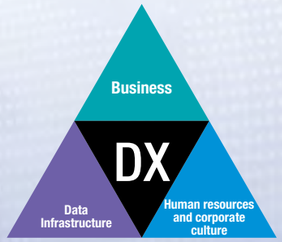
Special Feature

MMDX Strategy

In the Mitsubishi Materials Group, we call our DX "MMDX." We use this DX strategy to emerge victorious in the face of global competition.
In fiscal 2021, we defined 21 implementation themes and formulated a concrete six-year roadmap for the period from fiscal 2021 to fiscal 2026 with the aims of enhancement of customer touch points, process coordination, and increasing management decision making speed through the use of digital technologies and data.
In fiscal 2022, we will finally enter the implementation phase.



▼ Related Materials:
"Digital Transformation (DX) Strategy" Integrated Report ▸P58

■ Master Schedule of the Entire MMDX

	Stage 1						Stage 2		
	FY2021		FY2022		FY2023		FY2024	FY2025	FY2026
	First half	Second half	First half	Second half	First half	Second half			
	Initial stage of MMDX implementation ✓First, create a strategy to catch-up and a foundation to surpass competitors ✓Solidify the management base, including security and safety, data infrastructure, and business administration						**Full-scale operation phase of MMDX** ✓Acceleration of MMDX in the Group ✓Promotion of utilization of data infrastructure		
Business Digital Transformation: Product-based business (Metalworking Solutions and Advanced Products)	•Implementation of measures to realize the medium-term management strategy of each business •Strengthening customer touch points, process coordination and enhancing global cooperation						•Enforce measures to catch up and surpass the competitors ✓Metalworking Solutions: Global Top 3 ✓Advanced Products ; "Global First Supplier"		
Business Digital Transformation: Recycling-Based Business	•Building a foundation for the recycling business						•Promote utilization of recycling data		
Manufacturing Digital transformation	•Implement digital transformation to achieve the goals of safety and security, maintenance, procurement, and R&D •Promote data utilization in the fields and smart factory plans						•Accelerate digital transformation to enhance safety and security, maintenance, and procurement •Accelerate manufacturing excellence and new business development by utilizing data and digital technologies		
ERP	•Formulation of ERP introduction plan						•Preparation for ERP foundation		•Preparation for group-wide introduction and advance introduction
Data infrastructure/ Business Administration	•Build infrastructure for data analysis •Training for data scientists and promote data utilization •Improving business administration						•Build and utilize data infrastructure in the Group •Visualization of management information, automation and sophistication of analysis •Realize speedy management based on data		
Operational Efficiency	•Standardization of operation, and thorough automation						•Standardize and improve efficiency of operations across the Group and shift human resources to high value-added operations		
DX talent development	•Design digital transformation training system and MMDX activity across the entire Group •Practice free and frank communication						•Digital transformation talent development and strengthening of digital transformation literacy •All Group members autonomously accelerate digital transformation		

We will implement DX strategies to create a platform for victory in the face of global competition, select 21 priority MMDX themes and speedily carry out our implementation activities.

We have formulated a Digital Transformation strategy as a key component of our Medium-term Management Strategy (FY2023 Strategy), and we will implement DX strategies that will serve as the foundation that enables us to prevail in global competition. In April 2020, we launched the Digital Transformation Management Office with the aim of achieving real-time management that is responsive to social changes, environmental changes, and our own transformation. We will accomplish this through the selection and speedy implementation of 21 priority themes selected based on the critical DX perspectives of enhancement of customer touch points, process coordination, and increasing management decision making speed, as well as the data infrastructure, human resources and organizational culture that underpin them. These initiatives have been named Mitsubishi Materials Group DX, or "MMDX." We have formulated a concrete six-year roadmap for the period from fiscal 2021 to fiscal 2026 and defined implementation measures, and over this period we will carry out our investment plans and implementation resource plans. Our investment scale, following the latest revisions, will surpass 40 billion yen over the six-year period. In our master schedule, the first three years have been positioned as the initial implementation stage, after which we will enter the full-scale operation phase in fiscal 2024.

Realization of our "Mission"

Digital transformation strategies — Use Digital Transformation to strengthen three key pillars of business, which are "Business added-value," "Business operations competitiveness" and "Management speed," and thereby realize our goal of being a "leading company."

MMDX Implementation Plan

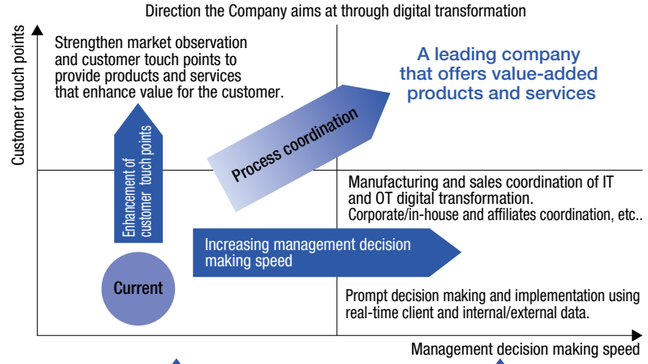
Review the entire business processes with a focus on "getting closer to customers."

Create a foundation for catching up with competitors and winning on a global scale.

Strengthen the management foundation through safety and security, enhanced business management, and increased efficiency.

Theme and Key Perspectives for MMDX

Direction the Company aims at through digital transformation



Data Infrastructure

Human Resources and Organizational Culture

Mission of Digital Transformation Management Office

- **Strengthening today** — The reinforcement of existing businesses with digital technologies, and work reforms
- **Creating tomorrow** — The co-creation of new businesses and services
- **Cultivating talent** — The creation of a framework for continuously promoting DX, and the reinforcement of human resources

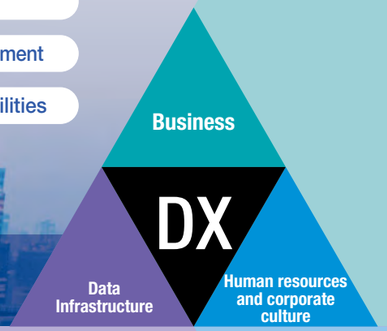
MMDX Strategy

The Digital Transformation Management Office carries out activities primarily focused on the following three key points, led by its three missions of “Using digital technology to reinforce existing business,” “Co-creation of new business and services,” and “Cultivating talent that can implement DX and systems for conducting activities over the next five to ten years.”
The first point is “**Clarifying goals and ideals.**” In carrying out our activities, we need to have a deep understanding of our current condition, the challenges we face, how our environment is changing, our competitors, and more.
The second key point is “**Leader enthusiasm, ownership, and commitment.**” It is essential that not only management personnel but also operation leaders have a deep understanding of DX and a sense of ownership with regard to management reforms. Last is “**Improving personnel and work site capabilities.**” We will work to develop personnel and a corporate culture that further enhances the expertise and diligence of our human resources and the strengths of our work sites, so that they can always carry through whatever they set their mind to.

Mitsuru Kameyama
Chief Digital Officer (CDO)

Three key points of successfully implementing management reforms through DX

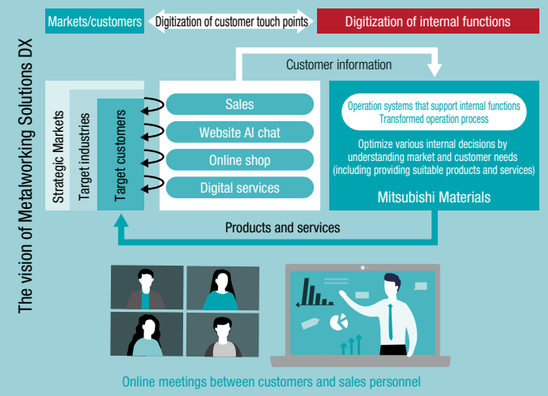
1. Clarifying goals and ideals
2. Leader enthusiasm, ownership, and commitment
3. Improving personnel and work site capabilities



Business [Business DX]

Case 1 Digitization of customer touch points by the Metalworking Solutions Company

Under the Metalworking Solutions Company’s DX strategy (Metalworking Solutions DX), the company is digitizing its customer touch points.
There is a wide variety of digital customer touch points: websites, social networks, online chat, and more. Within these, Metalworking Solutions DX is being used to create a new website that more clearly conveys information about products and services that help solve customer problems. It is also being used to engage in business negotiations using AI chat bots. Furthermore, centrally managing customer information is enabling the sharing of information such as website search histories and consultation histories with sales personnel, managers, engineers, and others within the company. Information which was previously handled piecemeal through the organization is now being linked and organized. This organized information is helping improve customer satisfaction by making it possible to determine customer product preference trends, sales timing, and the like. The company is also creating a system for accumulating technical knowledge and experimental data and providing technical proposals that are not reliant on the skill levels of individual personnel. These Metalworking Solutions DX measures do not consist merely of creating customer touch points through digitization, but also of embedding their usage processes in day-to-day operations to drive the transformation of business operations. Metalworking Solutions DX is currently transitioning from the conceptualization phase to the implementation phase. We will maintain our same stance towards providing value that we defined when formulating the Metalworking Solutions DX approach as we efficiently use limited resources to implement work, mentality, and work style transformation.

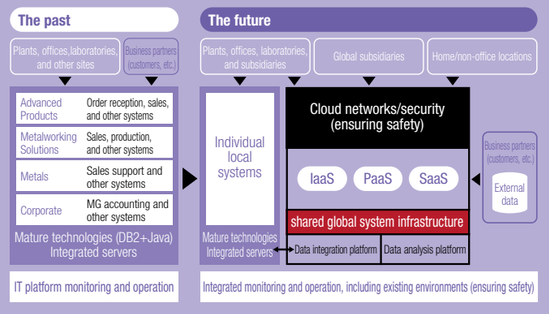


Online meetings between customers and sales personnel

Data Infrastructure [Improving DX promotion infrastructure]

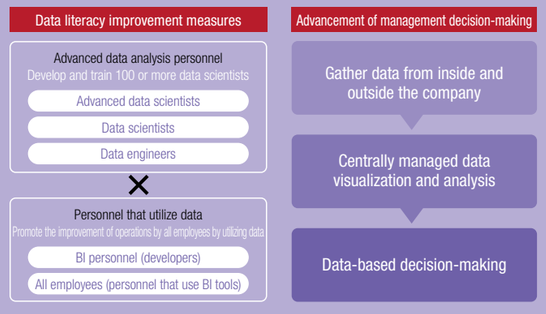
Case 1 Improving system infrastructure

In additional to conventional efficiency improvement efforts, it is also important to quickly prepare system environments that reflect recent changes. This is accomplished by leveraging cloud resources for expandability and flexibility, providing what is needed when it is needed, by developing systems that are not dependent on programming, and by improving productivity by enhancing data integration between the rising number of diverse systems. We strive to make full use of the technical capabilities and expertise accrued by our system divisions and to build shared global system infrastructure that contributes to speedier business execution.



Case 2 Improving data infrastructure

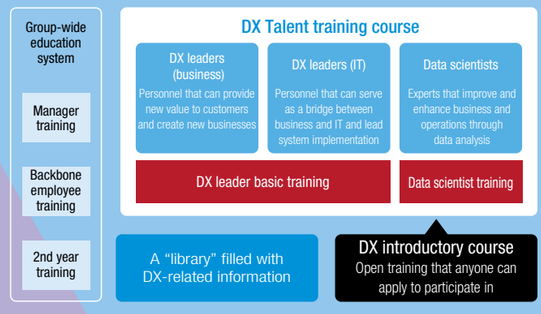
We aim to collect and share data from inside and outside the company and engage in data-driven management that uses data in operations and decision-making. Our goals are to ① create business intelligence (BI) tools that are company-wide standards for use in building data infrastructure in the cloud and leveraging data, ② recruit and develop personnel such as data scientists and data engineers, and ③ achieve data-driven management by firmly establishing our fundamental philosophy of using data to achieve success, creating additional business value, and advancing and accelerating our management decision-making.



Human resources and corporate culture [Developing the personnel and culture that drive DX]

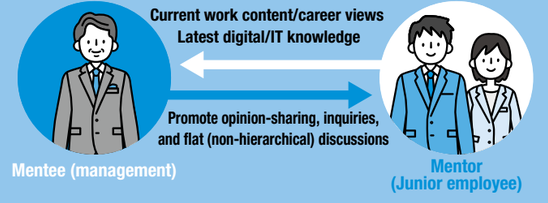
Case 1 Human resource development

Coordination between business and IT are essential for DX. We must develop human resources with advanced IT expertise, such as data scientists, but in addition to that everyone in the company must become DX literate -- they must become human resources capable of utilizing digital technologies. Through our DX College, available for use by anyone on the intranet, we are providing a rich range of high-level, elective educational material such as workshops on tool usage. Our goals in this are to develop the DX personnel that will lead MMDX, improve employee DX literacy, and form a DX community.



Case 2 Culture development

DX does not consist solely of concrete digital technology promotion measures aligned with business and management infrastructure enhancement themes. It also includes the promotion and improvement of the DX mindset and literacy of Group employees. The Digital Transformation Management Office has created a climate of free discussion by diverse personnel, unconstrained by organizational hierarchy. It is continuously working to transform the organization, not only by directing digitization but also by having an overall positive influence on work approaches, through the unprecedented opportunities for communication it is creating.



Measure example: Reverse mentoring system

Normally, in mentoring systems, senior employees (mentors) provide advice and support to junior employees (mentees). However, with reverse mentoring, junior employees are the mentors, providing advice to employees in upper level positions (management positions). The aim is to invigorate communication throughout the organization, regardless of hierarchical position.

[About the Mitsubishi Materials Group]

Corporate Philosophy System

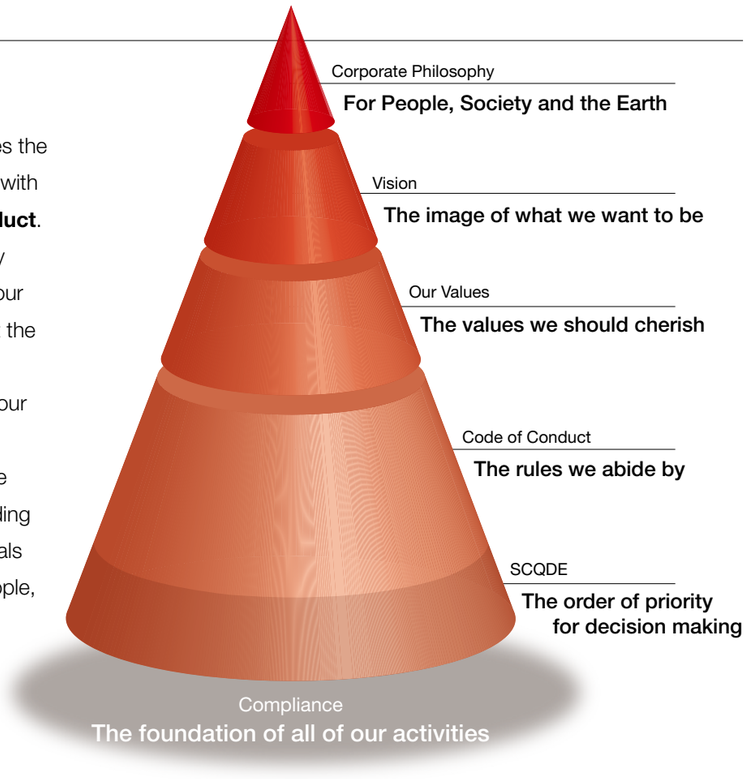
Overview of Corporate Activities under the Corporate Philosophy System

The Mitsubishi Materials Group Philosophy is “For People, Society and the Earth.” We pursue business operations by applying our corporate resources and contributing to the sustainable development of society to realize our Corporate Philosophy.

Mitsubishi Materials Group Philosophy System

Our corporate philosophy system places the philosophy at the top, and underpins it with **our vision**, **values**, and **code of conduct**. **SCQDE** determines the order of priority applied when making decisions about our work processes, and **compliance** is at the very foundation of all our activities.

Each of us conscientiously performs our daily work in each of our roles with this content as our keystone. Through these efforts, we are firmly committed to building a better tomorrow for Mitsubishi Materials Group, and making a difference for People, Society and the Earth.



① **S** Safety & Health

② **C** Compliance & Environment

③ **Q** Quality

Thorough implementation of SCQ is given priority over earnings by reflecting the quality issues

④ **D** Delivery

Fulfilling all of SCQD brings us customers’ trust

⑤ **E** **Earnings (Reasonable profit)**
(Obtained based on “customer” trust after satisfying SCQD)

The “SCQDE” was established in fiscal 2019 as a measure towards enhancing Group governance. SCQDE stands for “Safety & Health (S), Compliance & Environment (C), Quality (Q), Delivery (D) and Earnings (E).” Although each element is important in its own right, SCQDE outlines an order of priority for making decisions when executing business tasks, and is positioned as a supplemental policy to the Code of Conduct.

In providing customers with our products & services, we should thoroughly fulfill SCQ at first and satisfy D.
We believe that we will be able to obtain trust from customers and society by continuously executing SCQD in good faith, and this will produce a reasonable profit.

* “Customers” in this context refers to both customers outside our group and to the businesses (including products and services) of each employee.
Business includes transactions between group companies and support from the corporate department to business departments, etc.
* “SCQDE” is pronounced “S. C. Q. D. E.”

[About the Mitsubishi Materials Group]

Establishment of Sustainable Management Office

We have established a Sustainable Management Office for the purpose of promoting the centralized handling of company-wide management issues regarding sustainability.

Purpose

Since tackling management issues regarding sustainability is essential for the Group to improve its corporate value in the medium- to long-term, we established the Sustainable Management Office on April 1, 2020 to promote centralized handling of such issues. The activities led by the Sustainable Management Office will enable the Group to actively solve issues regarding sustainability and appropriately handle issues from a risk management perspective, which will contribute to both building a sustainable society and improving corporate value in the medium- to long-term.

Mission and Overview of the Organization

The mission of the Sustainable Management Office is to promote centralized handling of various management issues in order to contribute to developing a sustainable society and enhance corporate value in the medium- to long-term via business activities that follow the corporate philosophy of the Group.

The organization is led by the Chief Executive Officer as Chairperson and composed of members across the entire company. It contains panels specialized by theme, where issues are identified, then countermeasures are formulated, measures implemented and follow-up carried out. As the issues we should address shift with social or other factors, the composition of the Panels and the issues to be dealt with will be flexibly rearranged.

Centralized management will also enable us to gather together the opinions of stakeholders and reflect those opinions in our management issues, and we will aim to build a system that enables us to appropriately disclose and explain our activities and promote dialog.

Sustainable management system (as of July 1, 2021)

Board of Directors

Executive Officers’ Meeting

Sustainable Management Office:
General Manager: Chief Executive Officer Deputy General Manager: Corporate directors
Members: All special panel heads, all General Managers related to the Head Office Secretariat: Corporate Strategy Dept./CSR & Compliance Dept.

(special panel)

Communications Panel Information exchange and response policy discussion related to communication with stakeholders P73	Human Rights Panel Promotion of efforts to prevent and mitigate adverse effects on human rights P73	Corporate Functions Optimization Panel Pursuit of efficient and highly productive work styles based on digitization P67
Governance Panel Promotion of strengthening measures for cross-organizational governance P61	Compliance Panel Policy discussion and sharing of information related to compliance measures, etc. P61	Risk and Crisis Management Panel Discussions related to measures to respond to serious risk and crises, and monitoring of issues and effectiveness P64
Climate Change and Energy Panel Clarification and discussion of measures for issues related to global warming and climate change P68	Environmental Management Panel Aiming for zero environmental violations and accidents P70	Quality Management Panel Sharing of information related to quality control and recurrence prevention, and discussion and promotion of measures P56
Information Security Panel Protection of information assets from information security risks and normal maintenance of corporate activities P72	Zero Disaster Promotion Panel Promotion of construction of safety & health, disaster prevention and safety systems; establishment of safety awareness and fostering of a safety culture P60	Health and Productivity Management Panel Promotion of strategic practices upon consideration of employee health management from a management perspective P59-60

[About the Mitsubishi Materials Group]

Global Atlas

Sales by Areas / Numbers of Affiliates / Numbers of Employees (Consolidated)

(■ Main Mitsubishi Materials premises ● Main Group companies)

As of March 2021

Europe

Number of affiliates: **18**
Number of employees: **1,175**

Advanced Products
- Luvata Oy (Finland)
- Luvata Pori Oy (Finland)
- Luvata Wolverhampton Ltd. (United Kingdom)
- Luvata Welwyn Garden Ltd. (United Kingdom)

Metalworking Solutions
- MMC HARTMETALL GmbH (Germany)
- MITSUBISHI MATERIALS ESPAÑA, S.A. (Spain)
- MMC HARDMETAL OOO Ltd. (Russia)
- MMC HARDMETAL POLAND Sp.z o.o. (Poland)

Metals
- MM Metal Recycling B.V. (The Netherlands)

East Asia

Number of affiliates: **14**
Number of employees: **771**

- Mitsubishi Materials (Shanghai) Corporation (China)

Advanced Products
- QINGDAO ECOBRASS CO., LTD. (China)
- Luvata Superconductors (Zhongshan) Limited (China)
- MM Metal Products (Suzhou) Co., Ltd. (China)
- MMC SHANGHAI CO., LTD. (China)
- MMC ELECTRONICS KOREA INC. (KOREA)

Metalworking Solutions
- TIANJIN TIANLING CARBIDE TOOLS Co., Ltd. (China)

Southeast Asia

Number of affiliates: **20**
Number of employees: **4,972**

- Mitsubishi Materials Southeast Asia Co., Ltd. (Thailand)

Advanced Products
- MMC ELECTRONICS (THAILAND) Ltd. (Thailand)
- Ryoshindoh Manufacturing Sdn. Bhd. (Malaysia)
- Luvata Malaysia Sdn. Bhd. (Malaysia)
- GOTOH PHILIPPINES CORPORATION (Philippines)
- MMC ELECTRONICS (M) Sdn. Bhd. (Malaysia)
- MMC ELECTRONICS Lao Co., Ltd. (Lao)

Metalworking Solutions
- MMC TOOLS (THAILAND) Co., Ltd. (Thailand)
- MMC HARDMETAL INDIA PVT. LTD. (India)

Metals
- PT. Smelting (Indonesia)

Aluminum
- MA EXTRUSION INDIA PVT. LTD. (India)

Oceania

Number of affiliates: **1**
Number of employees: **11**

Cement
- MITSUBISHI MATERIALS (AUSTRALIA) Pty., Ltd. (Australia)

Japan

Number of affiliates: **62**
Number of employees: **16,414**

- Head Office (Tokyo)
- Sapporo Branch (Hokkaido)
- Tohoku Branch (Miyagi Prefecture)
- Nagoya Branch (Aichi Prefecture)
- Osaka Regional Head Office (Osaka Prefecture)
- Kyushu Branch (Fukuoka Prefecture)
- Saitama Property Management Office (Saitama Prefecture)
- Smart Factory Promotion Center (Saitama Prefecture)
- Production Engineering Center (Saitama Prefecture)
- Central Research Institute (Ibaraki Prefecture)
- Materials' Finance Co., Ltd. (Tokyo)
- Material Business Support Corporation (Saitama Prefecture)

Advanced Products
- Wakamatsu Plant (Fukushima Prefecture)
- Ceramics Plant (Saitama Prefecture)
- Yokkaichi Plant (Mie Prefecture)
- Sakai Plant (Osaka Prefecture)
- Sambo Plant (Osaka Prefecture)
- Sanda Plant (Hyogo Prefecture)
- Mitsubishi Materials Electronic Chemicals Co., Ltd. (Akita Prefecture)
- Mitsubishi Cable Industries, Ltd. (Tokyo)

Metalworking Solutions
- Tsukuba Plant (Ibaraki Prefecture)
- Gifu Plant (Gifu Prefecture)
- Akashi Plant (Hyogo Prefecture)
- MOLDINO Tool Engineering, Ltd. (Tokyo)
- Japan New Metals Co., Ltd. (Osaka Prefecture)

Metals
- Akita Refinery (Akita Prefecture)
- Ikuno Plant (Hyogo Prefecture)
- Naoshima Smelter & Refinery (Kagawa Prefecture)
- Hosokura Metal Mining Co., Ltd. (Miyagi Prefecture)
- Onahama Smelting and Refining Co., Ltd. (Tokyo)
- Materials Eco-Refining Co., Ltd. (Tokyo)

Cement
- Aomori Plant (Aomori Prefecture)
- Iwate Plant (Iwate Prefecture)
- Yokoze Plant (Saitama Prefecture)
- Higashitani Mine (Fukuoka Prefecture)
- Kyushu Plant (Fukuoka Prefecture)
- Ryoko Lime Industry Co., Ltd. (Tokyo)

Environment & Energy Business
- Energy Project & Technology Center (Saitama Prefecture)
- AKITA HATSUDEN Co.,Ltd. (Akita Prefecture)
- Hachimantai Geothermal Co., Ltd (Akita Prefecture) (Merged with AKITA HATSUDEN Co.,Ltd. in April 2021 and became Hachimantai Green Energy Corporation)
- East Japan Recycling Systems Corporation (Miyagi Prefecture)
- New Energy Fujimino Co., Ltd. (Saitama Prefecture)
- Kitakyushu Ash Recycle Systems Co., Ltd. (Fukuoka Prefecture)

Aluminum
- Universal Can Corporation (Tokyo)
- Mitsubishi Aluminum Co., Ltd. (Shizuoka Prefecture)

Affiliated
- Mitsubishi Materials Trading Corporation (Tokyo)
- Mitsubishi Materials Techno Corporation (Tokyo)

North America

Number of affiliates: **24**
Number of employees: **3,784**

Advanced Products
- Mitsubishi Polycrystalline Silicon America Corporation (USA)
- Luvata Waterbury, Inc. (USA)
- Luvata Appleton LLC (USA)
- Luvata Ohio, Inc. (USA)
- Accurate Wire, Inc. (USA)

Metalworking Solutions
- Mitsubishi Materials U.S.A. Corporation (USA)

Cement
- Mitsubishi Cement Corporation (USA)
- MCC Development Corporation (USA)
- Robertson's Ready Mix, Ltd. (USA)

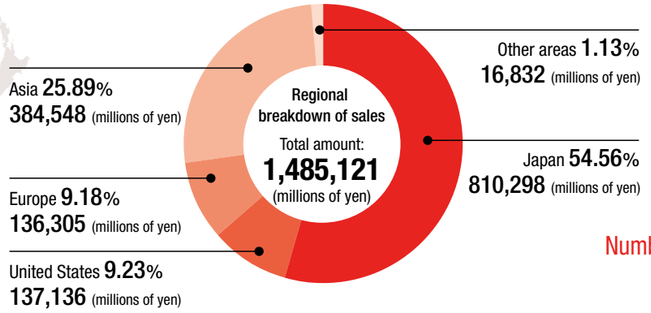
Aluminum
- Thermalex, Inc. (USA)

South America

Number of affiliates: **2**
Number of employees: **35**

Advanced Products
- Luvata São Paulo (Brazil)

Metals
- Mitsubishi Materials Chile SpA (Chile)



Countries of overseas advance /number of region **30**

Number of Employees (consolidated) : **27,162**

[About the Mitsubishi Materials Group]

Mitsubishi Materials DNA of Transformation

From the past & into the future. Mitsubishi Materials will achieve “Transformation for Growth” by meeting social needs that change with the times.

The Mitsubishi Group was born when Tsukumo Shokai, the forerunner of Mitsubishi Materials Corporation, entered the coal and metal mining business.
For 150 years, the Company has supported Japan’s rapid development as it has grown by diversifying its operations and reforming its business structures to meet social needs that changed with the times.
We will continue our tradition of creating new raw materials, products and solutions, and contribute to the sustainable development of society.

In Step with Modern Japan | **Coals and metals businesses advance** | **Business diversified with postwar rebuilding** | **Birth and Growth of Mitsubishi Materials** | **Further Globalization**


In the possession of Mitsubishi Archives

1871 Tsukumo Shokai — Tsukumo Shokai established

1893 Mitsubishi Goshi Kaisha — Mitsubishi Goshi Kaisha established.

1918 Mitsubishi Mining Company Ltd. — Mitsubishi Mining Company Ltd., established.

Coal mine leased from the Shingu clan in Kishu.

Breakup of coal and metal divisions with dissolution of business conglomerates.

1950 Mitsubishi Mining Company Ltd.

1950 Taihei Mining Co., Ltd.

Taihei Mining Co., Ltd. name changed to Mitsubishi Metal Mining Company Ltd.

1952 Mitsubishi Metal Mining Company Ltd.

Mitsubishi Mining Company Ltd., Mitsubishi Cement Corp. and Hokoku Cement Corp. merge into Mitsubishi Mining & Cement Co., Ltd.

1973 Mitsubishi Mining & Cement Co., Ltd.

Mitsubishi Metal Mining Company Ltd. name changed to Mitsubishi Metal Corporation

1973 Mitsubishi Metal Corporation

Merger of Mitsubishi Metal Corporation and Mitsubishi Mining & Cement Co., Ltd. Birth of Mitsubishi Materials Corporation

Mitsubishi Materials founded.

1990 Mitsubishi Materials Corporation

2021

150th Anniversary

1873
Name changed to Mitsubishi Shokai; Yoshioka Mine acquired.

1896
Metal refining business initiated.

1917
Mining Research Institute (current Central Research Institute) and Naoshima Smelter & Refinery established.

1920
Kanda Plant (current Kyushu Plant) established.
Cement production initiated.

1942
Tokyo Metals Plant established; cutting tools business initiated.

1954
Mitsubishi Cement Corp. established.

1959
Production of high-purity silicon for semiconductors initiated.

1962
Mitsubishi Reynolds Aluminum Co., Ltd. (current Mitsubishi Aluminum Co., Ltd.) established.

1972
Fujioyama Plant (aluminum beverage can business) established.

1974
Onuma Geothermal Plant begins operation.

1976
Production and sales of ceramic electronic components begun.

1988
Mitsubishi Cement Corp. established in the United States.

1989
Sanda Plant established.

1990
Sakai Plant established.

1991
Tsukuba Plant established.

1995
MMMC Tools (Thailand) Co., Ltd. established.

1996
PT. Smelting (Indonesia) Gresik Smelter and Refinery established, marking the Company’s entry into the copper smelting business.

1998
Ube-Mitsubishi Cement Corp. established.

1999
Business of home appliance recycling commenced.

2012
Robertson’s Ready Mix, Ltd. (USA) made a wholly-owned subsidiary.

2014
MMC Electronics Lao Co., Ltd. established.

2015
Hitachi Tool Engineering, Ltd. made a consolidated subsidiary and name changed to Mitsubishi Hitachi Tool Engineering, Ltd.

2016
Second E-Scrap Center completed at Naoshima Smelter & Refinery.
E-Scrap receiving and processing expanded to achieve the leading share of the world market.

2016
MM Metal Recycling B.V. established in the Netherlands; collection of E-Scrap from the European region expanded.

2017
Luvata Special Products Division acquired, expanding the copper & copper alloy products business.

2017
TianJin LingYun Tool Design Co., LTD. renovated, strengthening the technical support provided for cutting work.

2017
Kitakyushu Ash Recycle Systems Co., Ltd. established.

2018
New Energy Fujimino Co., Ltd. established.

2019
Yuzawa Geothermal Power Generation Corporation’s Wasabizawa Geothermal Power Station commenced commercial operation.

2019
Became a Company with a Nomination Committee.

2020
Merged with Mitsubishi Shindoh Co., Ltd., and established Wakamatsu Plant and Sambo Plant.

2020
Made Mitsubishi Hitachi Tool Engineering, Ltd. a wholly owned subsidiary and changed name to MOLDINO Tool Engineering, Ltd.


Yoshioka Mine (1900)


Kanda Plant (currently Kyushu Plant) No. 1 Kiln burning ceremony (1920)

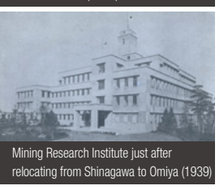

Onuma Geothermal Power Station (around 1968)


Manufacture of wirerod at the Osaka Smelter & Refinery (around 1952)


Burning ceremony for new reverberatory furnaces at Naoshima Smelter & Refinery (1969)

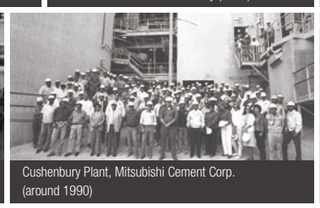

Cemented carbide products manufacturing process (1960s)


The renovated and reopened TianJin LingYun Tool Design Co., LTD. (2017)


Mining Research Institute just after relocating from Shinagawa to Omiya (1939)


Hi-Silicon Co., Ltd. (currently Yokkaichi Plant) (1967)

QC circle (small group improvement activities) at the Ceramics plant (1980s)


Cushenbury Plant, Mitsubishi Cement Corp. (around 1990)


Fuji Plant of Mitsubishi Reynolds Aluminum Co., Ltd. under construction (currently Mitsubishi Aluminum Co., Ltd.) (1963)

MM Metal Recycling B.V.


Luvata Pori Oy

The four strengths of Mitsubishi Materials Corporation cultivated of 150 years of history

1
Advanced recycling technology and business platform

2
Value chain from raw materials to products with a stable supply

3
Unique material development and manufacturing technology

4
A team that can unite to resolve issues

[About the Mitsubishi Materials Group]

The Strengths of the Mitsubishi Materials Group

Based on the strengths it has developed over the past 150 years, Mitsubishi Materials is supporting industry around the world.

1 Advanced recycling technology and business platform

Discarded circuit boards (E-Scrap) recycling volume
No. 1 worldwide

Home appliance recycling volume
No. 1 in Japan

Cutting tool recycling rate
42% (fiscal 2021 actual figure)

The Mitsubishi Materials Group has introduced recycling functions in its production processes for copper, other nonferrous metals, and cement. Over the years, we have continued to improve and expand these functions. Our greatest success has been in our smelting and cement recycling system, which combines our nonferrous smelters and cement plants. This system has made it possible for us to take a wide range of waste and byproducts produced by society and reuse them as valuable resources. The system also provides a framework for recovering and reusing valuable metals such as gold, silver, and lead from electronic device scrap, vehicle batteries, and other waste from so-called urban mines.

The system includes an integrated process from home appliance recycling to smelting, so it can efficiently collect and reuse various valuable metals. It continually optimizes the material flow across our sites (creating a material grid).

Our MMDX activities are currently driving the evolution of this recycling system, making it even more efficient.

▼ Related Materials:
“Special Feature MMDX strategy” Integrated Report ▸P18

2 Value chain from raw materials to products with a stable supply

Overseas copper mine project investments
5 (3 are currently in operation and 2 are in the development stage)

Countries using the Mitsubishi continuous copper smelting process
5 (Canada, Korea, Indonesia, Australia, and India)

The Company has established a consistent manufacturing system that covers everything from the stable procurement of raw material resources to product manufacturing, and provides a stable supply of good quality products to the market.

To secure raw material resources, we must combine the diversification of procurement sources, strategic investment in mines, and recycling of waste and byproducts.

One of the notable production processes of our Group is the Mitsubishi Process, which enables continuous and highly efficient copper concentrate smelting with little environmental impact. This is a unique feature that is not shared by any of the other smelting techniques used in processing recyclable material. We also have plants that smelt lead, tin, precious metals, and platinum group metals (PGM), and we have created a smelting system network that extends across the entire Group.

This strength is the foundation that enables the Company to provide essential fundamental materials to support industry all over the world.

3 Unique material development and manufacturing technology

Market share for rolled copper products
No. 1 in Japan

Market share for low alpha radiation solder*
No. 1 worldwide

* This refers to products which produce fewer semiconductor operation errors due to alpha radiation from solder.

In order to meet various social needs, our Group is consistently researching and developing new, unique technologies and products while supplying higher quality products, systems, and services.

What is now Mitsubishi Materials’ Central Research Institute was established by Mitsubishi Goshi Kaisha in 1917 as the Mining Research Institute. When it was created, private research institutes were still a rarity in Japan. This research institute has been instrumental in the creation of many of our products and our current manufacturing capabilities.

In addition to technologies related to oxygen-free copper, copper alloys (copper and copper alloy), and joining of dissimilar materials (electronic materials), it also researches advanced technologies such as cemented carbide material and coating (metalworking solutions) technologies to respond to the rapidly changing market. Its materials development and manufacturing technology strengths are all backed by atomic level analysis and simulation technologies, and are the source of our Group’s competitiveness.

We are investing corporate venture capital and are accelerating our collaborations with technology start-ups.

4 A team that can unite to resolve issues

Percentage of employees that want to contribute to their companies
76%
(According to a May 2021 survey of employees in the Group and 57 Group companies)

The Group has defined “Our Values” that represent what the Group values as it seeks to achieve its corporate mission and vision. The first of these values is “Respect Diversity and Teamwork.” We want to stimulate innovation through teamwork by creating an environment of self-improvement whilst always respecting diversity.

In the many countries in which we do business, we are creating environments that promote the active use of diverse personnel, such as women, the elderly, and people with disabilities. We respect their individuality, diverse values, and sincerity, and bring together the power of these individuals to solve all kinds of problems.

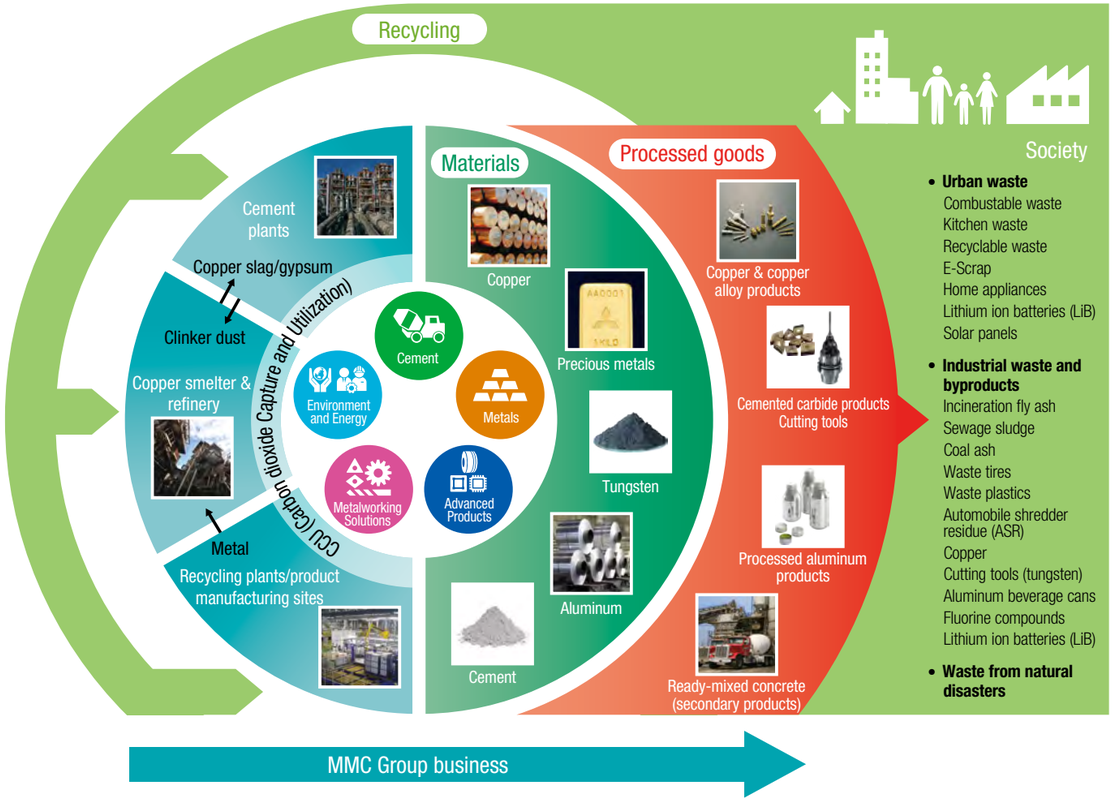
Technologies that are the sources of our competitiveness

- High performance copper alloys with low environmental impacts
- Processed copper, precious metals, and aluminum products (Attentive and precise support for diverse needs)
- Functional materials
- Joining dissimilar materials
- Cemented carbide products for use in metalworking
- Coating technologies
- Mitsubishi Process for continuous copper smelting
- Reclamation of valuable metal from E-Scrap
- Lead recycling by automatic disassembly of vehicle batteries
- Rendering organic waste harmless through use of cement kilns
- Highly efficient and safe disassembly of home appliances
- Geothermal development and power generation

Technologies that will support our future competitiveness

- Digital technologies (MMDX)
- Material and processing technology advances
- Advanced metal powders and fine powders
- Removal of impurities from copper concentrate
- Valuable metal material flow optimization
- Recycling technology advances (lithium ion batteries, solar panels, recovery of unused valuable metals, etc.)
- Tungsten recycling technology
- Low temperature cement kiln burning
- Biogas utilization
- CO_2 emissions reduction, capture, and utilization as a resource
- Smart factory

Our Group’s recycling-based business model



[About the Mitsubishi Materials Group]

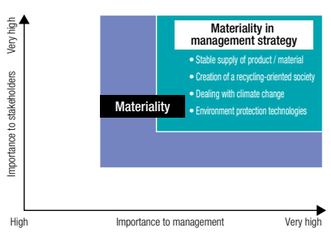
Identifying and Tackling Materiality

In formulating our Medium-term Management Strategy (FY2023 Strategy), we have defined new management materialities based on our existing CSR materialities. These serve as our framework for increasing corporate value by creating both social and economic value.

	Materiality	Key Themes
Materiality regarding the resolution of social issues via business	Stable supply of product/material **[SCQDE]**	Providing nonferrous metal materials, predominantly copper
		Providing high value-added functional materials and products
	Creation of a recycling-oriented society **[SCQDE]**	Providing recyclable products
		Advanced technology-based waste recycling
	Dealing with climate change **[SCQDE]**	Developing and promoting the use of renewable energies such as geothermal energy
		Ensuring that we consider the reduction of environmental impact in manufacturing
	Environment protection technologies **[SCQDE]**	Preventing environmental pollution
		Preserving biodiversity
		Developing environmental technologies and products
Materiality regarding the strengthening of the management base and core	Workplace safety and hygiene **[SCQDE]**	Preventing occupational accidents
		Creating mentally and physically pleasant workplaces
	Governance **[SCQDE]**	Reinforcing compliance
	Development of diverse talents	Human resource development
		Diversity (empowerment of women)
	Responsibility in value chain **[SCQDE]**	Respect for human rights in procurement
		Product quality
	Stakeholder communication	Building and strengthening relationships with stakeholders
		Improving customer satisfaction
		Engaging in dialog and coexisting with local communities
	Digital transformation	Business standardization
		Operational enhancement
		Creation of new added-value

Selection and Development Process

1. Some factors of issues identified from the standpoint of ESG and sustainability are reviewed from the standpoint of the latest social movements and the Group's medium- to long-term growth.
2. These factors are evaluated for their importance to the Group and major stakeholders in light of our mission.
3. Items that are considered to be of "very high" importance to the Group and major stakeholders are set as "Materiality regarding the resolution of social issues via business" in our management strategy. Furthermore, other material issues are set as "Materiality regarding the strengthening of the business foundation."
4. Long-term strategies and medium-term management strategies that include goals related to material issues are formulated and implemented.



Mission

Long-term business goals / Long-term strategy	ESG/SDGs: E (environment)	ESG/SDGs: ES	ESG/SDGs: S (society)	Contribute to build a prosperous society	Contribute to build a recycling-oriented society	Contribute to build a decarbonized society
Business Strategies						
Advanced Products Business **Global-First Supplier** • Create new businesses and products through the sophistication and integration of our core competencies (e.g. production and development of oxygen-free copper, oxygen-free copper base alloys, and functional materials as well as technical capabilities such as bonding different metals, etc.) • Accelerate marketing activities to replicate successful practices	7, 13	9, 12		• Advance and diversifying mobility and digital devices • Automate production and business processes	• Develop and use materials with low environmental impact • Efficiently use mineral resources and alternative resources	• Efficiently use energy resources • Reduce CO_2 emissions • Develop and supply products that contribute to decarbonization
Metalworking Solutions Business **Top 3 supplier in strategic markets** • Promote clean manufacturing • Provide high-efficiency products with advanced technology • Expand advanced metal powder business in electronic devices	7, 13	9, 12		• Provide high-efficiency products and digital solutions	• Promote the use of recycled cemented carbide materials	• Promote manufacturing renewable energy • Expand electrification business by advanced metal powder technology
Metals Business **Leader in environmentally-friendly mining & smelting business** • Stable supply and recycling of nonferrous metal materials, predominantly copper • Creation of a sustainable raw material portfolio consisting of clean copper concentrate and E-Scrap • Promotion of recycling • Response to climate change	7, 13	9, 12	11	• Provide copper-based materials for advanced products	• Provide recyclable products • Recycle waste	• Promote the development and use of CO_2 reduction technologies • Achieve manufacturing that considers environmental load
Cement Business **Leader in the domestic and international cement industry with advanced environmental technologies** • Stable supply of basic building materials for social infrastructure and disaster prevention infrastructure • Sophistication of waste disposal • Response to climate change by reducing CO_2 • Construction of a resilient domestic business foundation through business restructuring and business growth in overseas markets	7, 13	9, 12	11	• Create safe, secure, and functional cities	• Recycle waste • Promote sustainable resource recycling	• Reduce CO_2 emissions by improving manufacturing processes
Environment and Energy Business (Environmental recycling) **Driving force of resource-recycling systems** (Renewable energy) **Leading company in geothermal development** • Provision of a safe recycling system with thorough traceability, etc. • Decarbonization by expanding renewable energy business	7, 13	9, 12	11	• Ensure a stable supply of clean energy and recycled products	• Solve urban waste problems • Build a sustainable social system	• Provide renewable energy

Corporate Strategies

- R&D and Marketing Strategy
- Manufacturing Excellence Strategy
- Quality Management Strategy
- Digital Transformation (DX) Strategy
- Human Resources Strategy
- Workplace Safety and Hygiene
- Compliance
- Risk Management
- Climate Change
- Environmental Management
- Abandoned Mines
- Information Security
- Stakeholder Communication

Governance

- Directors and Executive Officers
- Message from the Chairman of the Board of Directors
- Message from the Chairperson of the Nomination Committee, Audit Committee and Remuneration Committee
- Corporate Governance
- Establishment of Sustainable Management Office