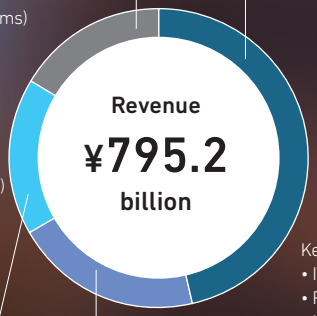
PLANTS & INFRASTRUCTURE SYSTEMS

Others
¥129.4 billion
Key products and services
- (Commercial ships) Passenger ferries, general commercial ships, special purpose ships, shipbuilding engineering
- (Environmental systems) Air quality control systems, waste-to-energy systems, heat recovery systems, sludge treatment systems
- (CO_2 capture systems) CO_2 capture plants

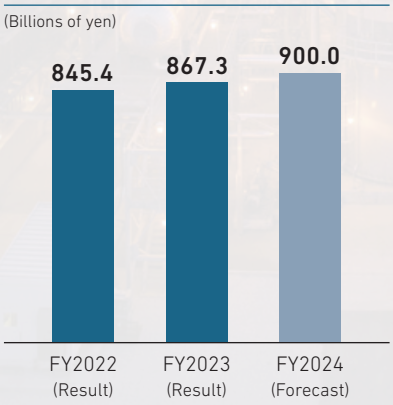
Metals Machinery
¥369.4 billion
Key products and services
- Ironmaking plants
- Steelmaking plants
- Continuous casting plants
- Rolling mills
- Processing lines



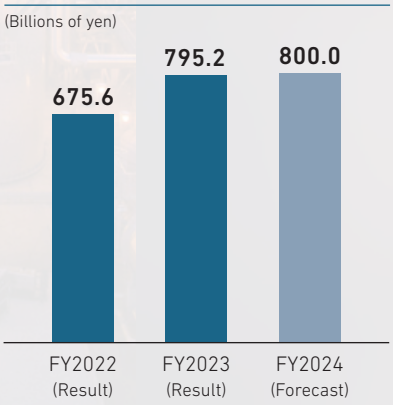
Engineering
¥134.0 billion
Key products and services
- Transportation systems
- Chemical plants

Machinery Systems
¥162.4 billion
Key products and services
- ITS
- Parking systems
- Machinery systems
- Food & packaging machinery
- Special testing facilities
- Printing & packaging machinery

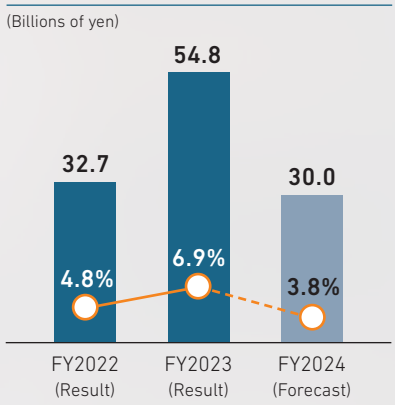
Order Intake



Revenue



Business Profit / Profit Margin



Note: Figures for FY2024 (forecast) reflect a reclassification of reportable segments due to a reorganization, including the establishment of the new GX Solutions segment on April 1, 2024.

Overview of FY2023

Consolidated order intake amounted to ¥867.3 billion, surpassing the previous year's figure, due to factors such as increased demand for mobility, particularly in the United States and Asia, and strong performance in the automated guideway transit (AGT) market.

Revenue totaled ¥795.2 billion, up from the previous year, driven by growth in sales of metals machinery and engineering. Profit from business activities rose to ¥54.8 billion, reflecting the same factors.


Manila Metro Rail Transit System Line 3 (MRT-3)


Electrical steel production systems

Business Environment and Key Strategies in the Medium to Long Term

To address growing demand for carbon-neutral initiatives and the need for efficiency, automation, and manpower-saving through digital transformation (DX), we are developing a diverse range of products and expanding our business to address environmental challenges and meet social needs.

With respect to metals machinery, we anticipate growth in green steel investments not only in Europe and North America, which are driving the market, but also in the Middle East and Asia. In response, we are expanding our product lineup to meet a wide range of customer needs by developing differentiated technologies, including the hydrogen-based direct reduction of iron ore.

In machinery systems, we are expanding our business in two key areas. First, we are strengthening our efforts in mobility and testing equipment, as well as related devices, to support the development of autonomous driving technology and infrastructure. Second, we are developing industrial solutions to drive expansion of after-sales services using DX.

In engineering, we are working to attract orders for new projects and O&M services for transportation systems, focusing on growing demand in North America and Asia. In chemical plants, we are promoting initiatives for clean fuels and high-performance chemicals in addition to conventional plants, such as fertilizers and ammonia.

In commercial ships, we are working to provide LNG fuel supply systems and develop ammonia fuel handling systems and liquefied CO_2 handling systems in response to the tightening of environmental regulations aimed at decarbonization. We are also working to build environmentally friendly vessels fueled by LNG and methanol to replace heavy oil. In environmental systems, we are striving in various ways to address the growing social need for resource-circulating solutions. For example, we are working to achieve high-efficiency power generation by utilizing steam generated during waste incineration. We are also developing CCU*, methane fermentation, and other technologies at waste incineration facilities. In CO_2 capture systems, we are strengthening the competitiveness of our own CO_2 capture technologies and products while expanding partnerships globally to build a carbon dioxide capture, utilization, and storage (CCUS) value chain, to drive business growth.

*CCU: Carbon dioxide Capture and Utilization

FOCUS

Demonstration test of MAmmoSS® ammonia handling system for ships in preparation for market launch

To achieve the International Maritime Organization's goal of net-zero greenhouse gas emissions from international shipping by around 2050, a shift from traditional fossil fuels to next-generation fuels is essential. Ammonia, which produces zero CO_2 emissions when burned, is regarded as a promising decarbonized fuel for the maritime industry and is earmarked to become a key component of stable, clean energy solutions in the future. With this in mind, Mitsubishi Shipbuilding Co., Ltd. is developing an ammonia handling system called MAmmoSS® (Mitsubishi Ammonia Supply and Safety System) to support the utilization of ammonia as marine fuel. That company has built a demonstration-testing facility in MHI's Research & Innovation Center in Nagasaki, where various tests are under way for the safe treatment of excess ammonia gas, with the aim of bringing the system to market in 2025. By commercializing MAmmoSS®, Mitsubishi Shipbuilding will help achieve carbon neutrality in the maritime industry.

MAmmoSS® module (image)

Demonstration experiment for CO_2 capture from waste-to-energy plant flue gas for use in methanation

In the waste treatment sector, companies are expected to step up efforts to decarbonize waste-to-energy plants in the pursuit of a carbon-neutral society.

The City of Yokohama, the Tokyo Gas Group, and MHI Group are engaged in Japan's first regional collaborative CCU demonstration project. In this project, CO_2 is separated and captured from the flue gas of a Yokohama City waste-to-energy plant using a system developed by MHI Group. The captured CO_2 is then transported to the Tokyo Gas Group's methanation[1] demonstration facility, where it is used to produce e-methane[2]. Through this project, we will work on the full-scale application of CO_2 capture systems in waste-to-energy plants and improvement of methanation and other CCU technologies, thereby fostering the realization of CO_2 resource recycling.

1 A technology for producing methane, the main component of city gas, through the reaction of carbon dioxide and hydrogen
2 Synthetic methane produced from non-fossil energy sources, such as green hydrogen

Compact CO_2 capture system (CO_2MPACT) installed at the Tsurumi Plant in Yokohama City