporate culture doesn't change overnight. But I'd like the Company to change its corporate makeup, including by collaborating externally and hiring diverse personnel, to become a company capable of economic and sustainable growth. Since becoming an outside director, I've come to recognize that Kawasaki Heavy Industries has always been sincerely seeking to provide what is useful to society. I hope the Company will never waver from that fundamental principle.

Rogers: Thirty to forty percent of the railcars in the New York subway system were made by Kawasaki Railcar Manufacturing. I would like to see Kawasaki Heavy Industries use its technologies more widely around the world. I am optimistic and expect that the Kawasaki Group will further expand globally, by leveraging its overseas business successes and harnessing its worldwide human resource talent.

Yoshinori Kanehana
Chairman of the Board

Message from the Chairman of the Board

The role of the Board of Directors is to act as a monitor. To ensure we fulfill that duty, I use my position as the chair to elicit dissenting opinions to our discussions because that allows us to implement multifaceted checks. The outside directors bring a wide range of specialized knowledge in various fields, and I make a particularly conscious effort to draw out that knowledge.

Our Company is seeking to help provide solutions to many of the issues that are facing our society while simultaneously securing profits for sustainable growth. That's a complicated task that we are approaching with our Group Visions 2030 of what we want our Company to be in the future. We are advancing initiatives in many areas, including developing the hydrogen and other new businesses, selecting and concentrating our existing businesses, reforming our personnel systems, and bringing about our digital transformation.

The Board of Directors will closely monitor the progress of those executive initiatives, strengthen Group governance, and create a system and organizational environment that will be even more open to valuable advice from various external sources of expertise.

Corporate Officers (As of June 28, 2023)

Directors

Name Position Age	Years of service Kawasaki shares held	Reasons for appointment	Board of Directors meetings attended*1	Nomination Advisory Committee		Compensation Advisory Committee	
				Membership	Meetings attended*1	Membership	Meetings attended*1
 **Yoshinori Kanehana** Chairman of the Board 69 years old	11 years 45,600 shares	Mr. Kanehana worked in technology and development in the Company's rolling stock and overseas businesses for many years. He assumed the office of Managing Director in 2012, Director and Vice President in April 2016, Director and President in June 2016, and Chairman of the Board in 2020. Presently, as Chairman of the Board, he demonstrates outstanding leadership, contributing significantly to the Company's business growth and the enhancement of its enterprise value.	16/16	–	–	–	–
 **Yasuhiko Hashimoto** Representative Director 66 years old	5 years 37,600 shares	Mr. Hashimoto worked in technology and development in the Company's industrial robots business unit for many years. He was appointed Director and Managing Executive Officer in 2018 and Director, Vice President, and Senior Executive Officer in April 2020. He has served as Director, President and Chief Executive Officer since June 2020. In this role, he demonstrates outstanding leadership, contributing significantly to the Company's business growth and the enhancement of its enterprise value.	16/16	✓	12/12	✓	7/7
 **Katsuya Yamamoto** Representative Director 65 years old	6 years 25,400 shares	Mr. Yamamoto worked in planning and finance and accounting in the Company's plant and infrastructure business as well as its precision machinery business for many years. He was appointed Managing Director in 2017 and Director, Vice President, and Senior Corporate Executive Officer in 2020. Presently, he is in charge of Company-wide finance and accounting, human resources, legal affairs, compliance, and corporate communication in his capacity as Director, Vice President, and Senior Corporate Executive Officer, and is contributing significantly to the company's business growth and enhancement of its enterprise value.	16/16	✓	12/12	✓	7/7
 **Hiroshi Nakatani** Representative Director 62 years old	3 years 17,000 shares	Mr. Nakatani worked in technical development and planning at the Company for many years. He was appointed Director and Managing Executive Officer in 2020, and Director, Vice President, and Senior Corporate Executive Officer in 2022. Presently, he is in charge of Company-wide technology, production, and procurement, as well as TQM, general administration, digital transformation (DX) strategy, and the North America Project Management Task Force in his capacity as Director, Vice President, and Senior Corporate Executive Officer, and is contributing significantly to the Company's business growth and the enhancement of its enterprise value.	16/16	–	–	–	–
 **Jenifer Rogers** Outside Director 60 years old	5 years 3,100 shares	Ms. Rogers served as in-house lawyer and counsel at financial institutions in Japan and overseas for many years and has, in her capacity as an Outside Director since 2018, provided practicable opinions and advice on important management decisions based on her extensive international experience and deep insights into legal affairs, compliance, and risk management, from a standpoint independent of the Company's business execution.	16/16	–	–	–	–
 **Hideo Tsujimura** Outside Director 69 years old	3 years 700 shares	Mr. Tsujimura served as Senior Managing Director, in charge of the Intellectual Property Department and R&D Division of Suntory Holdings Limited; Representative Director, President and Chief Executive Officer of Suntory Business Expert Limited; Director, Executive Vice President, Chief Operating Officer, MONOZUKURI Division, and Senior General Manager, Research & Development Department of Suntory Beverage & Food Limited; and in other important positions. In his capacity as an Outside Director since 2020, he has provided practicable opinions and advice on important management decisions based on his wealth of management experience and deep insight into product development and intellectual property from a standpoint independent of the Company's business execution.	16/16	✓	12/12	✓	7/7
 **Katsuhiko Yoshida** Outside Director 69 years old	1 year 1,500 shares	At Kao Corporation Mr. Yoshida served in such posts as Representative Director and Senior Managing Executive Officer and President of Consumer Products Global. On the basis of his deep insight into operations and marketing, as well as his abundant management experience, since 2022 he has been providing practicable opinions and advice at the time of decisions on important matters for Kawasaki's management as an Outside Director and from a standpoint independent of business execution.	12/12	–	–	–	–
 **Melanie Brock** Outside Director 59 years old	Newly-appointed	Ms. Brock has been involved in international business support for many years. Based on her extensive international experience and high level of insight into business strategies and marketing from a global perspective, she offers useful opinions and advice at the time of decisions on important matters for Kawasaki's management from a standpoint independent of business execution.	–	–	–	–	–

*1 Figures for fiscal 2022.

Directors (Audit & Supervisory Committee Members)

Name Position Age	Years of service*1 Kawasaki shares held	Reasons for appointment	Board of Directors meetings attended*2	Nomination Advisory Committee		Compensation Advisory Committee	
			Audit & Supervisory Committee meetings attended*2	Membership	Meetings attended*2	Membership	Meetings attended*2
 **Akio Nekoshima** Director (Audit & Supervisory Committee Member) 64 years old	5 years 8,400 shares	Mr. Nekoshima worked in finance and accounting and sales promotion, in addition to marketing and overseas operations at the Company. He was appointed as an Executive Officer at the Company in 2014; an Audit & Supervisory Board Member in 2018; and as a Director (Audit & Supervisory Committee Member) in 2020. Presently, he contributes significantly to ensuring the soundness of the Company's management and enhancing its enterprise value, in his capacity as a full-time Audit & Supervisory Committee Member.	16/16 14/14	–	–	–	–
 **Nobuhisa Kato** Director (Audit & Supervisory Committee Member) 63 years old	1 year 6,900 shares	Mr. Kato worked chiefly in the areas of finance and accounting and control at the Company for many years, and was appointed as an Executive Officer in 2017. As a full-time Audit & Supervisory Committee Member he contributes significantly to ensuring the soundness of the Company's management and enhancing its enterprise value owing to his refined knowledge of the Company's business from successive appointments as General Manager, Finance & Accounting Division and General Manager, Finance & Control Division, as well as his formidable finance and accounting expertise.	12/12 9/9	–	–	–	–
 **Atsuko Ishii** Outside Director (Audit & Supervisory Committee Member) 65 years old	6 years 800 shares	Ms. Ishii served in important positions at the Ministry of Health, Labour and Welfare, including as Director General of the Osaka Labor Bureau; Deputy Director General, Director-General of the Equal Employment, Child and Family Policy Bureau; Director-General for General Policy and Evaluation, and Director-General of Social Welfare and War Victims' Relief Bureau. She contributes significantly to ensuring the soundness of the Company's management and enhancing its enterprise value, following appointment as an External Audit & Supervisory Board Member in 2017 and as an Outside Director (Audit & Supervisory Committee Member) in 2020, based on her abundant experience and deep insight into Japan's labor administration.	16/16 14/14	✓	9/9	✓	4/4
 **Ryoichi Saito** Outside Director (Audit & Supervisory Committee Member) 73 years old	4 years 1,000 shares	Mr. Saito served in important positions at NSK Ltd., including Senior Vice President; Head of Corporate Planning Division HQ, Director; Representative; Executive Vice President; Head of Corporate Strategy Division HQ; and Crisis Management Committee Chairperson. He contributes significantly to ensuring the soundness of the Company's management and enhancing its enterprise value following appointment as an External Audit & Supervisory Board Member in 2019 and as an Outside Director (Audit & Supervisory Committee Member) in 2020, based on abundant management experience and deep insights into business planning, finance and accounting, and risk management.	16/16 14/14	✓	12/12	✓	7/7
 **Susumu Tsukui** Outside Director (Audit & Supervisory Committee Member) 54 years old	1 year 400 shares	Mr. Tsukui served in positions including President of the Hyogo Bar Association, and is contributing significantly to ensuring the soundness of the Company's management and enhancing its enterprise value as an Outside Director (Audit & Supervisory Committee Member) based on his abundant experience as a lawyer and wealth of insights into judicial affairs.	12/12 9/9	–	–	–	–

*1 Years of service include years of service as Audit & Supervisory Board Members when Kawasaki was a company with an Audit & Supervisory Board.
*2 Figures for fiscal 2022.

Executive Officers (As of August 1, 2023)

President and Chief Executive Officer

Yasuhiko Hashimoto	Chief Executive Officer

Senior Corporate Executive Officers

Katsuya Yamamoto	Assistant to the President, in charge of Finance & Accounting, Human Resources, Legal Affairs, Compliance and Corporate Communication, and General Manager, Human Resources Division
Hiroshi Nakatani	Assistant to the President, in charge of Technology, Production, Procurement, TQM, General Administration, Digital Transformation (DX) Strategy, and the North America Project Management Task Force, and General Manager, Corporate Technology Division

Senior Managing Executive Officer

Hiroyoshi Shimokawa	President, Aerospace Systems Company, in charge of Kawasaki Railcar Manufacturing Co., Ltd.
Hidehiko Shimamura	President, Precision Machinery & Robot Company, in charge of promoting automation, and Kawasaki Motors, Ltd.
Motohiko Nishimura	President, Energy Solution & Marine Engineering Company

Managing Executive Officers

Eiichi Harada	General Manager, Hydrogen Strategy Division
Keigo Imamura	Vice President, Energy Solution & Marine Engineering Company, and General Manager, Ship & Offshore Structure Business Division
Hiroshi Murao	President and Chief Executive Officer, Kawasaki Railcar Manufacturing Co., Ltd.
Hiroshi Ito	President and Chief Executive Officer, Kawasaki Motors, Ltd.

Executive Officers

Takashi Torii	Group Manager, Corporate Communications Group
Yasuhiro Kishi	General Manager, Planning & Control Division, Aerospace Systems Company
Takeshi Kaneko	General Manager, Corporate Planning Division
Hisashi Sugitani	General Manager, Defense & Aerospace Business Division, and in charge of driving organizational reform in the Aerospace Group, Aerospace Systems Company
Ichiro Imai	General Manager, Finance & Control Division
Masataka Sudo	General Manager, Commercial Aircraft Business Division, and in charge of development for hydrogen-powered aircraft, Aerospace Systems Company
Atsuko Kakihara	General Manager, Marketing & External Affairs Division
Etsuro Mishima	General Manager, Aero Engine Business Division, Aerospace Systems Company
Katsunori Hosokawa	General Manager, General Administration Division
Naoki Murakami	Vice President, Energy Solution & Marine Engineering Company
Takumi Kawasaki	Deputy General Manager, Corporate Technology Division, and Director, Kawasaki Technical Institute
Yasuo Akita	General Manager, Planning & Control Division, Energy Solution & Marine Engineering Company
Hiroaki Kagaya	Deputy General Manager, Corporate Technology Division and General Manager, System Technology Development Center
Motohisa Amako	General Manager, Hydrogen and Carbon Neutral Division, and Senior Manager, Hydrogen Business Solutions Office, Energy Solution & Marine Engineering Company
Yuji Horiuchi	Group Manager, Process Engineering Center, Corporate Technology Division
Tomohiko Sugimoto	General Manager, Energy Business Division, Energy Solution & Marine Engineering Company
Shigeru Yamamoto	Deputy General Manager, Hydrogen Strategy Division, and staff officer to the Corporate Technology Division
Kenji Sanada	General Manager, Plant Engineering Business Division, Energy Solution & Marine Engineering Company
Hironobu Urabe	General Manager, DX Strategy Division
Tatsuya Motoi	Deputy General Manager, Ship & Offshore Structure Business Division, Energy Solution & Marine Engineering Company (in charge of commercial vessels)
Yoshimoto Matsuda	General Manager, Presidential Project Management Division and on assignment at Kawasaki Motors, Ltd. in charge of Hydrogen Project
Hideo Marui	General Manager, Planning & Control Division, Precision Machinery & Robot Company
Masatoshi Ishida	Vice President, Aerospace Systems Company, in charge of supervising sales for the Ministry of Defense and promoting new businesses, and General Manager, Helicopter & MRO Business Division
Kouji Ogata	General Manager, Precision Machinery Business Division, Precision Machinery & Robot Company
Yu Koshiyama	In charge of Engine Business, Aerospace Systems Company
Kenji Bando	General Manager, Robot Business Division, Precision Machinery & Robot Company

Executive Fellows

Akiyoshi Saiki	In charge of Software Technologies, Corporate Technology Division
Yasuhiro Kinoshita	In charge of hydrogen aircraft technology, Aerospace Systems Company
Tatsuhiko Goi	In charge of Gear System Technology, Aerospace Systems Company
Junji Matsuhiro	In charge of Defense Engine Technology, Aerospace Systems Company
Akihito Sakai	In charge of Composite Materials, Aerospace Systems Company
Tetsuji Yuasa	In charge of Submarine & AUV Technology, Ship & Offshore Structure Business Division, Energy Solution & Marine Engineering Company

Ten-year Financial/Non-financial Summary

(Billions of yen)

	(FY)	←JGAAP 2013	2014	2015	2016	2017	2018	2019	2020	2021	IFRS→ 2021	2022
Operating results	Rrevenue	1,385.4	1,486.1	1,541.0	1,518.8	1,574.2	1,594.7	1,641.3	1,488.4	1,500.8	1,500.8	**1,725.6**
	Aerospace Systems*2	–	–	–	–	469.5	463.9	532.5	377.7	298.2	298.2	**348.8**
	Rolling Stock	147.9	121.5	146.6	137.1	141.7	124.6	136.5	133.2	126.6	126.6	**131.9**
	Energy Solution & Marine Engineering*1	–	–	–	–	–	–	–	319.5	297.3	297.3	**314.5**
	Precision Machinery & Robot*3	123.2	135.7	133.1	155.2	198.9	222.0	217.3	240.8	252.6	252.6	**252.6**
	Powersports & Engine*4	322.2	329.2	333.5	313.0	331.6	356.8	337.7	336.6	447.9	447.9	**591.1**
	Other	137.2	144.2	108.8	77.4	85.0	95.1	102.4	80.4	78.0	78.0	**86.3**
	Aerospace*2	280.7	325.0	351.8	329.9	–	–	–	–	–	–	**–**
	Gas Turbine & Machinery*2	189.2	218.7	236.4	241.9	–	–	–	–	–	–	**–**
	Energy System & Plant Engineering*1, *2	–	–	–	–	251.6	253.0	242.9	–	–	–	**–**
	Plant & Infrastructure*2	103.8	121.1	135.6	160.8	–	–	–	–	–	–	**–**
	Ship & Offshore Structure*1	80.8	90.3	94.8	103.2	95.6	78.9	71.6	–	–	–	**–**
	Business profit [business profit margin]	72.3 [5.2%]	87.2 [5.8%]	95.9 [6.2%]	45.9 [3.0%]	55.9 [3.5%]	64.0 [4.0%]	62.0 [3.7%]	(5.3) [–]	45.8 [3.0%]	30.3 [2.0%]	**82.3 [4.8%]**
	Aerospace Systems*2	–	–	–	–	30.8 [6.5%]	32.6 [7.0%]	42.7 [8.0%]	(31.6) [–]	(9.7) [–]	(10.3) [–]	**14.8 [4.2%]**
	Rolling Stock	7.5 [5.1%]	6.0 [4.9%]	9.2 [6.3%]	3.4 [2.5%]	(12.4) [–]	(13.7) [–]	(3.8) [–]	(4.5) [–]	3.2 [2.5%]	2.2 [1.7%]	**1.3 [1.0%]**
	Energy Solution & Marine Engineering*1	–	–	–	–	–	–	–	10.3 [3.2%]	1.1 [0.3%]	(10.8) [–]	**3.9 [1.2%]**
	Precision Machinery & Robot*3	10.4 [8.4%]	10.9 [8.0%]	8.5 [6.4%]	13.1 [8.4%]	21.6 [10.8%]	21.3 [9.6%]	12.2 [5.6%]	14.0 [5.8%]	16.6 [6.5%]	13.9 [5.5%]	**8.7 [3.4%]**
	Powersports & Engine*4	16.1 [4.9%]	14.9 [4.5%]	15.7 [4.7%]	11.7 [3.7%]	15.2 [4.5%]	14.3 [4.0%]	(1.9) [–]	11.7 [3.4%]	37.3 [8.3%]	37.5 [8.3%]	**71.5 [12.1%]**
	Other	4.4 [3.2%]	3.9 [2.7%]	2.8 [2.6%]	3.1 [4.0%]	2.9 [3.4%]	2.5 [2.6%]	1.2 [1.2%]	0.4 [0.5%]	2.8 [1.0%]	3.1 [3.9%]	**(1.8) [–]**
	Aerospace*2	26.2 [9.3%]	36.3 [11.1%]	45.6 [12.9%]	25.0 [7.5%]	–	–	–	–	–	–	**–**
	Gas Turbine & Machinery*2	10.4 [5.5%]	11.2 [5.1%]	16.9 [7.1%]	15.2 [6.3%]	–	–	–	–	–	–	**–**
	Energy System & Plant Engineering*1, *2	–	–	–	–	7.6 [3.0%]	11.6 [4.5%]	17.5 [7.2%]	–	–	–	**–**
	Plant & Infrastructure*2	6.3 [6.0%]	6.5 [5.4%]	8.5 [6.2%]	2.6 [1.6%]	–	–	–	–	–	–	**–**
	Ship & Offshore Structure*1	(2.0) [–]	2.6 [2.9%]	(7.9) [–]	(21.4) [–]	(3.8) [–]	1.0 [1.3%]	(0.6) [–]	–	–	–	**–**
	Recurring profit	60.6	84.2	93.2	36.6	43.2	37.8	40.4	(2.8)	29.9		
	EBIT*5	65.3	88.0	78.4	41.7	35.7	41.2	42.9	(11.1)	33.9	31.3	**75.3**
	Profit before tax	61.3	84.2	74.8	38.8	32.9	37.8	39.3	(14.6)	30.8	27.6	**70.3**
	Profit (loss) attributable to owners of parent	38.6	51.6	46.0	26.2	28.9	27.4	18.6	(19.3)	21.8	12.6	**53.0**
	Research and development expenses	40.3	41.6	43.6	43.6	45.4	48.7	52.6	44.9	47.0	45.7	**50.7**
	Capital expenditures	87.7	80.0	76.3	82.7	82.1	66.9	70.4	55.6	53.5	77.6	**96.3**
	Depreciation and amortization	37.8	44.5	49.0	51.5	56.1	59.0	61.2	61.2	60.8	76.9	**77.3**
Financial position (at year-end)	Total assets	1,554.4	1,662.2	1,620.4	1,687.3	1,785.0	1,838.8	1,957.8	1,963.2	2,022.7	2,174.6	**2,457.7**
	Interest-bearing debt	444.6	414.3	398.4	400.6	446.6	439.4	567.4	593.3	501.4	553.9	**589.8**
	Equity	376.6	447.9	445.6	451.3	481.3	492.2	471.5	482.7	498.5	524.8	**596.8**
	Invested capital*6	807.6	846.3	829.7	837.9	912.7	915.8	1,023.0	1,058.6	980.6	938.4	**988.3**
Cash flows	Cash flows from operating activities	151.7	127.6	86.0	93.5	56.0	109.7	(15.4)	34.6	144.4	156.8	**23.6**
	Cash flows from investing activities	(77.5)	(67.3)	(74.1)	(64.8)	(80.5)	(85.3)	(69.4)	(37.3)	(52.5)	(58.3)	**(77.4)**
	Free cash flows	74.1	60.2	11.8	28.6	(24.5)	24.4	(84.8)	(2.7)	91.8	98.4	**(53.8)**
	Cash flows from financing activities	(62.5)	(57.1)	(23.4)	(15.8)	37.7	(19.7)	115.8	23.0	(102.3)	(108.9)	**85.3**
Key performance indicators	Before-tax ROIC (Return on invested capital)*7	8.1%	10.4%	9.4%	5.0%	3.9%	4.5%	4.2%	(1.0%)	3.5%	1.6%	**5.7%**
	Ratio of profit to equity attributable to owners of parent (ROE)	11.0%	12.9%	10.6%	6.0%	6.4%	5.8%	4.0%	(4.2%)	4.6%	4.8%	**9.8%**
	Net D/E ratio	109.3%	83.9%	82.5%	78.9%	80.6%	76.6%	101.2%	100.2%	80.7%	86.9%	**77.3%**
	Earnings per share*8	230.9	308.9	275.6	156.8	173.0	164.3	111.7	(115.7)	130.2	75.5	**316.6**
	Book-value per share*8 (Yen)	2,171.6	2,585.8	2,582.1	2,617.3	2,789.9	2,851.8	2,727.5	2,785.7	2,861.2	3,018.3	**3,440.3**
	Dividends per share*8 (Yen)	60.0	100.0	120.0	60.0	60.0	70.0	35.0	–	40.0	40.0	**90.0**
	Dividend payout ratio	25.9%	32.3%	43.5%	38.2%	34.6%	42.5%	31.3%	–	30.7%	30.7%	**28.4%**
Non-financial	Number of employees (at year end) (Consolidated)	34,620	35,471	34,605	35,127	35,805	35,691	36,332	36,691	36,587	36,587	**38,254**
	CO_2 emissions Scope 1 (Consolidated)	–	–	176kt-CO_2	179kt-CO_2	176kt-CO_2	162kt-CO_2	169kt-CO_2	140kt-CO_2	135kt-CO_2	135kt-CO_2	**137kt-CO_2**
	Scope 2 (Consolidated)	–	–	324kt-CO_2	313kt-CO_2	326kt-CO_2	311kt-CO_2	290kt-CO_2	255kt-CO_2	267kt-CO_2	267kt-CO_2	**246kt-CO_2**
	Scope 3 (Non-Consolidated)*9	–	–	54,323kt-CO_2	58,122kt-CO_2	93,366kt-CO_2	133,417kt-CO_2	121,280kt-CO_2	123,616kt-CO_2	24,664kt-CO_2	24,664kt-CO_2	**32,260kt-CO_2**

The Group has applied the International Financial Reporting Standards (IFRS) since fiscal 2022. Accordingly, financial figures for fiscal 2021 are reported in accordance with IFRS. "Revenue" under IFRS corresponds to "net sales" under Japanese GAAP, "business profit (business profit margin)" corresponds to "operating profit (operating profit margin)," "profit before tax" corresponds to "profit before income taxes," "equity" corresponds to "net assets," "earnings per share" corresponds to "net income (loss) per share," and "ratio of profit to equity attributable to owners of parent" corresponds to "return on equity."

*1 In fiscal 2021, the reportable segments were reorganized: the Energy System & Plant Engineering segment and the Ship & Offshore Structure segment became the Energy Solution & Marine Engineering segment. Figures for fiscal 2020 onward are presented according to the reorganized segments.

*2 In fiscal 2018, the reportable segments were reorganized: the Aerospace segment and the jet engine business of the Gas Turbine & Machinery segment became the Aerospace Systems segment and the Plant & Infrastructure segment and the energy and marine-related businesses of the Gas Turbine & Machinery segment became the Energy System & Plant Engineering segment. Figures for fiscal 2017 onward are presented according to the reorganized segments.

*3 In fiscal 2018, the Precision Machinery segment was renamed the Precision Machinery & Robot segment.

*4 The Motorcycle & Engine reportable segment was changed to the Powersports & Engine segment as of fiscal 2022.

*5 EBIT = Profit before income taxes + interest expense

*6 The formula for calculating invested capital was changed to "average net interest-bearing debt at the beginning and end of the period + average shareholders' equity at the beginning and end of the period" as of fiscal 2022. Figures for fiscal 2021 and later have been calculated using the revised formula.

*7 Before-tax ROIC = EBIT / Invested capital at year-end

*8 Effective October 1, 2017, a 1-for-10 share consolidation was implemented for ordinary shares. Figures for fiscal 2016 and before are calculated based on the assumption that the share consolidation had already been implemented.

*9 Scope of aggregation: The total of Kawasaki Heavy Industries (non-consolidated), Kawasaki Motors, and Kawasaki Railcar Manufacturing in fiscal 2021, expanded to consolidated results in fiscal 2022. Also, the calculation method for category (xi) was changed starting in fiscal 2021 (refer to p. 41 for details). Scope 3 emissions under the new calculation method were 33.969 million t-CO_2 in fiscal 2019 and 31.531 million t-CO_2 in fiscal 2020. Also, within category (xi), the increase due to the expansion of the scope of aggregation was 6.15 million t-CO_2 in fiscal 2022.

Consolidated Financial Statements

Consolidated Statement of Financial Position

(Millions of yen)

	Transition Date April 1, 2021	For the year ended March 31, 2022	For the year ended March 31, 2023
Assets			
Current assets			
Cash and cash equivalents	122,166	108,511	**138,420**
Trade and other receivables	355,061	409,246	**470,398**
Contract assets	148,523	109,132	**159,422**
Inventories	565,860	615,476	**690,431**
Income taxes receivable	3,482	3,046	**551**
Other financial assets	6,660	10,606	**10,741**
Other current assets	23,110	64,184	**100,385**
Total current assets	1,224,865	1,320,204	**1,570,350**
Non-current assets			
Property, plant and equipment	449,155	444,375	**451,010**
Intangible assets	62,510	61,940	**66,248**
Right-of-use assets	55,504	58,524	**68,422**
Investments accounted for using equity method	73,464	70,438	**77,440**
Other financial assets	69,913	70,752	**70,224**
Deferred tax assets	106,430	102,209	**110,264**
Other non-current assets	48,835	46,183	**43,763**
Total non-current assets	865,814	854,425	**887,374**
Total assets	2,090,679	2,174,630	**2,457,725**

(Millions of yen)

	Transition Date April 1, 2021	For the year ended March 31, 2022	For the year ended March 31, 2023
Liabilities and equity			
Liabilities			
Current liabilities			
Trade and other payables	418,070	399,892	**452,250**
Bonds, borrowings and other financial liabilities	266,724	208,773	**340,176**
Income taxes payable	4,753	8,506	**18,071**
Contract liabilities	159,476	256,189	**256,247**
Provisions	26,918	24,409	**22,897**
Other current liabilities	116,244	161,951	**219,019**
Total current liabilities	992,187	1,059,723	**1,308,661**
Non-current liabilities			
Bonds, borrowings and other financial liabilities	478,002	458,068	**445,082**
Retirement benefit liability	115,218	107,024	**91,552**
Provisions	7,082	4,136	**1,942**
Deferred tax liabilities	1,038	1,382	**833**
Other non-current liabilities	17,504	19,403	**12,779**
Total non-current liabilities	618,847	590,014	**552,190**
Total liabilities	1,611,034	1,649,738	**1,860,852**
Equity			
Share capital	104,484	104,484	**104,484**
Capital surplus	54,542	55,525	**55,716**
Retained earnings	299,409	320,671	**380,255**
Treasury shares	(136)	(1,129)	**(1,107)**
Other components of equity	3,846	25,931	**36,852**
Total equity attributable to owners of parent	462,146	505,484	**576,201**
Non-controlling interests	17,498	19,407	**20,670**
Total equity	479,645	524,891	**596,872**
Total liabilities and net equity	2,090,679	2,174,630	**2,457,725**

Consolidated Statements of Profit and Loss

(Millions of yen)

	For the year ended March 31, 2022	For the year ended March 31, 2023
Revenue	1,500,879	**1,725,609**
Cost of sales	1,247,615	**1,391,787**
Gross profit	253,263	**333,822**
Selling, general and administrative expenses	211,134	**252,311**
Share of profit (loss) of investments accounted for using equity method	(14,410)	**3,314**
Other income	6,795	**4,850**
Other expenses	4,147	**7,320**
Business profit	30,366	**82,355**
Finance income	2,556	**2,291**
Finance costs	5,251	**14,297**
Profit before tax	27,670	**70,349**
Income tax expense	12,834	**15,058**
Profit	14,836	**55,290**
Profit attributable to:		
Owners of parent	12,638	**53,029**
Non-controlling interests	2,198	**2,261**
Earnings per share		
Basic earnings per share	75.51	**316.63**

Consolidated Statements of Comprehensive Income

(Millions of yen)

	For the year ended March 31, 2022	For the year ended March 31, 2023
Profit	14,836	**55,290**
Other comprehensive income		
Items that will not be reclassified to profit or loss		
Financial assets measured at fair value through other comprehensive income	2,350	**(363)**
Remeasurement of defined benefits plans	10,281	**14,353**
Share of other comprehensive income of investments accounted for using equity method	(1)	**0**
Total of items that will not be reclassified to profit or loss	12,630	**13,989**
Items that may be reclassified to profit or loss		
Cash flow hedges	(125)	**1,932**
Exchange differences on translation of foreign operations	13,680	**10,112**
Share of other comprehensive income of investments accounted for using equity method	9,220	**508**
Total of items that may be reclassified to profit or loss	22,775	**12,553**
Total other comprehensive income	35,405	**26,542**
Comprehensive income	50,241	**81,833**
Comprehensive income attributable to:		
Owners of parent	47,186	**78,785**
Non-controlling interests	3,055	**3,048**

Statement of Changes in Equity

For the year ended March 31, 2022 (Millions of yen)

	Equity attributable to owners of parent										Non-controlling interests	Total equity
					Other components of equity					Total		
	Share capital	Capital surplus	Retained earnings	Treasury stock	Remeasurement of defined benefit plans	Financial assets measured at fair value through other comprehensive income	Cash flow hedges	Exchange differences on translation of foreign operations	Total			
Balance at April 1, 2021	104,484	54,542	299,409	(136)	–	4,025	(179)	–	3,846	462,146	17,498	479,645
Profit			12,638							12,638	2,198	14,836
Other comprehensive income					10,224	2,343	200	21,779	34,548	34,548	857	35,405
Comprehensive income			12,638		10,224	2,343	200	21,779	34,548	47,186	3,055	50,241
Issuance of new shares		1,916								1,916		1,916
Purchase of treasury shares				(994)						(994)		(994)
Disposal of treasury shares		2		1						3		3
Transfer of loss on disposal of treasury shares		0	(0)							–		–
Dividends			(3,357)							(3,357)	(936)	(4,294)
Transfer to retained earnings			12,158		(10,224)	(1,933)			(12,158)	–		–
Changes in scope of consolidation											795	795
Loss of control of subsidiaries												–
Change in ownership interest of parent due to transactions with non-controlling interests		(936)								(936)	(1,004)	(1,940)
Transfer to non-financial assets							(305)		(305)	(305)		(305)
Other			(177)					0	0	(176)		(176)
Total transaction with owners		982	8,623	(992)	(10,224)	(1,933)	(305)	0	(12,463)	(3,849)	(1,145)	(4,995)
Balance as of March 31, 2022	104,484	55,525	320,671	(1,129)	–	4,435	(284)	21,780	25,931	505,484	19,407	524,891

For the year ended March 31, 2023 (Millions of yen)

	Equity attributable to owners of parent										Non-controlling interests	Total equity
					Other components of equity					Total		
	Share capital	Capital surplus	Retained earnings	Treasury stock	Remeasurement of defined benefit plans	Financial assets measured at fair value through other comprehensive income	Cash flow hedges	Exchange differences on translation of foreign operations	Total			
Balance at April 1, 2022	104,484	55,525	320,671	(1,129)	–	4,435	(284)	21,780	25,931	505,484	19,407	524,891
Profit			53,029							53,029	2,261	55,290
Comprehensive income					14,235	(370)	1,603	10,286	25,755	25,755	787	26,542
Total comprehensive income			53,029		14,235	(370)	1,603	10,286	25,755	78,785	3,048	81,833
Issuance of new shares												–
Purchase of treasury shares				(4)						(4)		(4)
Disposal of treasury shares		(0)		26						26		26
Transfer of loss on disposal of treasury shares		0	(0)							–		–
Dividends			(8,394)							(8,394)	(964)	(9,358)
Transfer to retained earnings			14,191		(14,235)	43			(14,191)	–		–
Changes in scope of consolidation											366	366
Loss of control of subsidiaries											(2,079)	(2,079)
Change in ownership interest of parent due to transactions with non-controlling interests		190								190	891	1,082
Transfer to non-financial assets							(643)		(643)	(643)		(643)
Other			756							756		756
Total transaction with owners		190	6,554	22	(14,235)	43	(643)		(14,834)	(8,067)	(1,785)	(9,852)
Balance as of March 31, 2022	104,484	55,716	380,255	(1,107)	–	4,109	676	32,066	36,852	576,201	20,670	596,872

Consolidated Statements of Cash Flows

(Millions of yen)

	For the year ended March 31, 2022	For the year ended March 31, 2023
Cash flows from operating activities		
Profit	14,836	**55,290**
Depreciation and amortization	76,998	**77,374**
Impairment losses	728	**4,606**
Finance income and finance costs	2,172	**7,312**
Share of loss (profit) of investments accounted for using equity method	14,410	**(3,314)**
Loss (gain) on sale of fixed assets	(554)	**1,042**
Income tax expense	12,834	**15,058**
Increase (decrease) in retirement benefit liability	4,778	**1,281**
Decrease (increase) in trade and other receivables	(38,213)	**(59,334)**
Decrease (increase) in contract assets	39,412	**(50,291)**
Decrease (increase) in inventories	(37,984)	**(64,217)**
Increase (decrease) in trade and other payables	(11,848)	**42,213**
Decrease (increase) in advance payment	(31,707)	**(28,508)**
Increase (decrease) in contract liabilities	92,072	**(3,730)**
Increase (decrease) in other current liabilities	40,939	**43,231**
Others	(8,122)	**5,962**
Subtotal	170,751	**43,975**
Interest received	1,755	**3,328**
Dividends received	865	**332**
Interest paid	(4,318)	**(5,005)**
Income taxes paid	(12,164)	**(19,013)**
Net cash provided by (used in) operating activities	156,890	**23,617**
Cash flows from investing activities		
Purchase of property, plant and equipment	(58,943)	**(58,943)**
Proceeds from sales of property, plant and equipment	2,929	**2,180**
Purchase of intangible assets	(8,700)	**(11,001)**
Payments for equity method investment and purchase of other financial assets	(2,042)	**(6,702)**
Proceeds from equity method investment and sale of other financial assets	6,347	**160**
Payments for acquisition of subsidiaries	–	**(648)**
Decrease due to loss of control over subsidiaries	–	**(3,224)**
Proceeds from acquisition of subsidiaries	489	**–**
Others	1,522	**722**
Net cash provided by (used in) investing activities	(58,396)	**(77,457)**
Cash flows from financing activities		
Net increase (decrease) in short-term borrowings	(74,247)	**36,664**
Repayments of lease liabilities	(13,436)	**(14,545)**
Proceeds from long-term borrowings	15,500	**18,500**
Repayments of long-term borrowings	(17,001)	**(21,987)**
Proceeds from issuance of bonds	10,000	**9,000**
Redemption of bonds	(30,000)	**(20,000)**
Dividends paid	(3,384)	**(8,383)**
Proceeds from fluidity of lease receivables	62,749	**130,662**
Repayment of payables under fluidity lease receivables	(56,186)	**(37,861)**
Dividends paid to non-controlling interests	(913)	**(964)**
Others	(1,983)	**(5,777)**
Net cash provided by (used in) financing activities	(108,904)	**85,305**
Effect of exchange rate change on cash and cash equivalents	(3,244)	**(1,556)**
Net increase (decrease) in cash and cash equivalents	(13,654)	**29,909**
Cash and cash equivalents at beginning of period	122,166	**108,511**
Cash and cash equivalents at end of period	108,511	**138,420**

Corporate Profile/Stock Information (As of March 31, 2023)

Corporate Profile

Trade Name	Kawasaki Heavy Industries, Ltd.
Head Offices	Tokyo Head Office: 14-5, Kaigan 1-chome, Minato-ku, Tokyo 105-8315, Japan
	Kobe Head Office: Kobe Crystal Tower, 1-3, Higashikawasaki-cho 1-chome, Chuo-ku, Kobe, Hyogo 650-8680, Japan
Incorporated	October 15, 1896
President	Yasuhiko Hashimoto
Paid-in Capital	¥104,484 million
Net Sales	Consolidated: ¥1,725,609 million (fiscal 2022)
	Non-consolidated: ¥791,099 million (fiscal 2022)
Number of Employees	Consolidated: 38,254
	Non-consolidated: 13,662

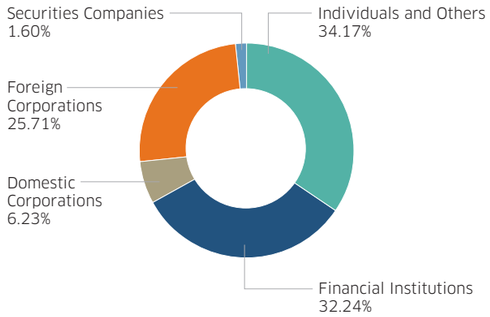
Stock Information

Securities Code	7012
Stock Listings	Tokyo Stock Exchanges (TSE Prime Market)
	Nagoya Stock Exchanges (NSE Premier Market)
Share Unit Number	100 shares
Total Number of Shares Authorized	336,000,000 shares
Total Number of Shares Issued	167,921,800 shares
Number of Shareholders	129,341 persons
Fiscal Year	From April 1 to March 31
Year-end Dividend Record Date	March 31
Interim Dividend Record Date	September 30
Annual General Meeting of Shareholders	June

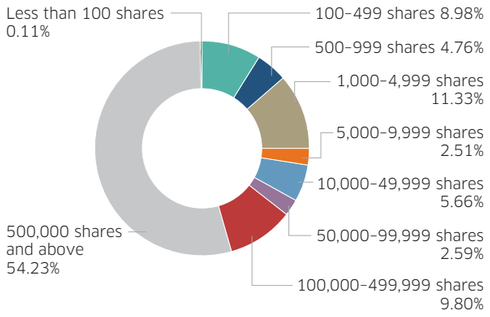
Major Shareholders

Shareholder	Number of Shares Owned	Percentage
The Master Trust Bank of Japan, Ltd. (Trust Account)	25,042,400	14.91%
Custody Bank of Japan, Ltd. (Trust Account)	10,542,200	6.27%
Nippon Life Insurance Company	5,751,661	3.42%
Kawasaki Heavy Industries Employee Stock Ownership Association	5,223,751	3.11%
STATE STREET BANK AND TRUST COMPANY 505001	4,953,298	2.95%
Kawasaki Heavy Industries, Ltd. Kyoueikai	4,097,619	2.44%
Mizuho Bank, Ltd.	3,135,112	1.86%
THE BANK OF NEW YORK MELLON 140044	2,772,870	1.65%
Tokio Marine & Nichido Fire Insurance Co., Ltd.	2,227,158	1.32%
SSBTC CLIENT OMNIBUS ACCOUNT	1,922,507	1.14%

Shareholdings by Type of Shareholder



Shareholders by Shareholding Volume



Major Subsidiaries and Affiliates (As of October 1, 2023)

Aerospace Systems

Aerospace
- NIPPI Corporation
- Nippi Skill Corporation
- Kawaju Gifu Engineering Co., Ltd.
- Kawaju Gifu Service Co., Ltd.
- KGM Co., Ltd.

Jet Engines
- Kawaju Akashi Engineering Co., Ltd.

Rolling Stock

- Kawasaki Railcar Manufacturing Co., Ltd.
- Alna Yusoki-Yohin Co., Ltd.
- Kawasaki Rolling Stock Component Co., Ltd.
- Kawasaki Rolling Stock Technology Co., Ltd.
- Sapporo Kawasaki Rolling Stock Engineering Co., Ltd.
- NICHIJO CORPORATION
- Kawasaki Rail Car, Inc.
- *Qingdao Sifang Kawasaki Rolling Stock Technology Co., Ltd.

Energy Solution & Marine Engineering

Plant
- EarthTechnica Co., Ltd.
- Kawasaki Engineering Co., Ltd.
- KEE Environmental Construction Co., Ltd.
- Kawasaki Environmental Plant Engineering Co., Ltd.
- Kawaju Facilitech Co., Ltd.
- EarthTechnica M&S Co., Ltd.
- Kawasaki Green Energy, Ltd.
- Shinki Co. Ltd.
- KHI Design & Technical Service, Inc.
- Kawasaki Heavy Industries Machinery Trading (Shanghai) Co., Ltd.
- * Underground Infrastructure Technologies Co. Ltd.
- * KH FACILITECH Co. Ltd.
- * JP Steel Plantech Co.
- * Anhui Conch Kawasaki Equipment Manufacturing Co., Ltd.
- * Anhui Conch Kawasaki Energy Conservation Equipment Manufacturing Co., Ltd.
- * Anhui Conch Kawasaki Engineering Co., Ltd.
- * Shanghai Conch Kawasaki Engineering Co., Ltd.

Energy/Marine Machinery
- Kawasaki Thermal Engineering Co., Ltd.
- Kawasaki Machine Systems, Ltd.
- KMS Engineering Co., Ltd.
- Kawasaki Prime Mover Engineering Co., Ltd.
- Kawasaki Naval Engine Service, Ltd.
- Kawasaki Gas Turbine Europe GmbH
- Kawasaki Gas Turbine Asia Sdn. Bhd.
- Kawasaki Energy System Solutions (Shandong), Ltd.
- Kawasaki Machinery do Brasil Máquinas e Equipamentos Ltda.
- Kawasaki Heavy Industries (Europe) B.V.
- Kawasaki Heavy Industries (H.K.) Ltd.
- Wuhan Kawasaki Marine Machinery Co., Ltd.

Ship & Offshore Structure
- Kawaju Support Co., Ltd.
- Kawasaki Marine Engineering Co., Ltd.
- KHI JPS Co., Ltd.
- Kawasaki Subsea (UK) Limited
- * Nantong COSCO KHI Ship Engineering Co., Ltd.
- * Dalian COSCO KHI Ship Engineering Co., Ltd.

Precision Machinery & Robot

Precision Machinery
- Kawasaki Hydromechanics Corporation
- Kawasaki Precision Machinery (U.S.A.), Inc.
- Kawasaki Precision Machinery (UK) Ltd.
- Wipro Kawasaki Precision Machinery Private Limited
- Flutek, Ltd.
- Kawasaki Precision Machinery (Suzhou) Ltd.
- Kawasaki Precision Machinery Trading (Shanghai) Co., Ltd.
- * Kawasaki Chunhui Precision Machinery (Zhejiang) Ltd.

Robot
- Kawasaki Robot Service, Ltd.
- Kawasaki Robotics (U.S.A.) Inc.
- Kawasaki Robotics (UK) Ltd.
- Kawasaki Robotics GmbH
- Kawasaki Robotics Korea, Ltd.
- Kawasaki Robotics (Tianjin) Co., Ltd.
- Kawasaki Robotics (Kunshan) Co., Ltd.
- Kawasaki Robotics India Private Limited
- Kawasaki (Chongqing) Robotics Engineering Co., Ltd.
- * Medicaroid Corporation
- * Medicaroid Europe GmbH
- * Medicaroid Asia Pacific Pte.Ltd.
- * Medicaroid, Inc.

Powersports & Engine

- Kawasaki Motors, Ltd.
- Kawasaki Motors Corporation Japan
- K-Tec Corporation
- Technica Corp.
- Autopolis
- Union Precision Die Co., Ltd.
- Shin Nippon Wheel Industries Co., Ltd.
- ○Kawasaki Motors Manufacturing Corp., U.S.A.
- Kawasaki Motors Corp., U.S.A.
- Canadian Kawasaki Motors Inc.
- Kawasaki Motores de Mexico S.A. de C.V.
- Kawasaki Motores do Brasil Ltda.
- Kawasaki Motors Europe N.V.
- Kawasaki Motors Pty. Ltd.
- India Kawasaki Motors Pvt. Ltd.
- PT. Kawasaki Motor Indonesia
- Kawasaki Motors (Phils.) Corporation
- ★Kawasaki Motors Enterprise (Thailand)Co., Ltd.
- Kawasaki Motors Vietnam Co., Ltd.
- Changzhou Kawasaki Engine Co., Ltd.
- Kawasaki Motors (Shanghai), Ltd.
- Bimota S.p.A.

Others

- Kawasaki Trading Co., Ltd.
- Kawasaki Technology Co., Ltd.
- Kawasaki Heartfelt Service Co., Ltd.
- K Career Partners Corp.
- Benic Solution Corporation
- Kawasaki Life Corporation
- Nippi Kosan Co., Ltd
- Japan Suiso Energy, Ltd.
- JSE Ocean, Ltd.
- Kawasaki Heavy Industries (U.S.A.) Inc.
- Kawasaki do Brasil Industria e Comercio Ltda.
- Kawasaki Heavy Industries (U.K.) Ltd.
- ▲Kawasaki Heavy Industries Middle East FZE
- ◆Kawasaki Heavy Industries (Singapore) Pte. Ltd.
- ●Kawasaki Heavy Industries (Thailand) Co., Ltd.
- Kawasaki Heavy Industries Management (Shanghai) Ltd.
- Kawasaki Trading (Shanghai) Co., Ltd.
- KHI (Dalian) Computer Technology Co., Ltd.
- Hydrogen Engineering Australia Pty Ltd.
- Kawasaki Heavy Industries Russia LLC
- Kawasaki Trading (Thailand) Co., Ltd.
- Japan Suiso Energy Australia Pty LTD
- * Remote Robotics Inc.

* Equity-method associates
○ Includes operations belonging to the Rolling Stock and Aerospace Systems segments
★ Includes operations belonging to the Robot segment
▲ Includes operations belonging to the Powersports & Engine segment
◆ Includes operations belonging to the Rolling Stock and Robot segments
● Includes operations belonging to the Energy/Marine Machinery segment

Disclaimer Figures in this report appearing in forecasts of future business performance or similar contexts represent forecasts made by the Company based on information accessible at the time, and are subject to risk and uncertainty. Readers are therefore advised against making investment decisions reliant exclusively on these forecasts of business performance. Readers should be aware that actual business performance may differ significantly from these forecasts due to a wide range of significant factors arising from changes in the external and internal environment. Significant factors that affect actual business performance include economic conditions in the Company's business sector, the yen exchange rate against the U.S. dollar and other currencies, and developments in taxation and other systems. This report not only describes actual past and present conditions of the Kawasaki Group but also includes forward- looking statements based on plans, forecasts, business plans and management policy as of the publication date. These represent suppositions and judgments based on information available at the time. Due to changes in circumstances, the results and features of future business operations may differ from the content of such statements.