MITSUBISHI CHEMICAL GROUP

GROUP PROFILE 2023

Group Concept

**In February 2023, we reformulated the group philosophy shared by all employees around the world, to help the Mitsubishi Chemical Group grow stronger as "One Team."
We intend to contribute to all stakeholders, including customers and shareholders, by achieving growth and improving corporate value based on our group philosophy.**

Purpose

Our Purpose is an expression of what it is striving for and why it exists. It expresses the Group's persistent determination to realize KAITEKI, the Group's North Star, which has guided the organization and its commitment to its stakeholders.

We lead with innovative solutions to achieve KAITEKI, the well-being of people and the planet.

Slogan

The Slogan reflects the three management strategies the Group chose to realize its KAITEKI purpose—Management of Technology (MOT), Management of Economics (MOE), and Management of Sustainability (MOS).
The Group will lead the realization of KAITEKI through better Science, by providing Value to all stakeholders and contributing to healthy living and the sustainable Life of people and the Planet.

**Science.
Value.
Life.**

Our Way

Our Way is what employees use to guide them through their daily work to realize the Group's Purpose. These criteria define what drives the multitude of decisions employees make every day when it comes to business operations and how they interact with their peers as they work toward common goals.

Integrity	**- Prioritizing safety - Doing the right thing - Doing work we're proud of**
Respect	**- Showing appreciation - Valuing diversity - Caring for people and the planet**
Bravery	**- Thinking flexibly - Being agile - Embracing challenges**
Collaboration	**- Amplifying strengths - Building trust - Celebrating teamwork**
Persistence	**- Taking ownership - Delivering new value to stakeholders - Being responsible for the future**

CEO Message

In 2020, the Mitsubishi Chemical Group presented "KAITEKI Vision 30," an aspirational corporate vision for the year 2030, back-cast from the concept of an ideal society in the year 2050.

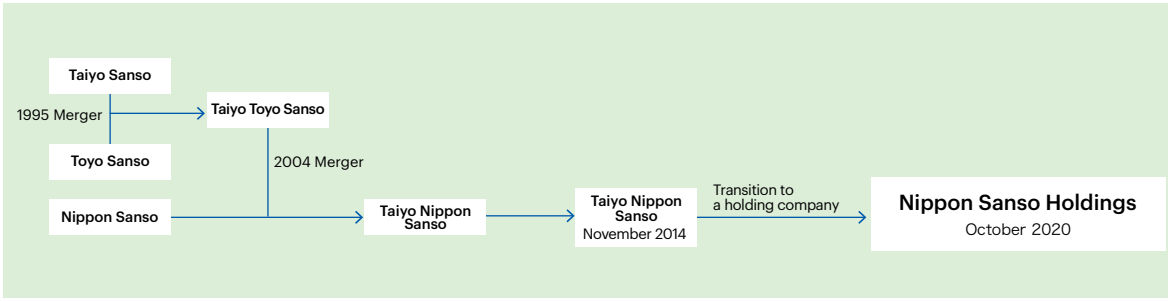
In just a few years since then, the world has reached a further turning point due to the transformation of economic and social systems brought about by rising geopolitical risks, rapid climate change, and AI (Artificial Intelligence) technology. Under these circumstances, the chemical industry, in which we are engaged, is faced with an even greater challenge to respond to social demands such as carbon neutrality and the circular economy.

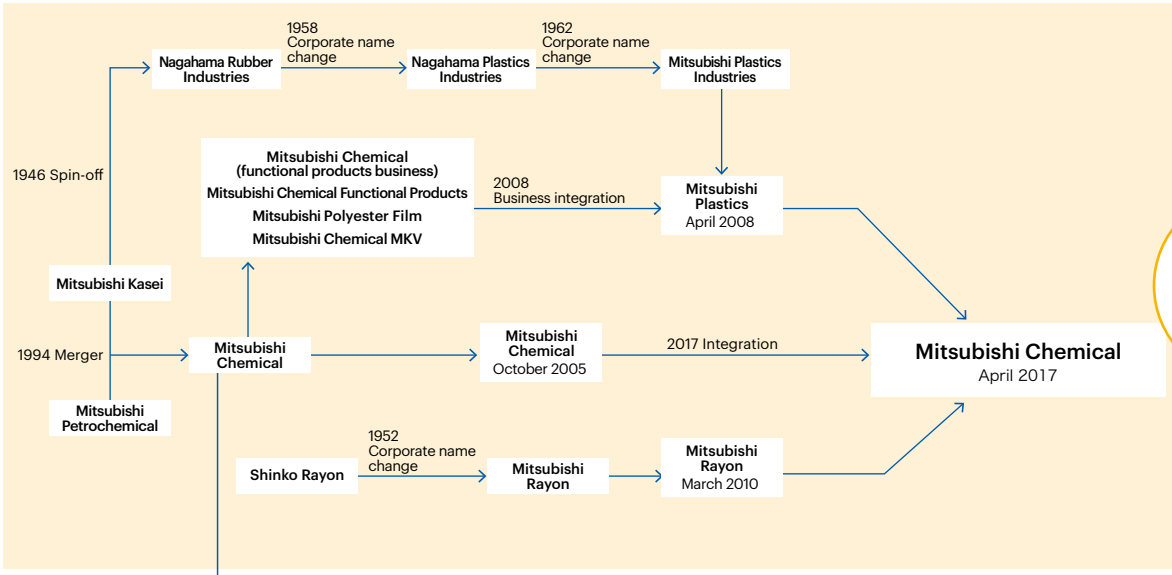
The purpose of the Mitsubishi Chemical Group is to lead with innovative solutions to achieve KAITEKI, the well-being of people and the planet. We are working to formulate a new vision for 2035, while exploring anew how we can contribute to solving various social issues and how we can enhance our corporate value.

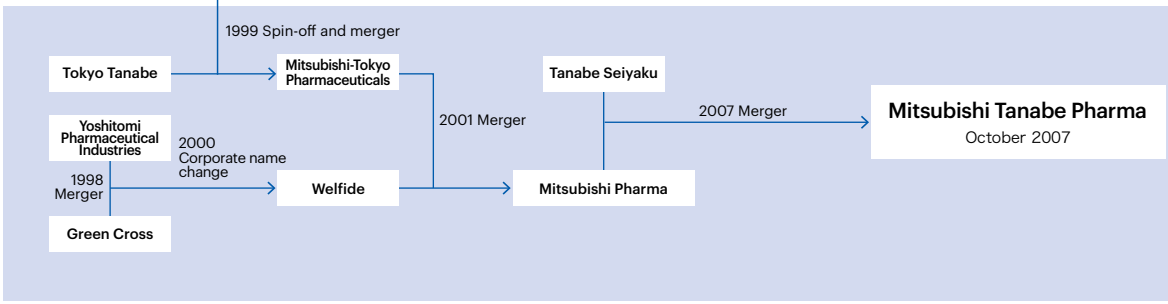
We look forward to working with our customers, shareholders, employees, local communities, and all other stakeholders as we sincerely continue our path toward a brighter future.

Manabu Chikumoto
President and CEO

History of the MCG Group







Industrial Gases

Petrochemicals & Carbon Products

MMA

Specialty Materials

Health Care

The MCG Group*

Our entire group operates as one unit based on the philosophy of "One Company, One Team." Breaking down the barriers between operating companies and affiliates, and organizing ourselves according to corporate function or business unit, has transformed us into an organization that can quickly respond to various changes and requirements.

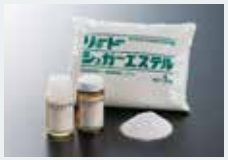
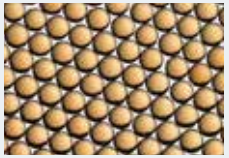
*In July 2022, our trade name changed from Mitsubishi Chemical Holdings to Mitsubishi Chemical Group.

Overview of Focus Markets

Our focus markets are aligned to key trends that shape the world as we know it.

The Mitsubishi Chemical Group has selected seven focus markets from the markets we expect to grow in the future. These are markets where we possess strengths in technologies and products and that will allow us to contribute to sustainability. We plan to shift from a product-oriented organization to a market-oriented organization, then develop and expand our business into these focus markets.

Focus markets

EV/Mobility	Digital	Food	Medical	Building/ Infrastructure	Consumer Goods	Industrial
P. 5	P. 6	P. 7	P. 8	P. 9	P. 10	P. 11
 Battery Materials	 Semiconductor Materials and Services	 Emulsifiers	 Ethical Drugs	 Metal/Resin Composite Sheets for Interior and Exterior Use	 Biodegradable Plastics	 Engineering Plastics
 Carbon Fiber Reinforced Plastics	 Display Components	 High Gas Barrier Materials	 Thermoplastic Elastomers Designed for Medical Applications	 Mobile Package-type Hydrogen Refueling Stations	 Liquid Detergent Packaging Films	 Separation Materials (Ion Exchange Resins)

Focus Market

EV/Mobility

Featured Products

Battery Materials

We maintain advanced technical capabilities ranging from materials development to safety assessment, alongside a global supply network. This allows us to develop electrolytes and anode materials for use primarily in electric vehicle batteries, as well as thermal management materials for battery packs.

Carbon Fiber Reinforced Plastics

Lightweight, high-strength carbon fiber composite materials help to reduce weight in aircraft and automobiles. We have developed unique materials like quick-curing prepreg and SMC that combine lightness and strength with high productivity.

Focus Market

Digital

Featured Products

Semiconductor Materials and Services

We handle a wide range of key materials used in various processes of semiconductor manufacturing. Our aim is to develop solutions that advance the semiconductor industry though close collaboration with customers, along with precision cleaning services that are being developed worldwide.

Display Components

We offer a wide array of functional materials for displays, including substrate films for polarizers, light guides, optical adhesive sheets, reflective films, and resist material for color filters.

Focus Market

Food

Featured Products

Emulsifiers

Emulsifiers used in food products, known as sugar esters, can have a variety of characteristics depending on their raw materials and degree of esterification. Their use extends beyond the foodstuff industry to include cosmetics, pharmaceutical, and industrial applications.

High Gas Barrier Materials

Soarnol™ is an ethylene vinyl alcohol copolymer that provides high oxygen barrier properties. By using Soarnol™ in food packaging, the freshness of the food is kept longer and the shelf life can be extended. Soarnol™ is associated with a significant reduction in food loss.

Focus Market

Medical

Featured Products

Ethical Drugs

We will help to improve the quality of life of patients and their families around the world through the provision of pharmaceuticals for our core areas of the central nervous system, immuno-inflammation and diabetes/kidneys as well as getting involved in the field of oncology.

Thermoplastic Elastomers Designed for Medical Applications

Zelas™, a highly hygienic pharmaceutical thermoplastic elastomer designed for use in medical devices and pharmaceuticals packaging, is used for products such as infusion bags, tubes and syringe gaskets.

Focus Market

Building/Infrastructure

Featured Products

Metal/Resin Composite Sheets for Interior and Exterior Use

Alpolic™ is a metal/resin composite sheet material with a triple-layer structure consisting of a resin core and metallic surfaces of aluminum or other metals. Its outstanding workability, design characteristics, and light weight have led to its use in a wide array of applications centering on architectural design.

Mobile Package-type Hydrogen Refueling Stations

We develop and market hydrogen refueling stations to promote the widespread use of hydrogen fuel, a promising substitute for fossil fuels.

Focus Market

Consumer Goods

Featured Products

Biodegradable Plastics

BioPBS™, which is derived from plant-based materials, can be completely broken down by composting equipment or microbes in the soil. It is used for things like agricultural films, garbage bags, paper cups, and food packaging.

Liquid Detergent Packaging Films

HI-SELON™, made from polyvinyl alcohol, is a water-soluble film used for liquid detergent packaging due to various features, including heat sealing, solvent resistance, gas barrier, and printability.

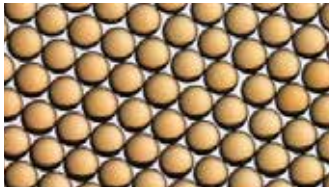
Focus Market

Industrial

Featured Products

Engineering Plastics

As a global leader in engineering plastics, we are expanding our business in a wide range of fields including industrial machinery, automobiles, aircraft, and healthcare.



Separation Materials (Ion Exchange Resins)

Our ion exchange resins are designed not only for water treatment but also for a wide range of application such as medicine/food refinement, wastewater treatment, and ultra-pure water production for semiconductor production. We provide a wide variety of ion exchange resins already known around the world for their excellent physical and chemical properties and superb reproducibility for separation and purification in industrial applications.

Innovation

Accelerating the Creation of Business Value

At the MCG Group, a strong R&D capability is our cornerstone, but we define innovation much more broadly than this. We promote innovation by strategically combining in-house R&D with open innovation, including collaboration with academia, startup companies, corporate partners, and government agencies. We emphasize four key points to further enhance the quality and speed of our innovation.

End-Market Focus

- Integrated innovation strategies driving an optimal balance of internal R&D and open innovation for each focus market
- Agile product development in collaboration with end customers to deliver value at speed
- Flexibility to meet the changing demands of key markets: today, tomorrow, and the day after tomorrow

New Digital Capabilities

- Next-generation computational technologies enabling large-scale and high-throughput simulations
- Materials informatics to accelerate the introduction of new materials and products
- Quantum computing and AI for the information-driven chemical industry of the future

More Efficient Processes

- Seamless transition between long-term research platforms and late-stage product development
- Experimental data platform to create a virtual research organization that transcends physical location

New Business Fields

- Systematic creation of the next generation of high-profit, high-growth business clusters
- "Innovation Sandbox" to rapidly test validity of new ideas beyond the scope of our current business

Corporate Venture Activities

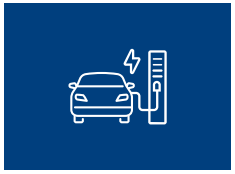
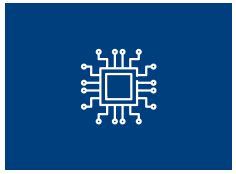
The MCG Group creates opportunities for group-wide business growth through strategic investments and partnerships with promising startup companies worldwide.

Startup Company	Specialty and Scope of Collaboration
AddiFab ApS	**Specialty:** Agile manufacturing solution combining additive manufacturing and injection molding for specialty products **Collaboration:** Joint development of additive materials **Exit:** Acquired by Nexa3D
DAIZ	**Specialty:** Plant-based proteins and products as a substitute for traditional food products **Collaboration:** Development of alternative protein ingredients
DIGILENS	**Specialty:** Holographic waveguide display technology for next-generation Augmented Reality/Virtual Reality devices **Collaboration:** Development of plastic waveguides for AR/VR devices
ERIDAN	**Specialty:** 5G radio frequency communication technology leveraging gallium-nitride semiconductors for energy and spectrum efficiency **Collaboration:** GaN strategic supply and market expansion
Fluence Analytics	**Specialty:** Continuous monitoring and optimization of industrial and laboratory systems **Collaboration:** R&D efficiency and continuous process improvement **Exit:** Acquired by Yokogawa Electric
Lactips	**Specialty:** Water-soluble and biodegradable bio-derived polymer raw material substitute for film and plastic applications **Collaboration:** Development of green materials for customer needs
Lingrove	**Specialty:** Plant-based sustainable composites and materials to replace wood in automotive and industrial applications **Collaboration:** Development of bio-based composite solutions
Myoridge	**Specialty:** Custom-made, serum-free cell culture media for pharmaceutical, regenerative medicine, and food applications **Collaboration:** Material development for cell culture-related markets
PRIME ROOTS	**Specialty:** Koji-based food products as a substitute for traditional meat products **Collaboration:** Development of alternative protein ingredients and geographic expansion

Innovation

Leveraging Our Technology Advantage in Key Focus Markets

We have developed our technology portfolio over many decades, and the resulting intellectual capital is a principal driving force of our company. In addition to technology platforms embodying our long-term strength, we are creating unique technologies targeting each of the focus markets of “Forging the Future.”

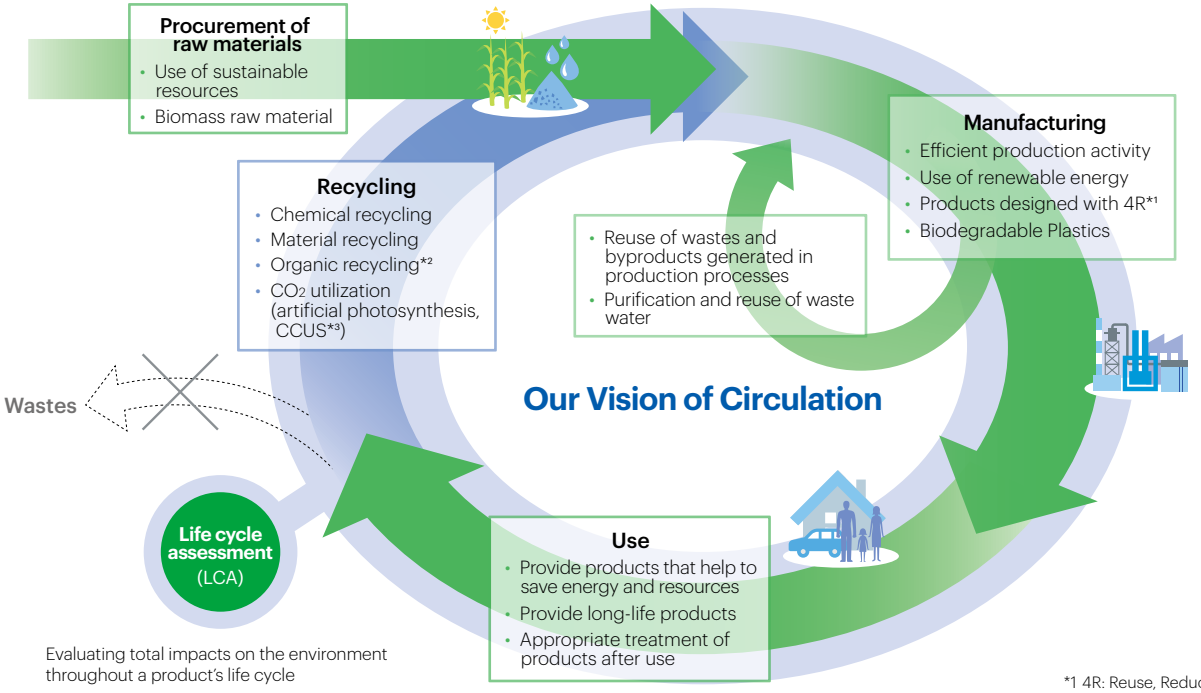






	EV/Mobility	Digital	Food	Medical	Building / Infrastructure	Consumer Goods	Industrial
Key Trends	• Electrification • Lightweight materials • Modern design	• Speed and complexity • Miniaturization • Smart homes and applications	• Nutrition and health • Reducing food waste • Processability	• Longevity • Quality of life • Tailored implants	• Energy efficiency • Modular construction • Insulation	• Personalization • Sustainability • Renewable resources	• Smart materials • Energy efficiency • Robotics and automation
MCG Group Products and Technologies	• Battery materials • Composite materials • Specialty polymers and compounds	• Semiconductor materials, equipment, and components • Fab cleaning services • Display films and materials	• Emulsifiers • Vitamins and nutrition • Gas barrier films • Probiotics	• AI-powered drug discovery • Biomodality-related technologies • Biocompatible materials	• Construction materials • Additives for adhesives and coatings • Façade design materials	• Carbon fiber composites • Water soluble polymers • High-performance water filtration	• Industrial processing films and membranes • Oxygen combustion technology • Additive manufacturing technology

Promoting a Circular Economy and Achieving Sustainable Operations

The Sustainability Committee promotes a circular economy on a Group-wide basis through a fusion of social and economic value. Our goal is to achieve net-zero greenhouse gas emissions by 2050. To this end, we have set specific targets for greenhouse gas emissions reductions, profits from sales of sustainability-related products, and management of water and waste.



Item	Target Value
Emissions Reduction	**30%** Reduction in Scope 1 and 2 emissions by FY2030 *4 Achieve net zero by 2050.
Sustainability-Related Products*5	**20%** of revenue by FY2025
Waste and Water Management	**-50%** rate of reduction of landfill waste by FY2025 *6

*1 4R: Reuse, Reduce, Recycle, Renewable

*2 Technology to produce valuable products through composting and methane fermentation

*3 Carbon capture, utilization, and storage, a technology for capturing CO_2 and using or storing it to prevent its release into the atmosphere

*4 VS. FY2019 estimated based on MCG's 29% reduction target incl. Petrochemicals & Carbon Products

*5 Products that improve sustainability themes, particularly those of climate change, circular economy, food supply and water conservation

*6 VS. FY2019

Examples of Initiatives

Initiatives for Recycling Acrylic Resins

The Group is a leading global company with a global MMA market share of around 30%. We are carrying out a demonstration experiment aimed at establishing Japan's first scheme for collecting used acrylic resins from sources in the market like scrapped cars, then using chemical recycling to allow their reuse as raw materials.

Initiative for Joint Transport of Ethical Drugs for Domestic Distribution

In January 2023, four companies, including Mitsubishi Tanabe Pharma, launched the pharmaceutical industry's first joint transport initiative to comply with the Good Distribution Practice (GDP) guidelines for proper domestic distribution of pharmaceuticals. It aims to alleviate the shortage of drivers and reduce CO_2 emissions by increasing carry efficiency and reducing the number of delivery vehicles on the road. More efficient transport will lead to more stable supply of ethical drugs and improved quality assurance.

Developing Technology for Combustion of Ammonia Fuel in Industrial Furnaces

One challenge, as we work towards reaching carbon neutrality, is to employ green fuels that do not emit CO_2. Taiyo Nippon Sanso is working to utilize ammonia for its expected benefits as a green fuel. As such, we are developing technology for ammonia–oxygen/oxygen-enriched combustion in industrial furnaces.

Corporate Profile

Mitsubishi Chemical Group Corporation

Head Office ..... 1-1 Marunouchi 1-chome, Chiyoda-ku, Tokyo 100-8251, Japan

Date of Establishment ..... October 3, 2005

Paid-in Capital ..... 50 billion yen

Listing ..... The Prime Market of Tokyo Stock Exchange

Main Scope of Business ..... Management of Group companies (Development of the Group strategies and allocation of financial resource)

Consolidated Sales Revenue (IFRS) ..... 4,634.5 billion yen

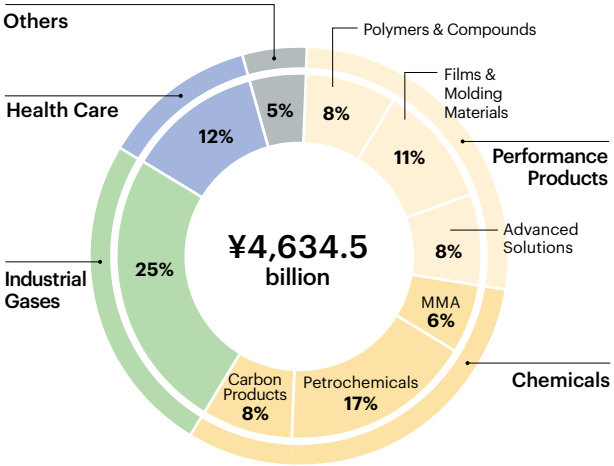
Consolidated Core Operating Income (IFRS) ..... 325.6 billion yen

Number of Employees (consolidated) ..... 68,639 people

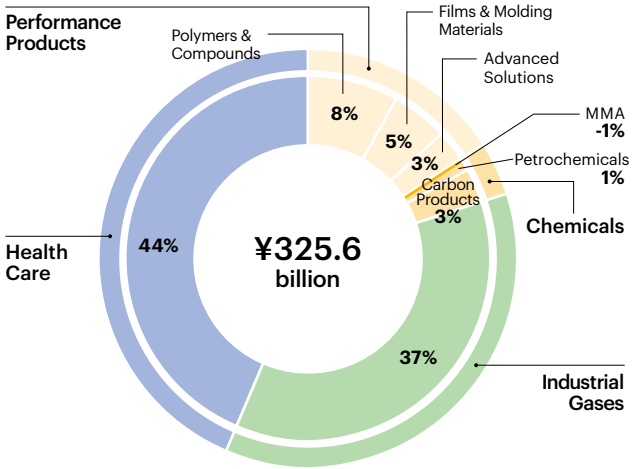
Mitsubishi Chemical Group Corporation Website

Financial Highlights

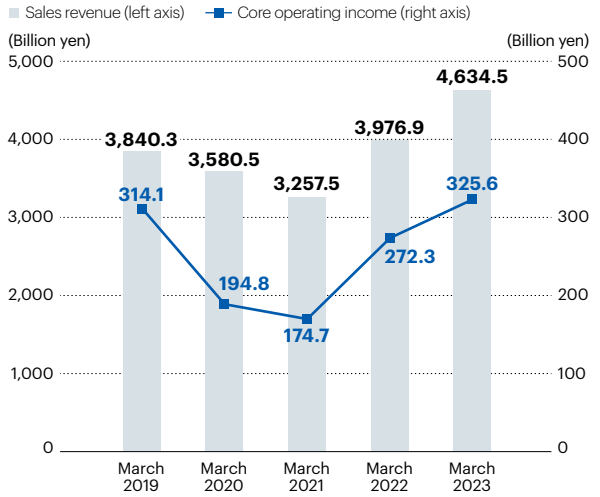
Sales Revenue



Core Operating Income



Consolidated Financial Results

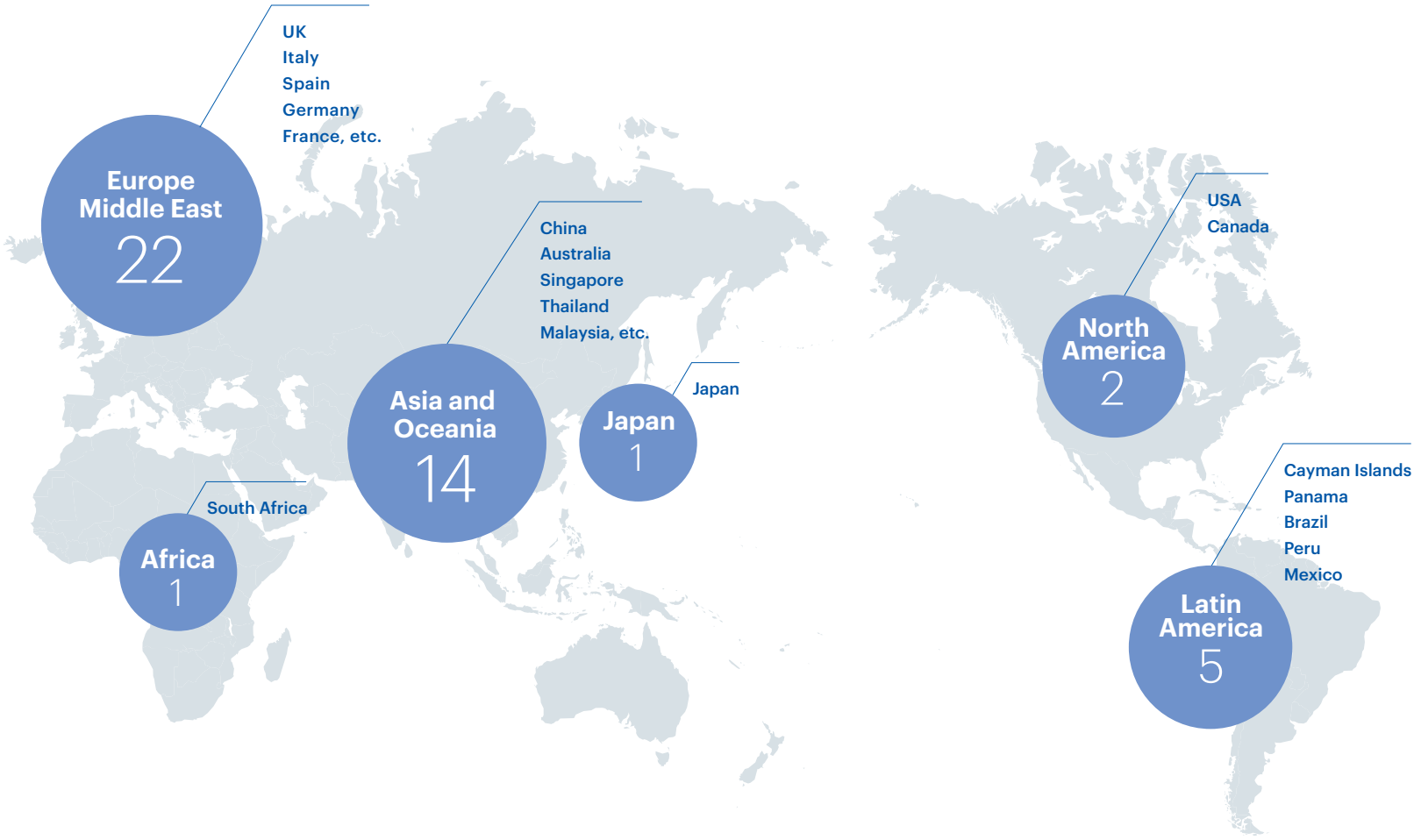


All figures are for the year ended March 2023 (FY2022)

Global Network

Group Sites
(number of countries & regions)

45



Subsidiaries

593

Proportion of Sales Revenue by Area

All figures are for the year ended March 2023 (FY2022)

MITSUBISHI CHEMICAL GROUP CORPORATION

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