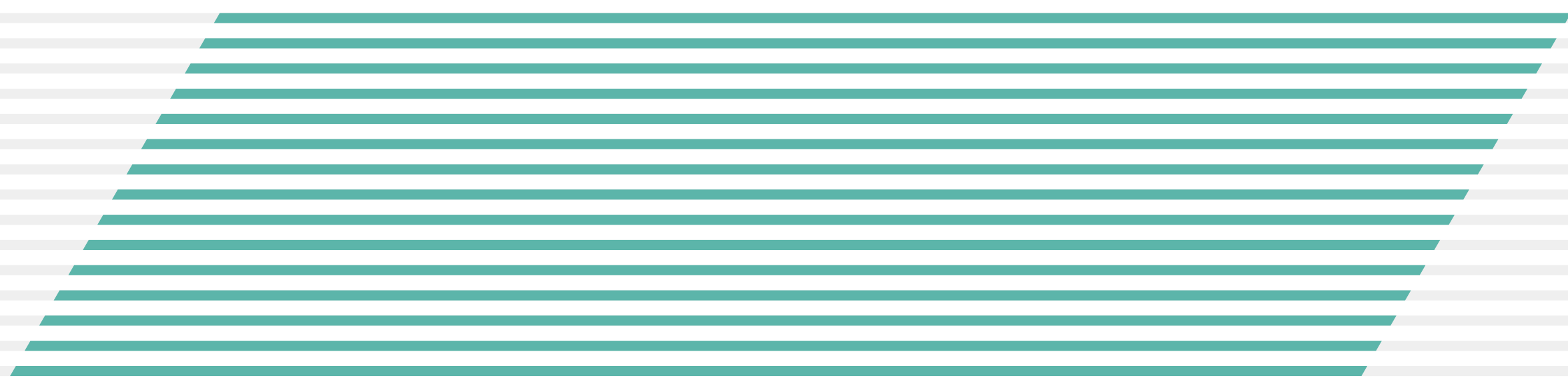


## Kawasaki Heavy Industries, Ltd.

Company Profile



**Kawasaki Heavy Industries, Ltd.**

[global.kawasaki.com](http://global.kawasaki.com)

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## Kawasaki: A Corporate Group that Aptly Evaluates Social Needs and Swiftly Accommodates Changes

Yasuhiko Hashimoto  
Representative Director  
President and Chief Executive Officer  
Kawasaki Heavy Industries, Ltd.

The world is currently undergoing a major paradigm shift driven by an array of factors. These include an increased risk of environmental deterioration due to rapid industrial development and population expansion in emerging economies, shrinking workforces as a result of “graying” societies in developed nations, progressing globalization propelled by growing air travel and logistics networks, and even more widespread use of the Internet. In addition, the COVID-19 pandemic has had a severe effect on the world. Such significant changes have compelled us to reassess our lifestyles, the way we do business, and the values with which we have been living.

Since its incorporation in 1896, for more than 120 years, the Kawasaki Group has been developing sophisticated technologies and generating knowledge used for manufacturing products that encompass the land, sea, and air sectors. Accommodating to the changing times, and with an unswerving determination to provide products and services that best serve the diverse needs of people around the world, we create value for our customers through our cutting-edge technologies. This commitment serves our mission to broaden the potential of our customers and society and ultimately to fulfill our Group mission: “Kawasaki, working as one for the good of the planet.”

In order to keep abreast of social needs and resolve challenges in response to the expectations and confidence that our customers have placed in us, we consider it imperative to rapidly respond to changes in the world and to develop more products and services with added value for our customers. We therefore set “Trustworthy Solutions for the Future” as our vision to be achieved by 2030. This vision expresses our commitment to “making available in a timely manner innovative solutions which accommodate an ever-changing society in order to create a hopeful future” and “acting without organizational and divisional boundaries and taking up challenges to expand the horizons of our potential for further growth.”

Our approach of always collaborating with our customers to devise solutions and implementing them speedily serves our corporate message: “Changing forward.” Moreover, by expanding our global business and continuing to grow, while ensuring compliance with the law and implementing Group-wide corporate social responsibility (CSR), Kawasaki aspires to be a company that is even more trusted by people around the world. For these endeavors, I would like to sincerely request your continued support.



# Powering your potential

The Kawasaki Group creates new value by channeling its engineering prowess into various fields, including aerospace systems, energy systems and plant engineering, precision machinery and robots, and transportation, and also by pursuing synergy that goes beyond the boundaries of these respective fields. Kawasaki strives to maintain harmony with the global environment as it works toward its vision of a better future.

## Group Mission

### Kawasaki, working as one for the good of the planet

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 Value

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

## The Kawasaki Group Management Principles

### 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

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.

## Group Vision 2030

# Trustworthy Solutions for the Future

We will be making available in a timely manner innovative solutions which accommodate an ever-changing society in order to create a hopeful future. We will also be acting outside of organizational and divisional boundaries, and taking up challenges to expand our potential for further growth.

### Frontier

Pioneering the technology frontier with our challenger "DNA"

### New Values

Providing innovative solutions to the problems facing the world

### Cross Over

Becoming a creative challenger that continues to grow by breaking barriers

## 【 Three Focus Fields 】

### A Safe and Secure Remotely-Connected Society

Achieve improved healthcare, innovative disaster-relief, and new styles for work and life



Robotic-assisted surgical system hinotori™ (Medicaroid Corporation)



Healthcare business PCR testing service by automated robotic system

### Near-Future Mobility

Transform the movement of both people and freight utilizing new mobility products and systems



Vertical take-off and landing aircraft (VTOL) K-RACER™ (Kawasaki Remote, Autonomous and Cargo-ability Enhanced Rotorcraft)



Delivery robot FORRO™

### Energy and Environmental Solutions

Implement initiatives for decarbonization, utilizing hydrogen-based solutions and other innovations



The world's first liquefied hydrogen carrier SUISEI FRONTIER and handling terminal "Hy touch Kobe"



Artist's rendition of a large liquefied hydrogen carrier



## Applying for the future the technological capabilities built up over our long history



Founder, Shozo Kawasaki



First President, Kojiro Matsukata



1906 Builds the first submarine in Japan



1911 Completes the first steam locomotive made by a private company in Japan



1922 Completes its first airplane



1926 Constructs Eitaibashi Bridge, Tokyo



1933 Begins manufacture and sale of Rokkogo automobiles



1934 Delivers Pashina Locomotive for Ajiago Super Express, China



1941 Starts production of Hien fighter

- 1878 Shozo Kawasaki opens Kawasaki Tsukiji Shipyard to build Western-type oceangoing steel ships in Tokyo. In 1886, the scale of the enterprise expands with the founding of the Kawasaki Dockyard in Kobe.
- 1896 Kawasaki Dockyard Co., Ltd. is incorporated. Kojiro Matsukata is appointed as the first president of the new company.
- 1906 The new Hyogo Works begins fabrication of locomotives, freight and passenger cars, and bridge girders. This is also the year that Kawasaki begins production of marine steam turbines at its dockyard.
- 1918 The Aircraft Department is established at Hyogo Works. The Company begins manufacturing aircraft and establishes a new aircraft plant. Kawasaki goes on to build Japan's first metal aircraft, which lays the groundwork for the technological innovations of today.
- 1919 The Marine Freight Department is incorporated as Kawasaki Kisen Kaisha Ltd.
- 1928 The Hyogo Works is incorporated as Kawasaki Rolling Stock Manufacturing Co., Ltd.
- 1937 The Aircraft Division is incorporated as Kawasaki Aircraft Co., Ltd.
- 1939 The new Japanese Company name, Kawasaki Jukogyo Kabusikigaisya (i.e., Kawasaki Heavy Industries), is adopted (The English company name, Kawasaki Dockyard, was changed to Kawasaki Heavy Industries in 1969, when three companies were merged.)
- 1950 The Steelmaking Division is incorporated as Kawasaki Steel Corporation. As the Company expands, its rolling stock, aircraft, and steelmaking divisions are divested to pave the way for steady growth in each of these fields.
- 1966 Merges with Yokohama Kogyo Co., Ltd., a manufacturer of boilers, grinders, and conveyors.
- 1969 Kawasaki Dockyard, Kawasaki Rolling Stock Manufacturing, and Kawasaki Aircraft merge to become Kawasaki Heavy Industries, Ltd. With the capacity to handle projects on land, at sea, and in the air, Kawasaki strengthens its foundation as a comprehensive systems engineering company.



1969 Develops Kawasaki-Unimate 2000, the first Japan-made industrial robot



1972 Unveils Z1 motorcycle



1977 Delivers first PU200 gas turbine generator



1978 Completes a cement plant (Algeria)



1979 The BK117 helicopter's first flight



1981 Delivers the first LNG carrier built in Japan



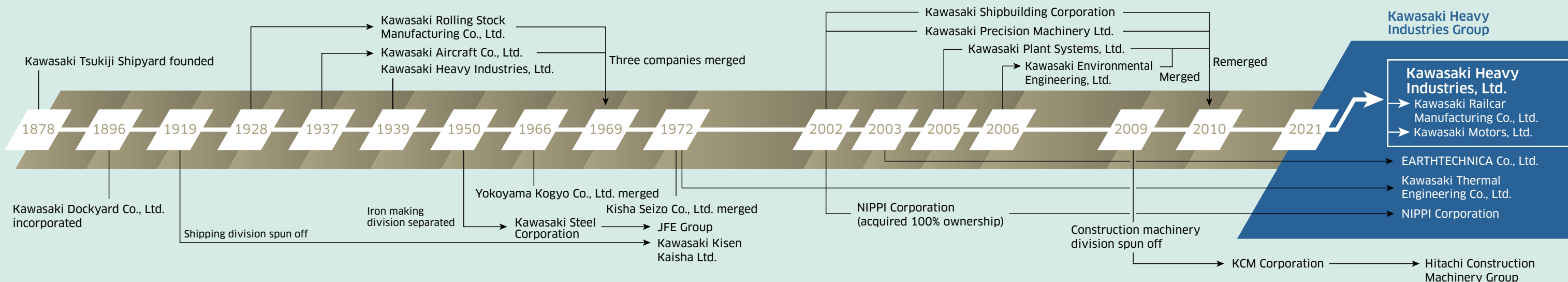
1991 Tunnel boring machines successfully complete work on the Eurotunnel



1998 Akashi Kaikyo Bridge opens

- 1972 Merges with Kisha Seizo Co., Ltd., becoming Japan's leader in the rolling stock industry. Operations also expand into the field of municipal refuse incineration.
- 1975 Starts production of motorcycles in the U.S. ahead of all other Japanese motor vehicle producers. The Company expands U.S. production to rolling stock in 1986.
- 1989 Receives orders for construction work on the Akashi Kaikyo Bridge, then the longest suspension bridge in the world, which opens in 1988; Kawasaki's work includes construction of one of the bridge's two main towers.
- 1991 Two Kawasaki tunnel boring machines succeed, eight months ahead of schedule, in finishing excavation work on the Eurotunnel connecting the U.K. and France.
- 1996 100th anniversary.
- 2001 Introduces an internal company system and an executive officer system.
- 2002 The Shipbuilding Division is incorporated as Kawasaki Shipbuilding Corporation and the Precision Machinery Division is incorporated as Kawasaki Precision Machinery Ltd.
- 2003 The Crusher Business Division is incorporated as EARTHTECHNICA Co., Ltd., a joint venture with Kobe Steel, Ltd.
- 2005 The Plant Division is incorporated as Kawasaki Plant Systems, Ltd.
- 2006 The Environmental Division is incorporated as Kawasaki Environmental Engineering, Ltd.
- 2007 Kawasaki Plant Systems, Ltd. and Kawasaki Environmental Engineering, Ltd. are merged.
- 2010 Kawasaki Shipbuilding Corporation, Kawasaki Precision Machinery Ltd., and Kawasaki Plant Systems, Ltd. are remerged into Kawasaki Heavy Industries, Ltd.
- 2020 Introduces a division system.
- 2021 The Rolling Stock Division is incorporated as Kawasaki Railcar Manufacturing Co., Ltd. The Motorcycle and Engine Division is incorporated as Kawasaki Motors, Ltd.

Covering an immense range of technologies, the Kawasaki Group continues to move forward and advance its capabilities.





## Kawasaki technology – paving the way for a hydrogen-based society

Hydrogen is one of the best sources of clean energy, as it emits no CO<sub>2</sub> when used as an energy source and can be produced from various substances. It is storable, transportable, and allows for wide-ranging applications, including power generation, transportation, and other industrial uses. Expectations are high that hydrogen will play a crucial role in addressing climate change and securing a stable supply of energy.

Kawasaki is using its accumulated technological and comprehensive capabilities to promote the development and commercialization of new infrastructure technologies while capitalizing on its strengths, by which it can seamlessly provide the major components necessary for a hydrogen supply chain, including the production, transportation, storage, and utilization of hydrogen.

We are working to realize a prosperous future where hydrogen plays a central role.

### Hydrogen Road

Through hydrogen energy, Kawasaki hopes to bring a new future to the people of the world. This initiative, which draws on the integrated capabilities of the whole Kawasaki Group, has already begun.



In February 2016, Kawasaki, Iwatani Corporation, Electric Power Development Co., Ltd., and Shell Japan Limited established the CO<sub>2</sub>-free Hydrogen Energy Supply-chain Technology Research Association (HySTRA). Since then, HySTRA has been working on the "Demonstration Project for Establishment of Mass Hydrogen Marine Transportation Supply Chain Derived from Unused Brown Coal," subsidized by the New Energy and Industrial Technology Development Organization (NEDO).

In fiscal 2020, HySTRA completed the construction of a facility to produce hydrogen through gasification of Victorian coal and of a liquefied hydrogen (LH<sub>2</sub>) receiving terminal. In 2021, an LH<sub>2</sub> carrier was completed. This was followed in 2022 by the successful completion of both a marine transport demonstration project using the LH<sub>2</sub> carrier to transport Victorian coal-derived hydrogen produced in Australia to Japan, and the construction of an on-shore LH<sub>2</sub> handling terminal. HySTRA is continuing with these demonstration projects, with Kobe as the project base, to make LH<sub>2</sub> a secure energy source for the future.

The "Liquefied Hydrogen Supply Chain Commercialization Demonstration Project" – which was jointly proposed by Japan Suiso Energy, Ltd. (JSE, which was established as a 100%\* subsidiary of Kawasaki), ENEOS Corporation, and Iwatani Corporation – was adopted as NEDO's Green Innovation Fund project in August 2021.

The project demonstrates a commercial-scale international liquefied hydrogen supply chain that integrates hydrogen liquefaction, shipping, marine transport, and receiving.

In order to accelerate the commercialization of the hydrogen supply chain, JSE is consolidating its operations and experience and conducting commercialization demonstrations.

\*Ownership as of October 2023 is 66.6%

### Kawasaki technologies utilized in the hydrogen supply chain



Hydrogen liquefaction system

### Production

#### Achieving the cryogenic temperature of -253°C

Having a large supply of hydrogen is essential to its full-scale use as a source of energy. To boost hydrogen production, Kawasaki has developed and commercialized\* the first hydrogen liquefaction system for industrial use, using purely domestic technology, making international transport of hydrogen possible by cooling it to -253°C and reducing its volume. We plan to bolster the capacity of the system and achieve higher efficiency.

\*Press release dated June 10, 2020, "Kawasaki Commences Sales of Hydrogen Liquefier."



Liquefied hydrogen carrier SUISO FRONTIER

### Transportation

#### Transporting after reducing the volume to 1/800

Kawasaki also developed the world's first LH<sub>2</sub> carrier, SUISO FRONTIER, to achieve safe and efficient marine transport of hydrogen, reducing its volume to 1/800 through liquefaction by cooling it to -253°C. In February 2022, a pilot project to transport LH<sub>2</sub> between Japan and Australia using this vessel was completed successfully\*. We plan to scale up the size of the vessel.

\*Demonstration Project for Establishment of Mass Hydrogen Marine Transportation Supply Chain Derived from Unused Brown Coal, subsidized by NEDO.



Liquefied hydrogen storage tank at Hy touch Kobe

### Storage

#### 2,500 m<sup>3</sup> liquefied hydrogen storage facility

Liquefied hydrogen storage tanks and transportation containers are necessary in order to use hydrogen within Japan. Based on long-term experience in the operation of liquefied hydrogen storage tanks for rocket fuel, Kawasaki has developed a 2,500 m<sup>3</sup> liquefied hydrogen storage tank with a vacuum insulation structure, which is the largest in Japan. The tank has been installed in the northeastern part of Kobe Airport Island, off Kobe City. We plan to scale up the size of the tank.



Hydrogen gas turbine

### Utilization

#### 100% hydrogen power generation

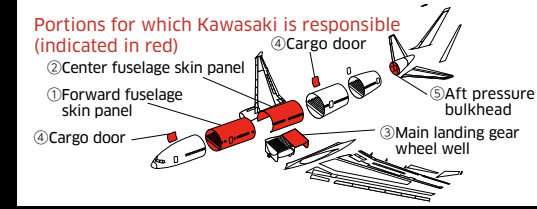
Kawasaki aims to achieve clean gas turbine power generation by utilizing hydrogen, which does not emit CO<sub>2</sub> when used as fuel. To that end, we have successfully developed a combustion technology to cope with hydrogen's characteristic of rapid combustion and realized a gas turbine that allows for the use of 100% hydrogen or 100% natural gas, as well as for flexible and seamless adjustment of any hydrogen/natural gas ratio in between. The gas turbine is currently undergoing further demonstration tests at Port Island in Kobe City\*, with the objective of further improving its performance.

\*Under the "Development of Technologies for Realizing a Hydrogen Society" project, subsidized by NEDO.





# Aerospace Systems



**Participation in the international joint development/production project for the Boeing 777-8/-9**

As a partner company, Kawasaki has been taking part in the international joint development and production program for Boeing's new passenger airplane, the 777-8/-9, producing various components, including forward and center fuselage skin panels, main landing gear wheel wells, and aft pressure bulkheads. For the assembly lines for these components, significantly-expanded automation and improved productivity have been achieved using three types of Kawasaki-produced robots.



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



T-4 Blue Impulse \*1



Boeing 787 Dreamliner (Courtesy of The Boeing Company)



P-1 maritime patrol aircraft \*2



C-2 transport airplane \*3



H145/BK117 D-3 helicopter



CH-47J/JA helicopter \*4

Boeing 777-9 (Courtesy of The Boeing Company)

Since the launch of its aircraft manufacturing business in 1918, Kawasaki has been expanding its product portfolio as one of Japan's leading manufacturers of aircraft and aircraft engines.

In addition to developing and manufacturing aircraft for the Defense Ministry, such as the P-1 maritime patrol airplane and the C-2 transport airplane, the Company has been participating in projects for commercial airplanes, including the Boeing 787 Dreamliner.

Our product coverage also includes helicopters, such as the best-selling BK117 model. Payload fairings for the H-IIA and H-IIB launch vehicles, and other space products are also part of our repertoire.

Our jet engine business started in 1954 with the overhauling of turbo jet engines. We continued to develop our capabilities through domestic production of helicopter engines and participating in numerous international collaboration programs involving civil aircraft engines. This has allowed us to contribute to more efficient use of energy and environmental friendliness.



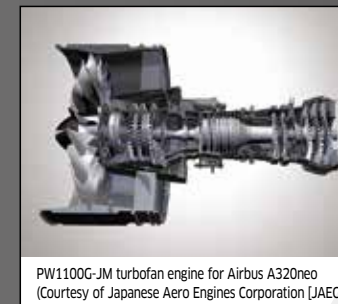
Payload fairing for the H3 satellite launch vehicle (Courtesy of JAXA)



RTM322 turboshaft engine for MCH-/CH-101 helicopters



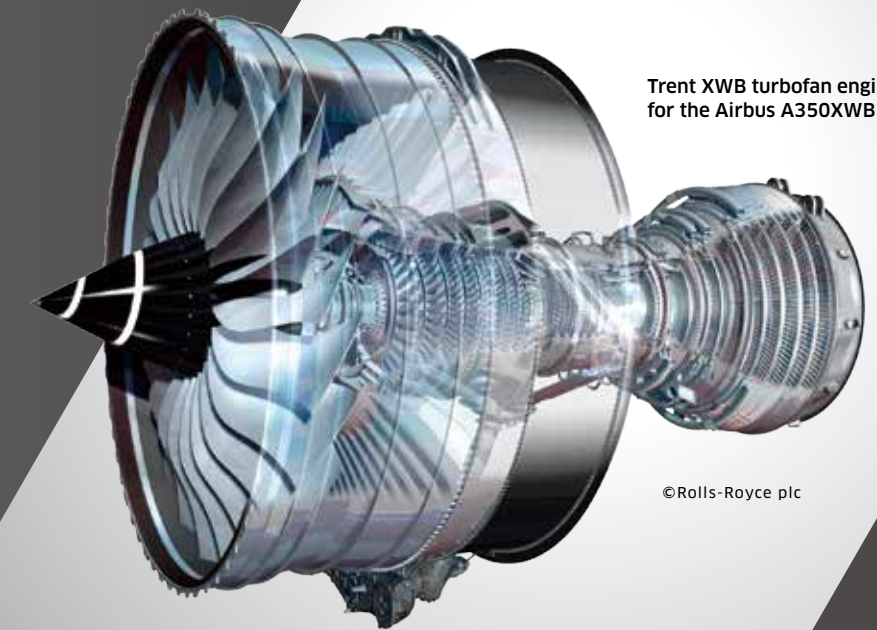
International Space Station "Kibo" (Courtesy of JAXA/NASA)



PW1100G-JM turbofan engine for Airbus A320neo (Courtesy of Japanese Aero Engines Corporation [JAEC])



T55-K-712A turboshaft engine for CH-47JA helicopters



Trent XWB turbofan engine for the Airbus A350XWB

©Rolls-Royce plc

\*1 Source: Website of the Japan Air Defense Force, the Ministry of Defense ([https://www.mod.go.jp/asdf/equipment/blueimpulse/T-4\\_Blueimpulse/index.html](https://www.mod.go.jp/asdf/equipment/blueimpulse/T-4_Blueimpulse/index.html))  
 \*2 Source: Website of the Japan Air Defense Force, the Ministry of Defense (<https://www.mod.go.jp/asdf/equipment/aircraft/patrol/p-1/>)  
 \*3 Source: Website of the Japan Air Defense Force, the Ministry of Defense (<https://www.mod.go.jp/asdf/equipment/yusouki/C-2/index.html>)  
 \*4 Source: Website of the Japan Air Defense Force, the Ministry of Defense (<https://www.mod.go.jp/asdf/equipment/air/index.html>)



A rolling stock systems manufacturer that meets customers' needs by delivering the highest standard of technology

Series E5 Shinkansen (East Japan Railway Company)

# Rolling Stock (Kawasaki Railcar Manufacturing Co., Ltd.)

Since commencing the manufacture of rolling stock in 1906, the Kawasaki Group has consistently used leading-edge technology to help develop and modernize rolling stock as a leading Japanese manufacturer.

Kawasaki grew its business from manufacturing wooden commuter trains for Nankai Railway and expanded it to various rolling stock and railway systems, such as electric trains, freight cars, electric locomotives, and diesel locomotives. We now send rolling stock to locations around the world from two plants in Japan and two plants in the U.S., which are equipped with technological knowledge accumulated over 116 years of history and high productivity levels. Kawasaki will continue to deliver the highest standard of technology and quality to meet diverse customer needs and thereby contribute to society.



R211 train car (New York City Transit/U.S.A.)



M-8 train car (Metro-North Railroad/U.S.A.)



Series N700 Shinkansen (Central Japan Railway Company and West Japan Railway Company)



Series 5000 train car (Odakyu Electric Railway Co., Ltd.)



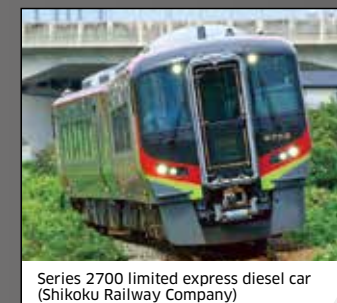
Series 6000 train car (Kobe City Transportation Bureau)



700T train car (Taiwan High Speed Rail Corporation/Taiwan)



T251 train car (Land Transport Authority/Singapore)



Series 2700 limited express diesel car (Shikoku Railway Company)



Type DD200 diesel electric locomotive (Japan Freight Railway Company)



Series 3000 New Transit System (Kobe New Transit Co., Ltd.)



Responding to diverse needs with superior manufacturing and engineering expertise

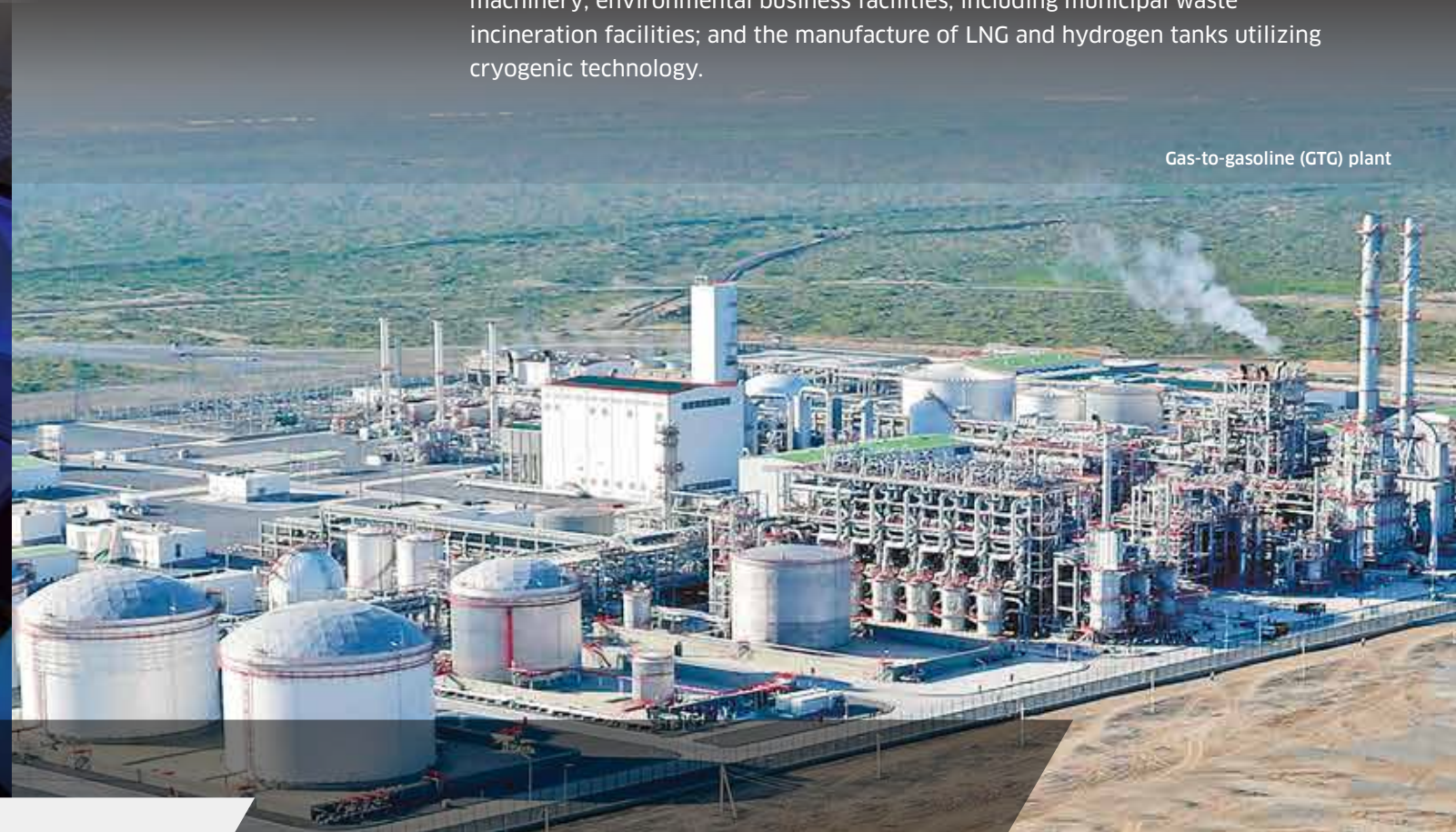
Kawasaki provides energy solution systems based on the world's highest level of core components, including gas turbines and gas engines, and contributes to the stable supply of electricity and thermal energy, reduction of environmental impact, and realization of a low-carbon and decarbonized society. We are also expanding globally in various fields such as industrial plants; industrial machinery; environmental business facilities, including municipal waste incineration facilities; and the manufacture of LNG and hydrogen tanks utilizing cryogenic technology.



Gas engine



Gas turbine



Gas-to-gasoline (GTG) plant



# Energy & Environmental Solution

## Energy Sector



Gas turbine (for cogeneration systems and standby generator)



U-KACC boiler and turbine generator



Gas engine



Steam turbine

## Industrial Infrastructure Sector



FLNG (floating liquefied natural gas) facilities, which provide floating liquefaction, storage, and delivery services



Natural gas compression module



LNG storage tank (left), LPG storage tank (right)



Nonferrous metal (ferronickel) plant

## Environment & Recycling Sector



Minatojima Clean Center (operated by Kobe City Environment Bureau)



Waste treatment and biogas generation complex



Stacker-reclaimer for transporting coal



Industrial turbo blower "MAG Turbo"





LPG carrier

Offering high value-added vessels and propulsion systems designed for the better future of the sea



AUTOMATION  
ZERO EMISSION



# Shipbuilding & Marine Propulsion System

## Shipbuilding

The history of Kawasaki began with the establishment of Kawasaki Tsukiji Shipyard in 1878. Since then, Kawasaki has delivered many first-built-in-Japan vessels. In Japan, our shipyards in Kobe and Sakaide (Kagawa Prefecture) are building LPG and LNG carriers, submarines, and other high value-added vessels. Bulk carriers and large container ships are being built by our Chinese joint ventures in Nantong and Dalian, China. To show our commitment to establishing a decarbonized society, we are also building large, liquefied hydrogen carriers. As one of the world's leading marine propulsion system integrators, we supply marine propulsion system packages featuring optimally-combined core components. It is our mission to contribute to a safer and more secure marine field and to the conservation and improvement of the global environment.



Liquefied hydrogen carrier *SUIISO FRONTIER*



Large liquefied hydrogen carrier



LNG carrier



Submarine

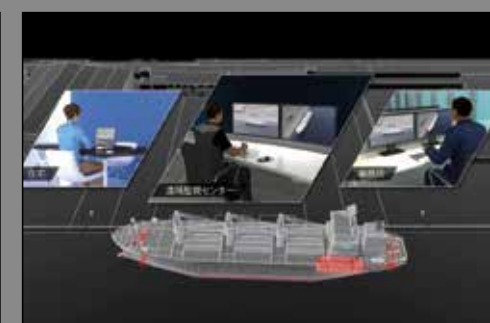


Autonomous underwater vehicle (AUV)

## Marine Propulsion Systems



Electric and hybrid propulsion systems



Advanced safety berthing support system



Marine gas engine (Kawasaki Green Gas Engine)



2-stroke marine combustion engine equipped with combined low emission system K-ECOS



Azimuth thruster (Rexpeller)



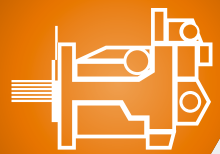
Side thruster



Continuing to support global manufacturing through the provision of integrated solutions for hydraulic systems



M7V hydraulic motor (left)/K8V hydraulic pump (right)



# Precision Machinery

Equipped with one of the largest facilities in the hydraulics industry, Kawasaki primarily supplies users around the world with hydraulic equipment such as swing motors and pumps for hydraulic excavators that have the top share of the international market, and a wide range of valves, including control valves. It also offers various kinds of systems and hydraulic apparatus for industrial machinery for forging and iron manufacture, as well as marine hydraulic equipment such as steering gears and deck machinery, all employing advanced hydraulic and control technologies.

With the Nishi-Kobe Works currently serving as the mother factory, we have established footholds in the six regions of Japan, the U.K., the U.S., China, South Korea, and India, and are promoting Kawasaki-brand hydraulic equipment and systems by responding speedily and efficiently to rapid globalization. We constantly engage in the development of new technologies and products, and will continue to support global manufacturing through better quality and the stable supply of products.



Electro-hydraulic steering gear



Windlass



PV Series: pilot control valves



KMX Series: multiple control valves



KLSV Series: load sensing control valves



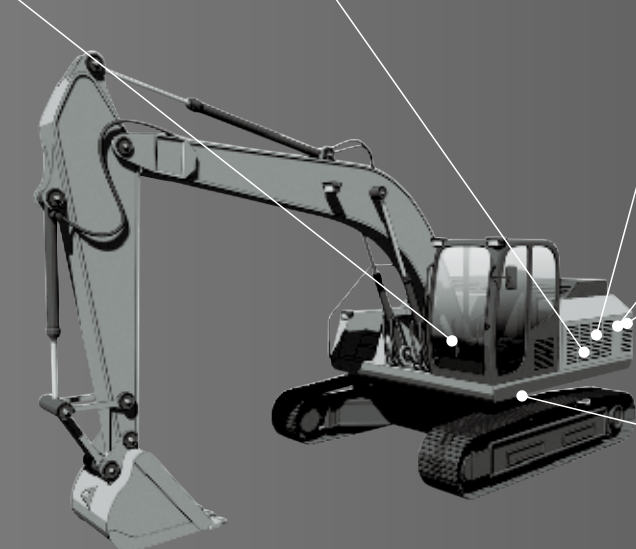
K3VLS Series: load sensing swash plate type axial piston pumps



ECO SERVO® Avant



K7VG Series: swash plate type axial piston pumps



K7V Series: swash plate type axial piston pumps



High-pressure hydrogen regulator



M5X-RG Series: swash plate type axial piston motors with reduction gears



From manufacturing to the medical field  
– Kawasaki robots are creating a bright future  
for people and society

Dual-arm SCARA  
(Selective Compliance Assembly Robot Arm) robot  
The duAro series



The duAro is our first dual-arm robot that can realistically replicate the movements of both arms of a human. It can easily reproduce work performed by a human and takes up the space of just one person.  
We have consistently pursued ease of use, simplified teaching, and increased practicality. In addition, we are offering an option to install the robot arms and controller separately, allowing more flexible applications to best suit each customer's production site. We have furthermore equipped the duAro with collision detection and other safety functions, enabling coexistent work with peace of mind even when it is installed directly beside operators.

BX series: spot welding robots



# Robotics

Kawasaki was the first to produce and sell industrial robots in Japan, the No. 1 country in the world for robot production. Since 1969, Kawasaki has contributed as a leading manufacturer to the development of industry in Japan and overseas by delivering spot welding, arc welding, assembling & handling, painting, palletizing, and many other kinds of robots for the automotive, electrical/electronics, and other industries.

We will use the experience and system-engineering technologies we have built up as a pioneer in industrial robots to drive the expansion of new sectors, such as medical and coexistent/collaborative robots, to create a future society of humans and robots.



RS series: small/medium payload robots



BXP series: large payload robots



M series: extra-large payload robots



BA series: arc welding robots



K series: explosion-proof painting robots



CP series: palletizing robots



YF series: pick and place robots



Wafer transfer robots



MS series: medical and pharmaceutical robots





Our unique ability to create products with unrivalled performance is made possible through our vast network of technological expertise drawn from the Kawasaki Group's collective strength. Our development philosophy is to constantly challenge ourselves in delivering the ultimate riding experience, with enough sensory thrills to enrich any rider's life!



## Powersports & Engine (Kawasaki Motors, Ltd.)

### Racing activities



Second victory in Suzuka 8-Hour Endurance Race achieved in 2019, 26 years after first win



Monster Energy® Kawasaki race team rider Eli Tomac became 2020 AMA Supercross 450SX Champion



Sixth consecutive victory achieved in the 2020 World Superbike Championship

### Racing course



AUTOPOLIS International Racing Course

In order to promote the healthy development of motor sports, Kawasaki provides opportunities for people to enjoy watching professional riders demonstrate advanced skills or practice their own sports riding. Kawasaki owns an international racing course called AUTOPOLIS in Oita Prefecture, Japan, where we hold two- and four-wheel race events, and where the track operates in cooperation with the local community. AUTOPOLIS is also used as a venue for motorcycle R&D.



Ninja ZX-4RR



ELIMINATOR



MULE PRO-FXT EPS



KX450SR



JET SKI ULTRA 160LX



TERYX KRX 4 1000



FX1000V EFI

### General-purpose gasoline engines

For more than 60 years, Kawasaki Motors has been supplying high-quality engines, adopting a customer-centric approach along with solid design in development and rigorous testing standards.

Our general-purpose gasoline engines are now found in many types of equipment around the world. In the United States, professional landscapers have immense trust in our engines, resulting in their high share of the market.



Equipped on professional riding mowers



Our products are manufactured to meet rigorous post-production testing requirements.



## Creating future value with combined technical capabilities

The Business Divisions and the Kawasaki Corporate Technology Division work together to further strengthen the core competencies of the Business Divisions and promote the application of technological synergies, while developing competitive new products and business to enhance the future corporate value of the Kawasaki Group.

We promote further technological development on the outstanding products we have offered the market up to now so that the next generation of products will be even more competitive. Moreover, with the market environment, social issues, and technological innovation changing so quickly, there's a risk that development will not keep us sufficiently competitive if it is merely an extension of current technology. For that reason, in addition to further strengthening our present core competencies, we are working to predict new values and social issues that will emerge in the future and are actively developing new technologies to respond to these dramatic innovations.

Emergence of new values and new markets

Accelerated by the COVID-19 pandemic

Creating new solutions focused on resolving societal challenges

Enhancing the competitiveness of our products and businesses to achieve stable growth

Recombining and strengthening fundamental technology for the future

Process engineering

Digital transformation

Intellectual property and standards



A Safe and Secure Remotely-Connected Society



Near-Future Mobility



Energy and Environmental Solutions



## Developing technologies for our "next new product" and "future new products"

World markets are becoming more volatile and dynamic as societal demands for environmental conservation and a stable supply of energy increase worldwide, and radical market fluctuations are seen in resource-rich countries, resulting in rapid changes in the marketing environment. In response to this dynamism, the Kawasaki Group is developing technologies to achieve our "next new product" as well as "future new products" that will support the lives of the people of the next generation, based on our forecasts for societal needs.

These include a variety of products for wide-ranging sectors for which the Business Divisions will work closely with the Corporate Technology Division of the Head Office:

- "Land and air transport systems," such as commercial aircraft, engines, and rail car products;
- "Energy & marine engineering products," represented by gas turbines, gas engines, and other energy and plant engineering products that respond to the diverse needs of different geographical regions, and propulsion and other ship and marine products;
- "Motion control & motor vehicle products," which include those used for infrastructure development and investment in production facilities in resource rich countries; precision machinery such as hydraulic equipment and industrial robots which are designed with labor-saving features; and motorcycles.

Furthermore, we are committed to supporting product development initiatives in the Business Divisions through process engineering. This includes resolving product development issues in their early stages, incorporating added value in products at the design stage, and increasing product value by proactively applying advanced production and manufacturing technologies beginning at the design stage.

## Technological development focused on resolving societal challenges and supplying products with high customer value

The Kawasaki Group is implementing "solution innovation" with the objective of addressing societal challenges set forth in Group Vision 2030: "A Safe and Secure Remotely-Connected Society," "Near-Future Mobility," and "Energy and Environmental Solutions," and providing new customer value.

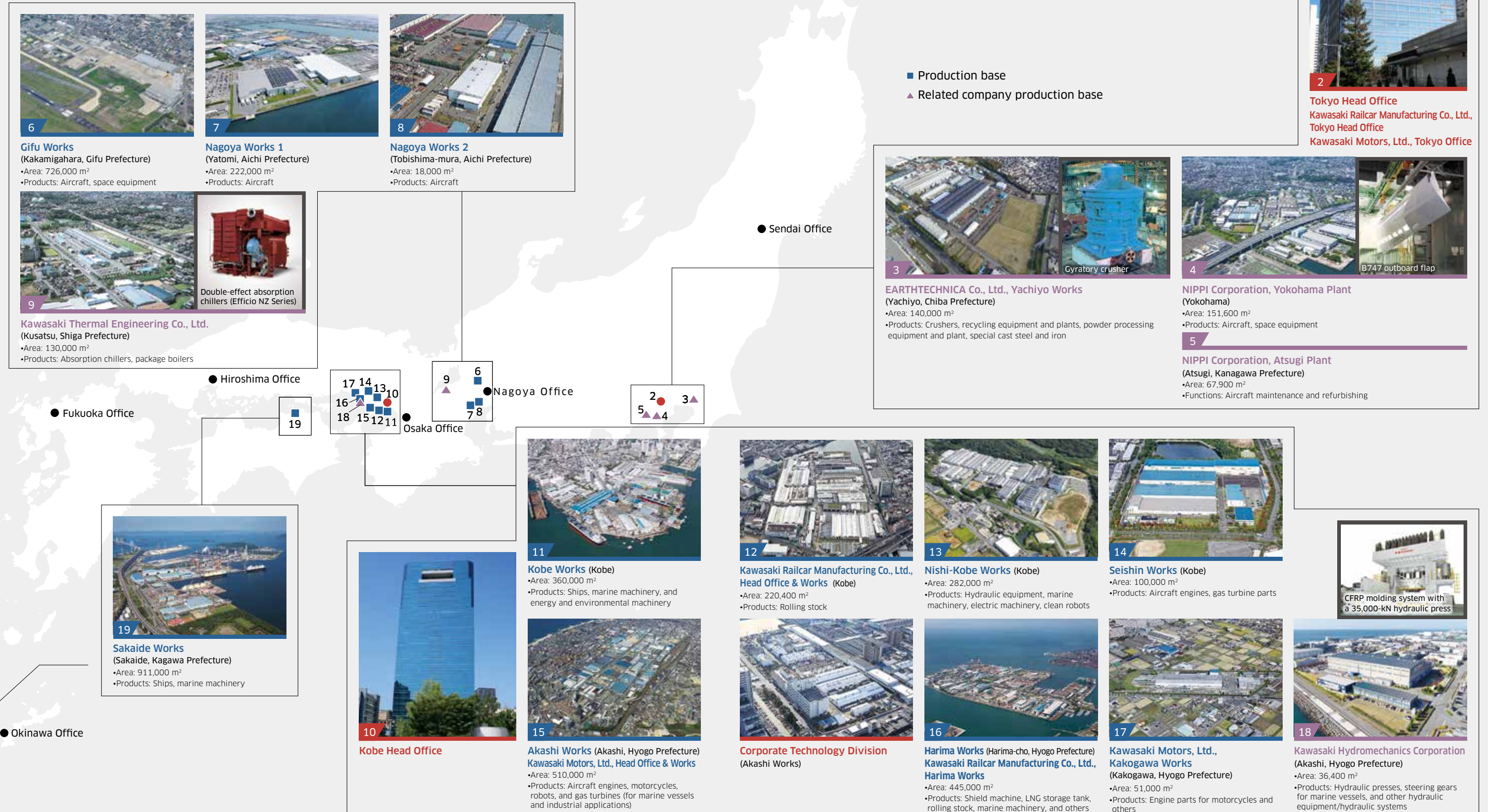
To this end, Kawasaki promotes the cultivation and enhancement of the fundamental technologies that form the source of new value creation for customers. In addition, the Business Divisions and Kawasaki Corporate Technology Division cooperate to use the latest digital technologies such as ICT/IoT and AI in order to create new businesses in the service segment, such as product maintenance, and increase profitability; innovate manufacturing by forming a network of production facilities between factories and across the value chain; and create new business models by upgrading business processes across the supply chain.

With our focus fixed on the realization of hydrogen-based societies in which hydrogen is proactively utilized, as detailed in the Basic Energy Plan of Japan, we are working together with government agencies and related companies, both in Japan and overseas, to develop technology for the early establishment of a hydrogen supply chain from production to transportation, storage, and usage (see Kawasaki Hydrogen Road, pp. 7-8).



## Responding to customer needs from across the country with an extensive network

Kawasaki has two headquarters, one in Tokyo and the other in Kobe. Our technology development operations are concentrated at the Akashi Works (Akashi City, Hyogo Prefecture), and our products for the land, sea, and air are manufactured in factories located in the western and central regions, and other areas in Japan. Also, our sales offices are located all across the country, from Hokkaido to Okinawa.





## A global network for dispatching a diverse range of products to the global market

The Kawasaki Group manufactures various products overseas and markets them around the globe through an extensive global network. These products include motorcycles, rolling stock, aircraft, hydraulic equipment, general-purpose gasoline engines, ships, and marine machinery.

In 2002, Kawasaki set up a rolling stock production base in Lincoln, Nebraska, U.S. that is capable of handling the entire production process, from train car body fabrication through final assembly. In recent years, we have also constructed production bases for marine and hydraulic machinery in China and India.

Much earlier, in 1975, Kawasaki became the first Japanese company in the motorcycle/auto industry to commence production in the U.S. It continues to exhibit the same pioneering spirit as it pursues overseas operations in other segments.

1



**1**  
**Kawasaki Precision Machinery (U.K.) Limited**  
(Plymouth, U.K.)  
•Area: 68,800 m<sup>2</sup>  
•Products: Hydraulic pumps and motors, other hydraulic equipment



**2**  
**Wipro Kawasaki Precision Machinery Pvt. Ltd.**  
(Bangalore, India)  
•Area: 20,843 m<sup>2</sup>  
•Products: Hydraulic pumps and motors



**3**  
**India Kawasaki Motors Pvt. Ltd.**  
(Maharashtra, India)  
•Area: 21,066 m<sup>2</sup>  
•Products: Motorcycles

3  
2



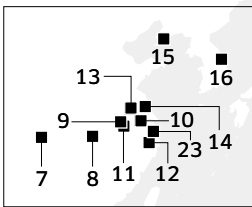
**4**  
**Kawasaki Motors Enterprise (Thailand) Co., Ltd.**  
(Rayong, Thailand)  
•Area: 150,000 m<sup>2</sup>  
•Products: Motorcycles



**5**  
**PT. Kawasaki Motor Indonesia**  
(Bekasi, Indonesia)  
•Area: 20,000 m<sup>2</sup>  
•Products: Motorcycles



**6**  
**Kawasaki Motors (Phils.) Corporation**  
(Manila, Philippines)  
•Area: 24,000 m<sup>2</sup>  
•Products: Motorcycles



**7**  
**Kawasaki (Chongqing) Robotics Engineering Co., Ltd.**  
(Chongqing, China)  
•Area: 20,000 m<sup>2</sup>  
•Products: Dual-arm SCARA robots



**8**  
**Wuhan Kawasaki Marine Machinery Co., Ltd.**  
(Wuhan, China)  
•Area: 20,000 m<sup>2</sup>  
•Products: Marine machinery



**9**  
**Anhui Conch Kawasaki Energy Conservation Equipment Manufacturing Co., Ltd.**  
(Wuhu, China)  
•Area: 140,000 m<sup>2</sup>  
•Products: Waste heat recovery power plants for cement plant boilers, CK mills, etc.



**10**  
**Kawasaki Precision Machinery (Suzhou) Ltd.**  
(Suzhou, China)  
•Area: 91,773 m<sup>2</sup>  
•Products: Hydraulic pumps, motors, valves, and other hydraulic equipment



**11**  
**Anhui Conch Kawasaki Equipment Manufacturing Co., Ltd.**  
(Wuhu, China)  
•Area: 327,000 m<sup>2</sup>  
•Products: Cement plant design, manufacturing and sales, maintenance, after-sales service, spare parts supply



**12**  
**Kawasaki Chunhui Precision Machinery (Zhejiang) Ltd.**  
(Zhejiang, China)  
•Area: 22,270 m<sup>2</sup>  
•Products: Hydraulic pumps and motors



**14**  
**Nantong COSCO KHI Ship Engineering Co., Ltd.**  
(Nantong, China)  
•Area: 930,000 m<sup>2</sup>  
•Products: Ships



**15**  
**Dalian COSCO KHI Ship Engineering Co., Ltd.**  
(Dalian, China)  
•Area: 1,910,000 m<sup>2</sup>  
•Products: Ships



**13**  
**Changzhou Kawasaki Engine Co., Ltd.**  
(Changzhou, China)  
•Area: 12,281 m<sup>2</sup>  
•Products: General-purpose gasoline engines



**16**  
**Flutek, Ltd.**  
(Changwon/Uiryeong/Haman, Korea)  
•Area: 59,069 m<sup>2</sup>  
•Products: Hydraulic pumps and motors, marine steering gears, marine deck machinery, and other hydraulic equipment



**22**  
**Kawasaki Motores do Brasil Ltda.**  
(Manaus, Brazil)  
•Area: 13,000 m<sup>2</sup>  
•Products: Motorcycles

22



**17**  
**Kawasaki Motors Manufacturing Corp., U.S.A., Lincoln Plant**  
(Lincoln, Nebraska, U.S.A.)  
•Area: 1,356,000 m<sup>2</sup>  
•Products: ATVs, utility vehicles, JET SKI personal watercraft, rolling stock, and aircraft components



**18**  
**Kawasaki Motors Manufacturing Corp., U.S.A., Maryville Plant**  
(Maryville, Missouri, U.S.A.)  
•Area: 460,000 m<sup>2</sup>  
•Products: General-purpose gasoline engines



**19**  
**Kawasaki Motors Manufacturing Corp., U.S.A., Boonville Plant**  
(Boonville, Missouri, U.S.A.)  
•Area: 25,016 m<sup>2</sup>  
•Products: General-purpose gasoline engines



**20**  
**Kawasaki Precision Machinery (USA), Inc.**  
(Grand Rapids, Michigan, U.S.A.)  
•Area: 6,600 m<sup>2</sup>  
•Products: Hydraulic pumps



**21**  
**Kawasaki Rail Car, Inc.**  
(Yonkers, New York, U.S.A.)  
•Area: 32,000 m<sup>2</sup>  
•Products: Rolling stock

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**23**  
**Kawasaki Robotics (Kunshan) Co., Ltd.**  
(Kunshan, China)  
•Area: 14,169 m<sup>2</sup>  
•Products: Industrial robots



## We will expand the circle of contribution that links to society and the future

The Kawasaki Group aims to realize through business activities a sustainable society in keeping with our Group mission, "Kawasaki, working as one for the good of the planet (Enriching lifestyles and helping safeguard our environment – 'Global Kawasaki')." We are also actively aware of global social issues. As such, we are contributing to the Sustainable Development Goals (SDGs) adopted by the United Nations through Group synergy and innovation.

Kawasaki also promotes activities focused on sustainability to meet stakeholder expectations and remain an enterprise trusted by society.

We undertake a range of social contribution activities taking advantage of our strengths and the capabilities of each of our employees. Here, our focus is on contributing to the sustaining and development of local communities, supporting the next generation who will lead future technologies, and contributing to the conservation of the environment.



## Continuing social contribution in various fields



### Handicraft and experiment courses supporting the next generation

Kawasaki holds handicraft and experiment courses based on our products in various locations to build children's interest in science and manufacturing.

Employees serve as coaches at the courses. Under such keywords as learning, making, having fun, and ingenuity, these courses are designed to enable children to learn scientific knowledge relating to our products while having fun. Kawasaki's hope is to show the next generation the wonder of technology and the importance of manufacturing so that these young people will create the technologies of the future.



### Official Partnership Agreement Reached with the National Museum of Western Art

In March 2023, Kawasaki concluded an official partnership agreement with the National Museum of Western Art, which houses a significant number of art works of the "Matsukata Collection," collected by the first president of Kawasaki Dockyard Co., Ltd. (now Kawasaki Heavy Industries).

Through this partnership, both parties aim to provide more opportunities for the public to experience art, thereby realizing a society enriched by the power of art.

### Kawasaki Good Times World

カワサキワールド  
Kawasaki Good Times World



Kawasaki Good Times World is the corporate museum of the Kawasaki Group in Kobe. The museum aims to let people experience the wonders of technology and appreciate the importance of manufacturing by interacting with our products in fun and informative ways.



“Changing forward” is our corporate slogan, built on our commitment to “change as we move forward” and to “stay a step ahead of our rapidly-changing society,” through which we aspire to continue providing products that contribute to society.

### facebook

This is the Kawasaki Group's official Facebook page, featuring news, event information, and other related topics.



### Kawasaki Robostage



Kawasaki Robostage is a showroom in Odaiba, Tokyo, showcasing Kawasaki's cutting-edge robotics technologies and know-how. Touch and experience our latest products at Robostage, which epitomize the realization of human-robot coexistence and collaboration.



### Future Lab HANEDA



“Future Lab HANEDA” is a hub for open-innovation-based development of robotics products and services at HANEDA INNOVATION CITY, located adjacent to Haneda Airport. The Lab is comprised of “YouComeLab,” which provides cutting-edge robots for startups and research institutes to use in testing products, and “AI\_SCAPE,” a space for experimental demonstrations with the objective of having robots perform all café operations, including cooking and serving.



## ANSWERS

“ANSWERS” is an online media platform designed to present in an easy-to-understand manner the Kawasaki Group's technologies, and its efforts to solve social problems.



### Corporate Data

Founded: 1878

Incorporated: 1896

Paid-in Capital: ¥104.4 billion (as of March 31, 2023)

Number of Employees: 38,254 (consolidated) (as of March 31, 2023)

Consolidated Net Sales: ¥1,725.6 billion (as of March 31, 2023)

Number of Consolidated Subsidiaries: 104 (as of March 31, 2023)

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### Kobe Head Office

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Kobe, Hyogo 650-8680, Japan  
Tel: +81-78-371-9530  
Fax: +81-78-371-9568

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MAGTurbo GREEN duAro Ninja MULE KX JETSKI TERYX

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