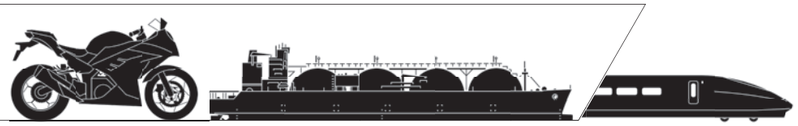
Seeking to Solve Social Issues and Achieve Sustainable Growth

In fiscal 2018, management at Kawasaki reconfirmed social issues that require a Group-wide approach and clarified the social value that is derived through business activities. At the same time, management identified Sustainable Development Goals (SDGs) that the Group should contribute to and set non-financial targets to reach by 2030 for social value created through Kawasaki-brand products and services, namely, providing safe and secure, clean, comfortable movement of people and transportation of goods by land, sea and air; creating clean energy; improving social infrastructure, especially in emerging countries; and responding to needs of an aging society and shortage of labor through automation. Kawasaki will regularly disclose its progress toward targets while working to maximize social value and achieve sustainable growth, and also contributing to the realization of SDGs.



Providing safe and secure, clean, comfortable movement of people and transportation of goods by land, sea and air

As a manufacturer of various modes of transportation, including ships, rolling stock, aerospace systems and motorcycles, Kawasaki seeks to respond to the greater movement of people and goods, paralleling globalization, while reducing risk to the environment.

Ships

2030 Target

- LNG- or hydrogen-fueled ships built annually: one

Fiscal 2018 Results

- LNG-fueled ships: at commercialization stage
- Hydrogen-fueled ships: Part of R&D efforts

Vision for 2030

Contributing to a significant decrease in emissions of nitrogen oxide (NOx), sulfur oxide (SOx) and carbon dioxide (CO_2) from ships through provision of marine vessels that run on LNG or hydrogen.

Activity snapshot

We are developing ships that use LNG for fuel to address restrictions on emissions of NOx and SOx from ships to prevent air pollution over the sea. The use of LNG presents a dramatic reduction in SOx compared with emissions released when heavy oil is used as fuel, while CO_2 emissions are 20 to 30% less. As a result, the use of LNG helps to prevent the worsening of global warming. LNG-fueled ships are a practical alternative now, as we have moved into the commercialization stage. We are also working on the development of ships that will use hydrogen—the ultimate in clean energy—as fuel. Ships powered by hydrogen can operate without emitting any CO_2 at all.

Rolling Stock

2030 Target

- Number of rolling stock units delivered: 1,000

Fiscal 2018 Results

- Number of rolling stock units delivered: 494 (excluding container cars: 262)

Vision for 2030

Helping to build a better global transportation infrastructure by manufacturing rolling stock that is safe and comfortable to ride in, highly reliable, excellent in terms of lifecycle cost efficiency, and saves energy, to minimize the burden on the environment.

Activity snapshot

We will promote participation in high-speed train projects at home and abroad and will continue to provide rolling stock to customers in Japan, North America and markets in Asia where we already have a solid presence, while raising our profile in emerging countries in Asia on projects to build new rolling stock infrastructures. In addition, we will look into technology for monitoring trains in operation that incorporates sensing capabilities, image analysis and IoT technology, to contribute to the realization of train systems boasting excellent cost efficiency over the entire lifecycle.

Aerospace Systems

2030 Target

- Provide environmentally conscious aircraft, helicopters and engines to the market, and expand the scope of participation in development of these products

Fiscal 2018 Results

- Components for Boeing 787: 141 units sold
- Sales of BK117 units: Three finished units and component parts for 78 units
- Shared production of low fuel consumption engines
  Trent 1000, Trent XWB, and PW1100G-JM

777X-9 (Photo provided by The Boeing Company)

Vision for 2030

Providing air transportation systems combining excellent environmental performance with high safety and reliability.

Activity snapshot

Through our participation in the development of Boeing 787 and 777X aircraft as well as engines, such as the Trent series for Rolls-Royce plc and Pratt & Whitney's PW1100G-JM, we will play a part in the steady supply of low fuel consumption aircraft and low fuel consumption engines. We will also focus on production and sale of the BK117 low-noise helicopter. We are keen to participate in joint international development of new, environmentally conscious aircraft and engines and thereby contribute to a better environment.

©Rolls-Royce plc

Motorcycles

2030 Target

Provide motorcycles with advanced rider-support features, such as Cooperative Intelligent Transport Systems (C-ITS), as well as motorcycles powered by clean energy, including electric motorcycles and hybrid motorcycles.

Fiscal 2018 Results

Such models are under development

Vision for 2030

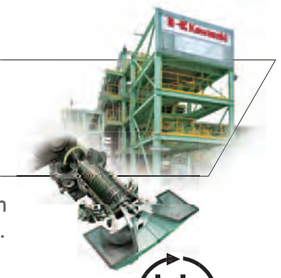
Developing, manufacturing and delivering environmentally friendly motorcycles, as well as models with "fun-to-ride" appeal and advanced rider-support features.

Activity snapshot

The underlying philosophy that drives product development at Kawasaki is built on "Fun to Ride," "Ease of Riding" and "Better Environmental Performance," and we are working to improve motorcycle performance, enhance rider-support features and respond to tougher standards on exhaust gas, noise and other environment-related regulations. With regard to C-ITS performance, Kawasaki joined the Connected Motorcycle Consortium, established by the motorcycle industry to focus on development, and a concerted effort is being directed toward putting C-ITS-compliant motorcycles on the market as soon as possible.

For electric motorcycles, hybrid motorcycles and other motorcycles powered by clean energy, we are building prototypes with future market potential and running tests to evaluate performance.

Creating clean energy



Kawasaki seeks to create clean energy by establishing a CO_2-free hydrogen energy supply chain designed to reduce environmental risk on a global scale.

2030 Targets

- CO_2 reduction through use of hydrogen energy: 3 million tons
- Hydrogen transport volume: 225,000 tons per year

Fiscal 2018 Results

Currently being verified

Vision for 2030

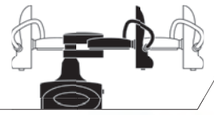
Providing equipment, such as hydrogen bases, liquefaction systems, carriers, and hydrogen-fuel gas turbines, and contributing to the development of a hydrogen society as a supplier of liquefied hydrogen transport infrastructure systems and packages.

Activity snapshot

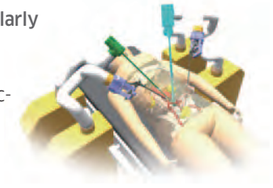
We are working with partner companies to develop strategic technology for a hydrogen energy supply chain. It is a journey that begins with hydrogen production and liquefaction (manufacturing) from Australian brown coal—an unused resource—and renewable energy, then moves to loading and unloading liquefied hydrogen at land depots and between ships and transporting the liquid in large quantities by sea (transport), stockpiling liquefied hydrogen (storage) and finally applying hydrogen in gas turbine power generation (use) perfectly optimized to the characteristics of this fuel. The application of carbon dioxide capture and storage—a process for capturing CO_2 generated when hydrogen is produced from fossil fuel—makes it possible to use hydrogen as a clean energy source that minimizes the output of CO_2 through all stages of the supply chain.

The hydrogen chain that Kawasaki and its partners seek to build will, if realized, do more than just ensure access to a stable form of clean energy in large quantities. It has the potential to greatly reduce CO_2 emissions.

Responding to needs of aging society and shortage of labor through automation



We will address issues related to an aging society and labor shortage, particularly evident in developed countries, through the use of robot technologies.



2030 Target

- Number of robots delivered: 100,000

Fiscal 2018 Results

- Number of robots delivered: 20,000

Vision for 2030

In developed countries where the aging of society is increasingly noticeable, making it easier for people to access high-quality medical care through the development of medical robots, and using robot technology to support prescription drug production, nursing and medical care and everyone in the field of healthcare who develops therapies and treatments that reduce the physical burden on patients.

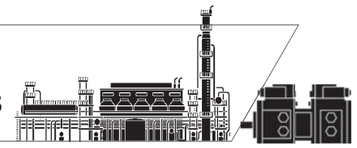
Developing and manufacturing robots that collaborate with humans in work operations and making them intelligent enough to create solutions to the labor shortages that are particularly evident in developed countries.

Activity snapshot

We positioned medical robots as a business that will support an aging society, established Medicaroid Corporation—a joint venture with Sysmex Corporation—and are now engaged in development of Robotically Assisted Surgical Device and applied robots using industrial robot technology with the goal of creating new businesses. We also seek to promote collaboration with humans in work operations, with an emphasis on *duAro*—our dual-armed SCARA robot—and cultivate demand for greater automation at manufacturing sites.

Kawasaki will also contribute to fulfilling the SDGs shown to the right utilizing the capabilities of all our business segments. *(For details, please look at page 42 of this report or go to the Sustainability section on our website.)*

Improving social infrastructure, especially in emerging countries



We will help reduce environmental risk and lay a foundation for better social infrastructures, especially in emerging countries, by providing industrial-use gas turbines, waste incinerators, hydraulic machinery and systems, and other products.

Hydraulic Machinery

2030 Target

- Hydraulic machinery production and delivery volume: 1 million units

Fiscal 2018 Results

- Hydraulic machinery production and delivery volume: 590,000 units

Vision for 2030

Setting global standards for construction machinery, agricultural machinery and hydraulic machinery as well as systems for industrial vehicles with Kawasaki quality, and contributing to social infrastructure development through stable production and supply.

Combining new technologies, such as ICT, IoT and AI, with Kawasaki's own robot technology and hydraulic control technology to create new value. Vigorously supporting development of new-generation construction machinery that is friendly not only for the global environment but also for human well-being, and helping to build better social infrastructures, especially in emerging countries.

Promoting development and sale of energy-saving products, hydrogen-oriented products and renewable energy-oriented products that will ensure a future for the global environment.

Activity snapshot

We are increasing production capacity around the world in order to meet expanding global demand for excavators. We are working on R&D for next-generation hydraulic systems such as ICT-linked, automated and unmanned equipment, and we are also starting development and sale of strategic products in the pursuit of full-scale entry into agricultural machinery and industrial vehicle sectors. In addition, our high-pressure hydrogen regulator was adopted by a European automaker and we commenced operations for primary mass-production, with plans for secondary mass-production currently under development. Also of note, total sales of *Eco-Servo*, an energy-saving and low-noise hydraulic hybrid system, have reached 4,000 units, and we are working on a compact electro-hydraulic actuator for humanoid robots as well.

Energy System & Plant Engineering

2030 Targets

- Expand share in distributed power generation market with the industry's most efficient, environmentally-friendly model
- Constantly provide highly efficient, energy-saving power generation facilities and devices, infrastructure-related facilities and environment-related facilities

Fiscal 2018 Results

- Deliveries of standard power generation facilities to overseas customers: 14 units
- Deliveries of waste incinerators: 2 units

Vision for 2030

Contributing to protect the global environment through technology and quality based on high product development capabilities including manufacturing technology and engineering capabilities, especially in the field of energy and plant engineering. Providing products and services that improve customer satisfaction to global customers, as a distinguished equipment/system/plant manufacturer.

Activity snapshot

We aim to secure a balance between economic growth and environmental protection by providing energy-saving and highly resource-efficient equipment, such as gas turbines which supply the world's highest level of efficiency and environmental performance, and gas engines which supply the world's highest level of performance. To achieve the objective, we seek to combine existing equipment, incorporate in-house know-how, reinforce our ability to respond to overseas projects and create new solutions. In addition to our contribution to infrastructure projects through providing tunnel boring machines and cryogenic storage facilities, we will also contribute to environmental protection in urban areas through deliveries of energy-saving waste incinerators, water treatment facilities, desulfurization/denitrification devices and other systems.