

# Corporate Profile

[www.mmc.co.jp](http://www.mmc.co.jp)

## Our Commitment

# For people, society and the earth, circulating resources for a sustainable future

In order to make careful use of limited resources,

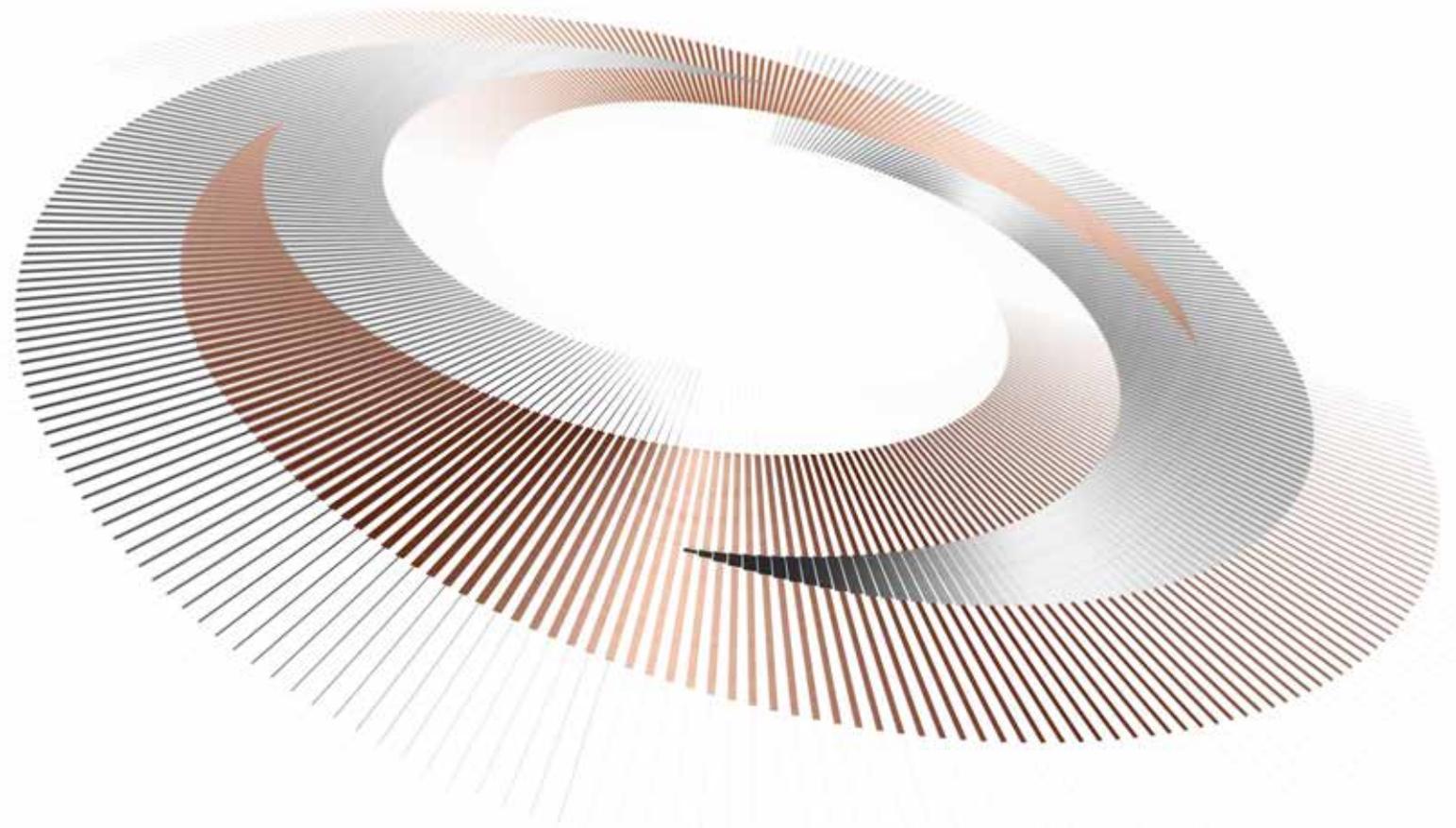
we will give new life to used products as new resources.

We will return these resources to society with new value added.

We will build a platform for this resource circulation and create value as an active player.

As we look to the future, we will make a strong contribution to the creation of a sustainable society,

and help to widen the scope of resource circulation.



## Philosophy

# For people, society and the earth.

We have the desire to deliver.

The materials and products we make and deliver,

the solutions we offer,

all of our efforts,

and our very existence itself is "For People, Society and the Earth."



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## Vision

# Circulating resources for a sustainable future

Our vision of "circulating resources for a sustainable future" means that we will design and build a circulatory system of metal resources that plays the role of the veins, as well as design a larger circulatory system that plays the role of the arteries, through which we use metals extracted via resource recycling to produce high-performance materials and products and supply them to the market, moving them from veins to arteries, then back to veins again via the market.

Resource Procurement

Decomposition and separation

Smelting

Material processing and product manufacturing

## Expanding the venous business

Expanding the unique metal resource recycling process of extracting useful metals from used or discarded products without waste

## Strengthening the arterial business

- Expanding the provision of high added-value products to growing markets, like those of semiconductors and xEVs
- Fortifying the Metalworking Solutions Business using technology and experience

Sales and use

Recovery

Supply of renewable electricity

# Build a recycling system for metal resources based on our strengths and realize growth throughout the value chain by expanding the scope, regions and scale of our operations



Resource Procurement

Decomposition and separation

Smelting

Material processing and product manufacturing

## The venous business

Metals Company ▶▶▶ P6

**Resources Business, Smelting & Resource Recycling Business**

- E-Scrap information network with recyclers in more than 60 countries around the world
- Base for highly efficient collection of used products (collection sites)
- Advanced dismantling and separation technologies cultivated through home appliance recycling
- Highly efficient recycling technology using smelting systems

## The arterial business

Advanced Products Company ▶▶▶ P9

**Copper & Copper Alloy Business, Electronic Materials & Components**

- High-performance materials and processed products (copper alloy, oxygen-free copper, processed silicon products, etc.)
- Global expansion of EV connectors and superconducting wires for MRI

Metalworking Solutions Company ▶▶▶ P11

**Carbide Tool Business, Tungsten Business and Solutions Business**

- Ability to cope with difficult-to-cut materials and new materials
- Materials and coating technologies and technical proposals

Sales and use

Implementing GHG reduction measures to achieve carbon neutrality

Recovery

Supply of renewable electricity

Renewable Energy Business ▶▶▶ P11

**Geothermal, Hydroelectric, Solar and Wind Power Generation Business**

- Technology based on abundant achievements and experience in the geothermal power generation business

Supply of renewable electricity

## Mission

# Create a sustainable future

Our mission is to create a sustainable future (a prosperous, recycling-oriented and decarbonized society) based on our strengths

### Sustainable future

Recycling-oriented society

Prosperous society

Decarbonized society

### Our strengths

#### A value chain that supplies high added-value copper products

- Investment in overseas copper mines through long-term friendly relationships with major resource companies
- Processes enabling efficient, environmentally friendly smelting and refining of clean copper concentrate
- Strong customer base and Japan's top capabilities for processed copper production

#### Global collection network for E-Scrap and carbide tools

- Global E-Scrap collection network through overseas bases such as MM Metal Recycling BV in the Netherlands
- Domestic network for the collection of used carbide tools

#### Advanced recycling technology

- Efficient processing of E-Scrap through the Mitsubishi Process for continuous copper smelting
- Material Grid framework enabling collection of a wide range of nonferrous metals including platinum group metals, lead and tin
- Automatic dismantling and sorting processes for items such as home appliances, enabling recycling of a wide range of resources
- The technology and know-how to recycle tungsten recovered from carbide tool scrap, etc. as a raw material

#### Development and production capabilities for high-performance materials and products

- Development and production of oxygen-free copper, copper alloy, lead-free brass, etc.
- Supply of materials and components for semiconductor manufacturing equipment (columnar crystal silicon, sealing products)
- Supply of high-efficiency carbide tool products that utilize our materials and coating technologies

#### Renewable energy business foundation

- Advanced exploration and analysis technology for geothermal resources
- Decades of business experience in areas such as geothermal and hydroelectric power generation

#### Human resources and organizational climate and culture

- Talent with wide-ranging expertise in a variety of roles
- A team that can unite to resolve issues
- Mutual trust between colleagues and between management and employees

#### Company-owned forest preserved for various purposes

- Appropriate development and management of company-owned forest to preserve biodiversity and carry out sustainable forestry operations (SGEC certified)
- Company-owned forests are utilized for education and community exchange activities
- Wood from company-owned forests is utilized as a building material

## Securing stable supplies of copper, a key industrial material, and its raw materials



### Securing stable supplies of copper concentrate

Copper is an indispensable material for today's society. With applications including infrastructure building in developing countries, xEV adoption, and the expansion of IoT technologies, demand for this material is expected to grow further. Through continuous investment in copper mines, Mitsubishi Materials Corporation is working to ensure stable supplies of copper concentrate, the raw material used to obtain copper. We hold stakes in four active mines: the Copper Mountain mine in Canada, and the Mantoverde, Los Pelambres and Escondida mines in Chile. We also work to recover valuable non-copper metals found in copper mine deposits.

### Cobalt recovery at copper mines

We are developing technology to separate and recover the cobalt contained in ore at the Mantoverde copper mine in Chile.

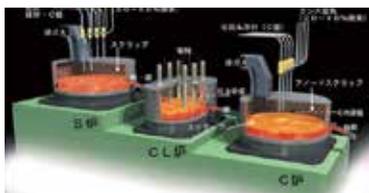


## Ensuring supplies of high-quality nonferrous metals

In addition to ensuring a stable supply of raw materials from our mines, we leverage the advanced technical capabilities of our unique Mitsubishi Continuous Copper Smelting and Converting Process (the Mitsubishi Process) to smelt raw materials into high-quality ingots of materials such as copper cathode, gold and silver, and to produce byproducts, including sulfuric acid.

### The Mitsubishi Process

The Mitsubishi Process is a production method whereby three furnaces with different functions are connected by pipes to continuously produce blister copper. The required facilities are compact and also help to save energy and eliminate pollution.



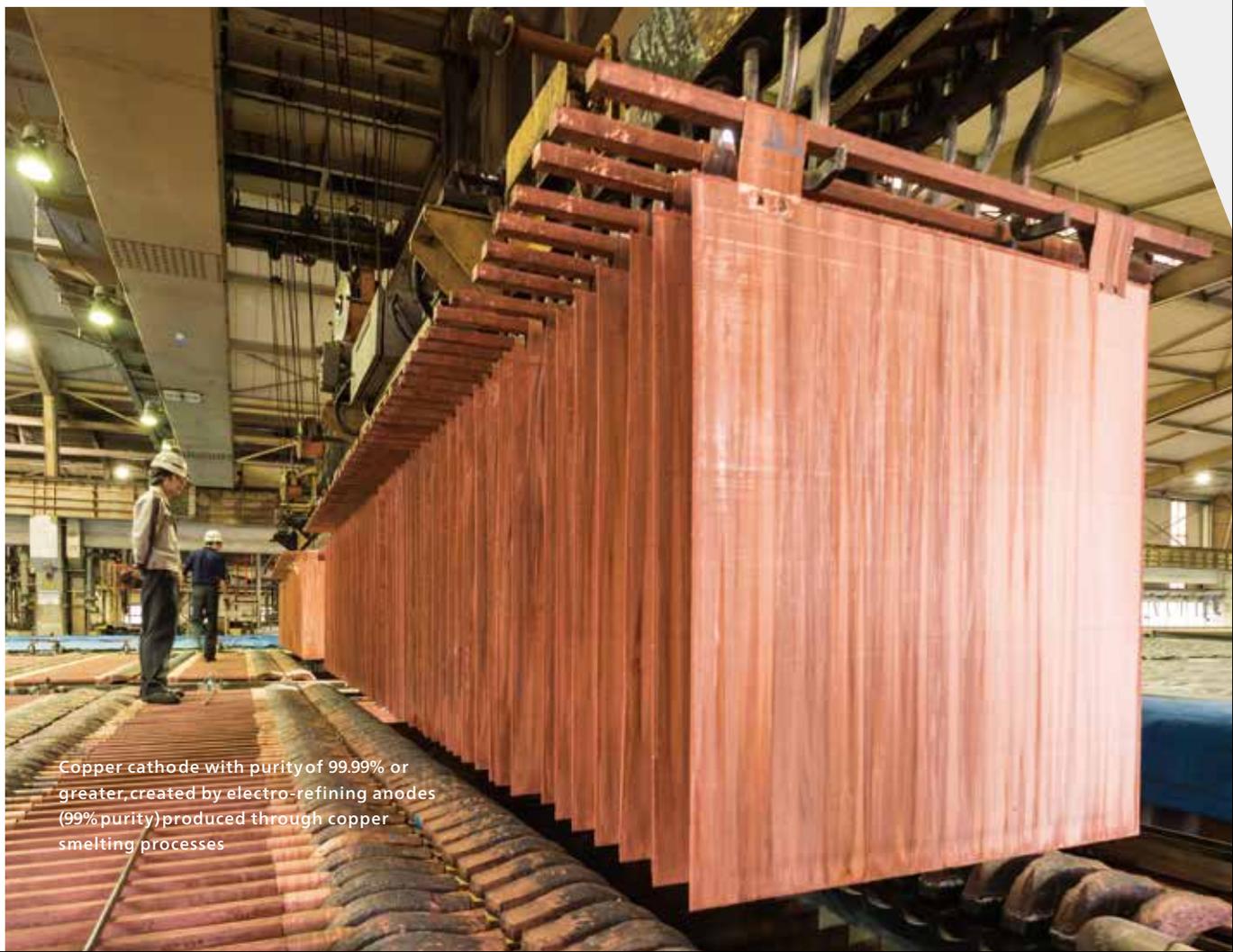
### E-Scrap

Supplies of waste circuit boards from electronic equipment and other devices (E-Scrap) are also referred to as "urban mines" because they contain materials such as copper, gold and silver. Through our world-leading recycling processing capacity, we are contributing to resource recycling using this material.



## Smelting & Refining Business

# A core resource recycling loop supplier, leveraging world-class copper cathode supply capabilities



Copper cathode with purity of 99.99% or greater, created by electro-refining anodes (99% purity) produced through copper smelting processes

## Highly-advanced dismantling and separation technologies make resource recycling a reality

Based on mineral processing technology cultivated over decades, the Mitsubishi Materials Group is working together with home appliance manufacturers to carry out nationwide expansion of our home appliance recycling business across Japan. We currently possess seven plants operated by six companies (in Hokkaido, Miyagi, Ibaraki, Aichi, Mie, and Osaka prefectures) and are contributing to the creation of a recycling-oriented society by emphasizing our networks connecting to nonferrous metal smelters.

### LIB recycling

With the widespread adoption of xEVs, disposal of lithium-ion batteries (LIBs) is expected to rise sharply. Utilizing the network built through our E-Scrap business, Mitsubishi Materials Corporation is carrying out studies with the aim of commercializing recycling of lithium, cobalt, and nickel.



## Resource Recycling Business

# Contributing to a recycling-oriented society by expanding recycling of products containing nonferrous metals



## Copper & Copper Alloy Business

# Japan's no. 1 manufacturer of wrought copper products, now a Global First Supplier

### Processed copper products with diverse shapes and characteristics

Copper's desirable properties include excellent electrical and thermal conductivity. With the growing xEV market and the continuing shift to IoT technologies, our customers need higher-performance copper products. As Japan's number one manufacturer of wrought copper products by market share, Mitsubishi Materials Corporation's lineup includes copper alloys with wide-ranging characteristics and products in various shapes, from cakes, billets and wire rods to wrought copper products such as strips, plates and bars. We are also expanding sales of copper alloys in collaboration with the overseas locations of our Finnish subsidiary Luvata. By developing and supplying outstanding new products based on our unique technology, we will continue to be a Global First Supplier that is the first port of call for customers around the world.

### MSP series high-performance copper alloys

We support the electrification of automobiles and other products through our lineup including MSP5, which offers high strength, bendability and



a low specific gravity that make it ideally suited for use in small electronic terminals, and MSP8, which boasts high electrical conductivity and stress relaxation resistance.

Our copper wire rods are used for applications such as electronic wire, magnet wire, and trolley wire. Our plants are capable of manufacturing tough-pitch copper and various other copper alloys.

## Giving customers the functionality and value they need with efficiency and speed

With evolutions in areas such as smartphones, AI-powered home appliances and automation, further growth is expected in markets related to semiconductors and xEVs (next-generation electric vehicles). Our electronic materials & components business has established the world's number one market share for various products, including processed silicon products and seals for semiconductor manufacturing equipment and thermistor sensors and solar heat-ray shielding paint for automobiles. In April 2023, we also launched the Semiconductor New Technologies & Materials Business R&D Center to further enhance our research and development systems for semiconductor related materials and components. In addition to further enhancing our marketing capabilities, we are coordinating our sales, development, manufacturing, and management activities to promote innovation and the creation of new products and businesses to provide the functionality and values customers need with efficiency and speed.

### Thermistor Sensors

Mitsubishi Materials Corporation's temperature sensors are characterized by "integrated manufacturing from the thermistor element", and we develop, manufacture, and sell a variety of thermistors, including automotive temperature sensors used for thermal management in xEVs.



## Electronic Materials & Components Business

# Indispensable to the semiconductor and xEV markets



## Metalworking Solutions Business

# Bringing tungsten products to manufacturing sites as future-shaping “mother tools”

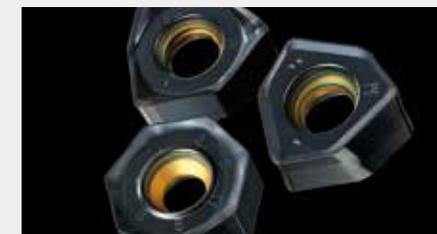
### Cemented carbide products that boost productivity for customers

Cemented carbide tools can be considered “mother tools” among cutting tools used in manufacturing. Mitsubishi Materials Corporation’s vast lineup supports manufacturing in a wide range of fields including the automobile, aircraft, medicine, and mold and die industries. With technical centers in various regions around the world, we bring customers cemented carbide products essential to parts processing, including cutting, wear-resistant, and construction tools.

We are also contributing to the building of a recycling-oriented society through our global efforts to collect used cemented carbide tools and expand recycling of tungsten, a raw material of cemented carbide.

#### Cemented carbide tools

Cemented carbide tools are essential for parts and material processing in the production of automobiles, aircraft and medical devices. Mitsubishi Materials Corporation manufactures the world's best cemented carbide tools, building on our unique material and coating technologies.



## Renewable Energy

# Geothermal and hydroelectric power combined with wind and biogas to achieve the equivalent of 100% self-sufficiency through renewable electricity



Photograph courtesy of Appi Geothermal Energy Corporation

## Building on a rich heritage of mining technologies to drive geothermal development forward

As “Earth experts” with a wealth of technologies built up over 150 years in the mining business, we are leveraging our expertise to drive forward geothermal development and electric power generation businesses. Starting with the opening of Onuma Geothermal Power Station in 1975, our geothermal power generation business currently operates three locations, with the new Appi Geothermal Power Plant also scheduled to open in 2024.

We also have an abundance of practical know-how in hydroelectric power generation, with over 120 years of experience.

Our solar power generation business launched in 2013, and currently operates five power generation facilities.

We are also advancing generation of power using biogas obtained from food waste, and began operations in this area in 2020.

As we continue to expand our renewable energy business, we have set a target of producing electricity equivalent to our own power consumption from renewable sources by fiscal 2051.

### Komatagawa New Power Plant

The Komatagawa New Power Plant is Akita Prefecture’s first new hydroelectric power plant in 69 years and entered operation in December 2022. As a result, power



generation at the Komatagawa river system has increased by 2,860 kW, an annual increase of approximately 13,400 MWh.

## Manufacturing and R&D

# Creating new products, technologies and businesses through differentiation of manufacturing capabilities

### A new world-class R&D center

To fulfill our role as a one-stop shop for everything from R&D to mass production and commercialization, we have integrated departments relating to manufacturing technology, development, marketing and new businesses under the Monozukuri and R&D Strategy Division, helping us to push new frontiers in technical innovation. This division's efforts to boost MMC Group's business competitiveness and promote new business creation include establishing a world-leading R&D center, improving the Group's processes and process technologies, supporting conversion to smart factories, establishing use of AI and automated inspection technology, and developing data infrastructure. Through this work, it is driving forward the differentiation of our manufacturing capabilities. We continue to enhance our corporate value by generating diverse ideas, bringing together talent from around the world, and creating new products, technologies and businesses.

### Innovation Center

Our Central Research Institute changed its name to the Innovation Center in April 2022 as part of our work to advance R&D and further enhance our manufacturing capabilities. The Innovation Center features an open café space with plentiful natural light. As a place where researchers can engage in interdisciplinary discussions, this center provides a unique forum for research and development.



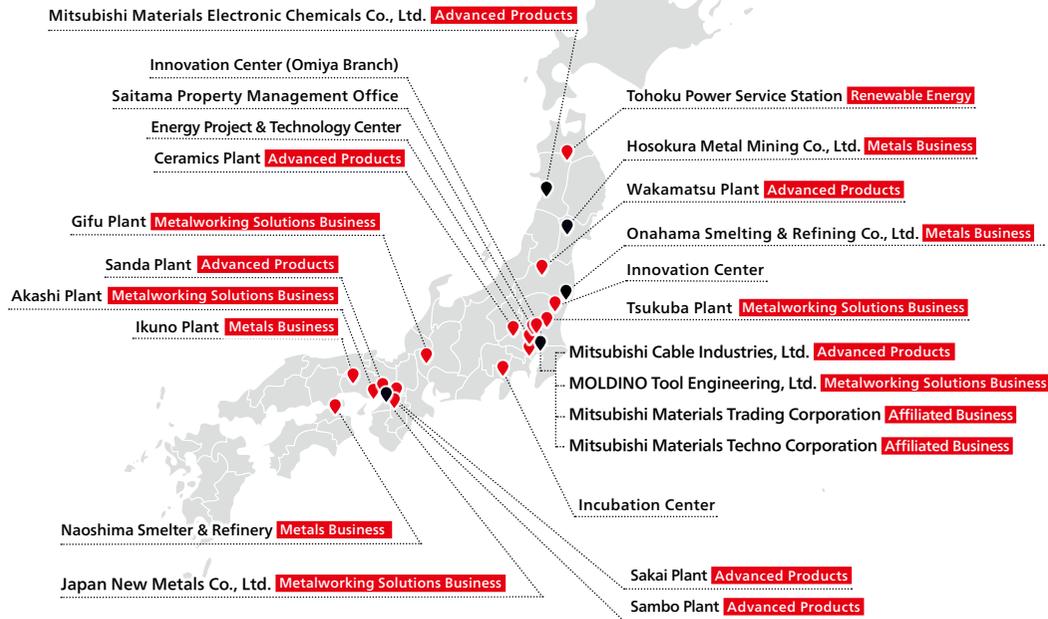
# Network

## Domestic Base



Naoshima Smelter & Refinery    Sambo Plant    Gifu Plant    Tohoku Power Service Station (Komatagawa New Power Plant)

- ◆ Main Mitsubishi Materials business sites
- Main consolidated subsidiaries



## Overseas Base

Number of countries/regions with overseas operations

31



MMC Tools(Thailand) Co., Ltd.    Luvata Pori Oy(Finland)    Mitsubishi Materials Espana S.A.    PT. Smelting

# Corporate Profile

## Corporate Profile

- Business Outline**
- Smelting, processing and sales of copper, gold, silver, etc.
  - Recycle of home appliance products and cars
  - Production and sales of advanced materials, chemical products and electronic components, etc.
  - Production and sales of cemented carbide products
  - Geothermal, hydroelectric, solar power, biogasification power generation

**Date of Establishment** 1950 (Originally Founded 1871)

**Head Office** 3-2-3, Marunouchi, Chiyoda-ku, Tokyo 100-8117 Japan

**Chief Executive Officer** Naoki Ono

**Paid-in Capital** 119.4 Billion yen (As of March 31, 2023)

**Net sales** Consolidated: 1,625.9 Billion yen (Fiscal Year Ended March 31, 2023)

**Number of Employees** Consolidated : 18,576;  
Non-Consolidated : 5,450 (As of March 31, 2023)

**Corporate History** Refer to the Mitsubishi Materials corporate site.  
<https://www.mmc.co.jp/corporate/en/company/history/>



