Progress of the Medium-term Management Strategy FY2031

Company-wide Strategy Overview

The FY2031 Strategy is divided into two phases with the aim of realizing Our Commitment: Phase 1 from the fiscal year ended March 2024 to the fiscal year ending March 2026 and Phase 2 from the fiscal year ending March 2027 to the fiscal year ending March 2031.

Strategic Roadmap

- **Phase 1** Improving profit growth and profitability by strengthening cost competitiveness and investing in medium- to long-term growth areas centered on resource recycling
- **Phase 2** Expansion of business scale through regional development, including overseas, in addition to expansion of target business areas

	Progress towards Phase 1 (3 years) FYE March 2024 results + FYE March 2025 forecast	Topics	FYE March 2024 to FYE March 2026 **Phase 1** Strengthening Competitiveness	FYE March 2027 to FYE March 2031 **Phase 2** Business Expansion
Expanding resource recycling	53%	• Improvement of E-Scrap processing capacity • Conclusion of contract relating to acquisition of all shares of H.C. Starck Holding GmbH (Germany) to expand Tungsten business • Commencement of LIB recycling pilot plant construction	**Investment: ¥110 billion** (3 years) • Commencement of LIB recycling • Expansion of Tungsten business	**Investment: ¥140 billion** (5 years) • New copper mine investment • Capacity expansion of copper smelters
Enhancing the supply of high-performance materials and products	47%	• Investment to enhance rolled product capabilities • Reevaluation of investments in increased production and shift toward other growth areas amidst worsening business environment for silicon products • Expansion of cemented carbide tool plant in Spain complete	**Investment: ¥70 billion** (3 years) • Strategic investment in semiconductor manufacturing equipment area • Improving supply chain efficiency	**Investment: ¥110 billion** (5 years) • Expanding the scale of carbide tools • Expanding the supply of xEVs materials
Investment in renewable energy	74%	• Start of commercial operation at the Appi Geothermal Power Plant • Continued examination of new entry into wind power generation and participation in new projects in geothermal power generation, etc.	**Investment: ¥5 billion** (3 years)	**Investment: ¥25 billion** (5 years)
Strengthening cost competitiveness	17%	• Target of +5.4% in FYE March 2026 compared to FYE March 2023 ratio of ordinary profit to net sales. 0.9% improvement expected for FYE March 2025. • Improved yields, reviewed inventory management systems and reduced energy costs in each business. We will promote further cost reduction measures.	**Ratio of improvement in ordinary profit to net sales +5.4%**[*1]	**Ratio of improvement in ordinary profit to net sales +4.9%**
Operating cash flow	49%	• Operating cash flow fell short of initial plans due to the effects of weakening automobile and semiconductor markets	**¥280 billion** (3 years)	**¥790 billion** (5 years)
EBITDA[*2] growth rate (CAGR)	78% EBITDA progression (Single year forecast for FYE March 2025)[*3]	• EBITDA growth rate of 7.3% (FYE March 2025 forecast, compared to FYE March 2023) • Result of ¥105 billion in FYE March 2024 and forecast of ¥117.4 billion for FYE March 2025, compared to FYE March 2026 plan of ¥150 billion • Improved profitability through cost reduction and growth investment	**16.5%**[*4] **EBITDA ¥150.0 billion** (FYE March 2026)	**11.5%**

*1 Range of improvement in the ratio of ordinary profit to net sales, net sales excluding metal
*2 EBITDA = Ordinary profit + Interest expense + Depreciation + Amortization of goodwill (same as below)
*3 Progress shown as comparison of forecast for the fiscal year ending March 2025 relative to plan for the fiscal year ending March 2026 because growth over three years has been set as the KPI
*4 Cement business loss in fiscal year ended March 2023 excluded

Message from the Chief Financial Officer

Strengthening competitiveness and growth investment to reach the Phase 1 goals of the Medium-term Management Strategy FY2031

Nobuhiro Takayanagi
Managing Executive Officer
CFO, Responsible for Accounting & Finance, Management Strategy, The New Europe Company Preparation, Procurement & Logistics, Corporate Communications

Looking Back on FYE March 2024

In the fiscal year ended March 2024, the first year of Phase 1 in the FY2031 Strategy, operating profit fell short of our initial plan due to the weakening automobile and semiconductor markets, production issues at smelters and a decrease in raw material arrivals. However, ordinary profit was broadly in line with our initial plan as a result of an improved share of profit of entities accounted for using the equity method and an increase in dividends from copper mines. While this first fiscal year was a challenging start, our efforts to strengthen cost competitiveness are approximately ¥6 billion ahead of initial plans, and we are increasingly confident that recovering demand in the automobile and semiconductor markets will lead to a Company-wide recovery in performance.

Strengthening Cost Competitiveness (figures below are cumulative totals for each fiscal year)

Cost reduction plan		FYE March 2024		FYE March 2025		FYE March 2026
		FY2031 Strategy plan	Result	FY2031 Strategy plan	Forecast	FY2031 Strategy plan
Metals	• Reduction of hedging costs, slag costs, and energy costs	0	47	0.1	111	26
Advanced Products	Copper & Copper Alloy • Yield rate improvement, fixed cost reduction (labor, outsourcing, etc.) Electronic Materials & Components • Fixed cost reduction (labor, etc.), productivity improvement	17	16	24	31	32
Metalworking Solutions	• Reduction of manufacturing costs • Cost reduction at subsidiaries	9	21	19	36	30
Renewable Energy	• Reduction of operating expenses of power plants • Improvement of operational efficiency through automatic operation of power plants, etc.	0	0	0.2	0.3	0.2
Total business		**26**	**84**	**44**	**178**	**88**

Message from the Chief Financial Officer

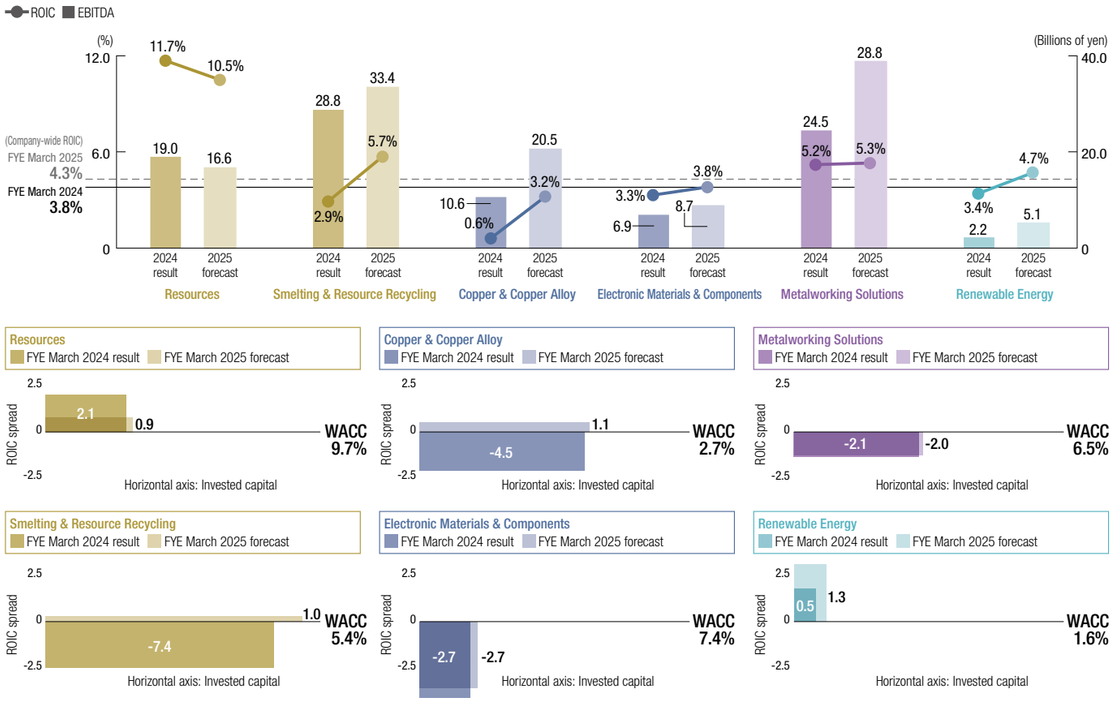
Improving Assets and Capital Efficiency

Under the FY2031 Strategy, in addition to having return on invested capital (ROIC) as a business management indicator, we are also working to enhance our assets and capital efficiency. To improve capital efficiency, we have set ROIC as an improvement indicator for each business and perform reporting and management on a monthly basis. We also improve capital efficiency across the entire Group through the Company-wide implementation of measures such as working capital enhancements, investment plan reviews and capital allocation monitoring.

In the fiscal year ended March 2024, while ROIC was below WACC as a result of lower sales volumes due to factors such as the weakening automobile and semiconductor markets and production issues at smelters, the figure of 3.8% was a 2.4-point increase year-on-year. In the fiscal year ending March 2025, a 0.5-point year-on-year increase to 4.3% is forecast as profits increase due to the alleviation of these causes of reduced profitability.

Moving forward, in addition to improving profitability by strengthening cost competitiveness and through growth investment, we will use sustainable financing and the cash management system to decrease WACC with the aim of achieving our target ROIC of 5.5% in the fiscal year ending March 2026.

ROIC/EBITDA (Top) and EP (Bottom) by Business (FYE March 2024 Results and FYE March 2025 Forecasts)



Looking Ahead to FYE March 2025 (Content Published May 2024)

Revenue and profitability are forecast to increase in the fiscal year ending March 2025, with net sales of ¥1,950 billion, operating profit of ¥41 billion and ordinary profit of ¥63 billion.

The increase in net sales and operating profit is due to the expected recovery in demand in the automotive market in the second quarter and demand for semiconductor products in the second half of the fiscal year, in addition to the resolution of production issues from the previous fiscal year.

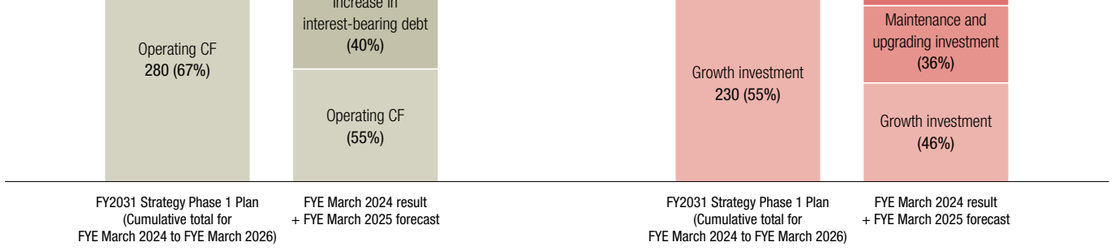
Ordinary profit is also forecast to increase, however, dividends are not expected to be at the same level as the previous year as loan repayments at the Los Pelambres Mine begin in earnest in the fiscal year ending March 2025. Foreign exchange gains for foreign currency denominated trade receivables are also expected to decrease as a result of current exchange rate fluctuations.

Capital Allocation

Phase 1 of the FY2031 Strategy is based on a policy of placing the highest priority on investment to accelerate the strengthening of competitiveness and the growth of resource recycling. In terms of growth investment in the fiscal year ended March 2024, while some acquisitions were postponed to the fiscal year ending March 2025 or later due to changes in market conditions and delays in acquisition negotiations, investment in medium- to long-term growth areas, such as resource recycling, proceeded broadly in line with our plans. However, operating cash flow did not reach planned levels, despite some results being achieved through ROIC management-related cash flow improvement activities. This was mainly due to an increase in working capital as a result of the weakening yen and rising metal prices. As a result, while a portion of investment funds will be covered by interest-bearing debt, a net D/E ratio of 0.7x has been maintained, in line with expectations for Phase 1.

In the fiscal year ending March 2025, we will continue to reference the cash in, cash out balance set out in Phase 1 of the FY2031 Strategy as we work hard to steadily implement the measures necessary to achieve the goals of the FY2031 Strategy and improve shareholder returns.

FYE March 2024 Results and FYE March 2025 Forecast Relative to FY2031 Strategy Phase 1 Capital Allocation Plan (59.4% Progress)



( ): Percentage of total amount

Growth investment progress

- Commencement of LIB recycling pilot plant construction in Iwaki City, Fukushima Prefecture
- Commencement of cobalt recovery test operation at Mantoverde Copper Mine
- Implementation of expanded production at Wakamatsu Plant, establishing systems to increase rolled product production by about 30% under the FY2031 Strategy
- Start of operation at the Appi Geothermal Power Plant
- Conclusion of contract relating to acquisition of all shares of H.C. Starck Holding GmbH (Germany)

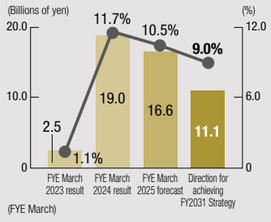
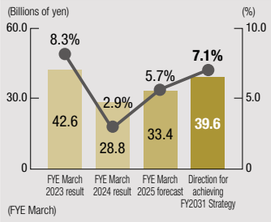
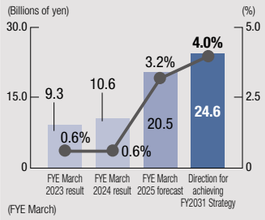
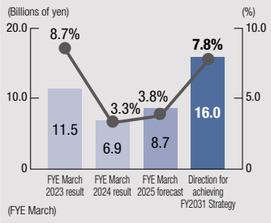
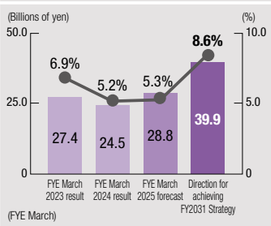
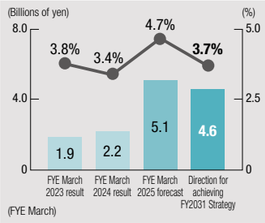
Shareholder Returns

We recognize that returning profits to shareholders is one of our most important management issues and have implemented a profit allocation policy with a dividend payout ratio of around 30% in Phase 1 of the FY2031 Strategy. Based on this policy, the dividend per share per annum was set at ¥94 in the fiscal year ended March 2024. In the fiscal year ending March 2025, with improving profitability as a requisite, dividends per share per annum are forecast to be ¥100, 30% of initial forecasts for the profit attributable to owners of parent.

We believe that the steady implementation of the initiatives set out in the FY2031 Strategy, timely disclosure of progress and the returning of profits are essential for building relationships of even greater trust with shareholders. Based on this recognition, we will work to achieve a stable ROE of 10% and PBR of 1.0x or more in order to enhance returns for shareholders. Thank you for your continued heartfelt support.

Business Overview: At a Glance

Below are each Company's strategies, risks and opportunities related to achieving our FY2031 Strategy goals.

		Risks (●) and Opportunities (◎)	Goals for FYE March 2031		Business strategy (FYE March 2024 to FYE March 2031)	Progress	Recent business environment / Outlook	EBITDA (■) / ROIC (-●-)	EP (Unit: Billions of yen)
Metals Company	**Resources business**	**Risks** ● Concerns about copper concentrate procurement due to resource nationalism in producing countries ● Enclosure of E-Scrap and other recyclable resources in each country/region ● Stricter environmental regulations on copper mines as well as smelting and refining operations ● Increasing operational load attributed to increase of minor elements in the smelting and refining process **Opportunities** ◎ Growing demand for copper and rare metals ◎ Growing need for recycling of rare metal resources from the perspective of economic security ◎ Increasing customer interest in circular economy ◎ Enhancing recovery and commercialization of minor elements in operations	**Leader in Resource Recycling of Nonferrous Metals**	• Securing at least 500,000 tons of copper concentrate per year from mines owned by the Company • Establishing supply chains for copper cathode (including SX-EW*1) *1 Solvent extraction and electrowinning: A two-step hydrometallurgical process consisting of solvent extraction and electrolysis collection	• Promotion of technological development to recover rare metal resources contained in copper deposits • Acquisition of copper mining interests and securing copper concentrates through continuous investment in mines • Expansion of copper cathode supply through SX-EW operations at copper mines	• Mining investment proceeding as anticipated • Full-scale copper concentrate production planned at Mantoverde Mine in the second half of 2024	Dividends from Los Pelambres Mine increased in FYE March 2024. Dividends are expected to be lower in FYE March 2025, however, Copper Mountain Mine and Mantoverde Mine are expected to improve profitability.		FYE March 2024 result **2.1** FYE March 2025 forecast **0.9**
	Smelting & Resource Recycling business			• Major and leading-edge operator in the resource recycling of nonferrous metals • Expanding processes of nonferrous metal resources not limited to E-Scrap • Becoming a core supplier in the resource recycling loop based on the world's top-class copper cathode supply capacity	• Strengthening and expanding networks to promote resource circulation • Expanding copper cathode production capacity • Increasing the recycling rate by expanding the treatment of recycled products containing metal resources • Creation of rare earths and rare metals recycling businesses • Accelerating business developments in Japan and overseas (E-Scrap, home appliances, automobile recycling)	• Construction started on LIB recycling pilot plant • Adjustments to investment allocation with respect to strengthening E-Scrap capacity under consideration	In FYE March 2024, profitability deteriorated due to a decline in palladium prices and one-time factors such as operational issues at the Onahama Smelter & Refinery and a reduction in raw material arrivals. One-time factors are expected to be resolved in FYE March 2025.		FYE March 2024 result **-7.4** FYE March 2025 forecast **1.0**
Advanced Products Company	**Copper & Copper Alloy business**	**Risks** ● Impact of natural disasters and political restrictions on the supply chain ● Soaring raw material and energy prices ● Changes in the market environment due to the semiconductor cycle and industry restructuring **Opportunities** ◎ Development and supply of products that contribute to decarbonization	**Global First Supplier**	• Japan: Establishing a dominant position as Japan's No. 1 manufacturer of wrought copper products as the largest supplier • Overseas: Strengthening key account (KA) strategy based on alloy development capabilities	• Improving the recycling rate of wrought copper products and establishing a scrap platform base • Overseas (Luvata): Rapid entry into growing markets (xEV, healthcare, environment) • Expanding sales and strengthening services to overseas customers by establishing a new overseas plant which carries out a downstream process, with the domestic plants as mother ones	• Investment to strengthen production capacity for copper sheets and copper strips is proceeding as anticipated, with substantial operations to begin in the second half of FYE March 2025	Demand for automobiles declined in FYE March 2024. In FYE March 2025, recovery of demand for automobiles, revision of roll margins and cost reductions are anticipated to have an effect.		FYE March 2024 result **-4.5** FYE March 2025 forecast **1.1**
	Electronic Materials & Components business			• Providing products and solutions with added value through concept-in (promoting the adoption of our products at the initial concept-setting stage of product development), focusing on the semiconductor and xEV markets • Highly profitable business entity and sustainably growing entity that is recognized as an indispensable partner in the market	• Highly capital-efficient management through continual restructuring of the business portfolio • Strategic investment in focal products in growth areas • Developing and securing human resources for the creation of new businesses and the promotion of business alliances • Improvement of manufacturing capabilities and DX to enhance production sophistication and profitability • Providing business and social value (SDGs) for carbon neutrality	• The business environment for processed silicon products is worsening. We will reevaluate investments in increased production and shift toward other growth areas.	Demand for semiconductor products decreased in FYE March 2024. The semiconductor market remains weak, and a full-scale recovery in demand is expected in the second half of FYE March 2025.		FYE March 2024 result **-2.7** FYE March 2025 forecast **-2.7**
Metalworking Solutions Company	**Metalworking Solutions business**	**Risks** ● Supply chain changes in the automotive industry ● Decreased internal combustion engines due to mobility revolution ● Soaring material and energy prices **Opportunities** ◎ Workpiece materials becoming difficult-to-cut ◎ Increased new demand due to automobile electrification ◎ Demand for recycling ◎ Evolution of digital technologies	**A Leading Company in Tungsten Products Recognized by Customers Globally**	• Providing tungsten products and solutions with outstanding technology to manufacturing sites around the world • In addition to the core business of carbide tools, the Tungsten business and the Solutions business will be the mainstay of earnings	Transforming into a truly global company with the aim of autonomous business development in strategic markets • Stable supply of the world's top quality, high-efficiency products utilizing the strength of materials and coating technology (Carbide Tools business) • Expansion of business scale for rechargeable batteries in addition to carbide tools, etc. (Tungsten business) • Strengthening environmental responsiveness (Tungsten business) • Commercialization of solution sales to manufacturing sites (Solution business)	• Creation of high added-value products in various fields including automobile, aerospace, and medical are as planned	In FYE March 2024, demand for cemented carbide tools for Japan and Asia declined. In FYE March 2025, demand for automobiles is expected to recover.		FYE March 2024 result **-2.1** FYE March 2025 forecast **-2.0**
	Renewable Energy business	**Risks** ● Changes to national policy and revisions to laws ● Local opposition from hot spring operators, etc. ● Consensus-building with stakeholders **Opportunities** ◎ Depletion of energy resources: Securing energy in Japan ◎ Climate change (global warming): Reduction of CO_2 emissions and increased demand for renewable energy	**Expansion of Renewable Power Generation to Achieve 100% Self-sufficiency in Renewable Power Electricity**	• Further expansion of geothermal power generation business • Expansion of business areas (wind power generation and power generation-related businesses)	Consolidating the Renewable Energy business in the Strategic Headquarters as a Company-wide effort to expand the business from a long-term perspective • New development at a pace of one location every three years to expand business (Geothermal) • New entry into wind power generation, where power generation costs are expected to decline in the future (Wind) • Further development of new biogas plants (Biogas)	• Appi Geothermal Power Plant started operation in March 2024 (1 month ahead of schedule)	In FYE March 2024, operations of hydroelectric, geothermal and solar power plants were stable. Earnings are expected to increase in FYE March 2025, driven by the start of the operation of Appi Geothermal Power Plant.		FYE March 2024 result **0.5** FYE March 2025 forecast **1.3**

Initiatives to Expand Resource Recycling

Through the FY2031 Strategy, we are leveraging our strengths to enhance metal resource recycling systems and expand the scope, regions and scale of our operations with the aim of realizing growth throughout the value chain.

Expanding Resource Recycling (Overview)

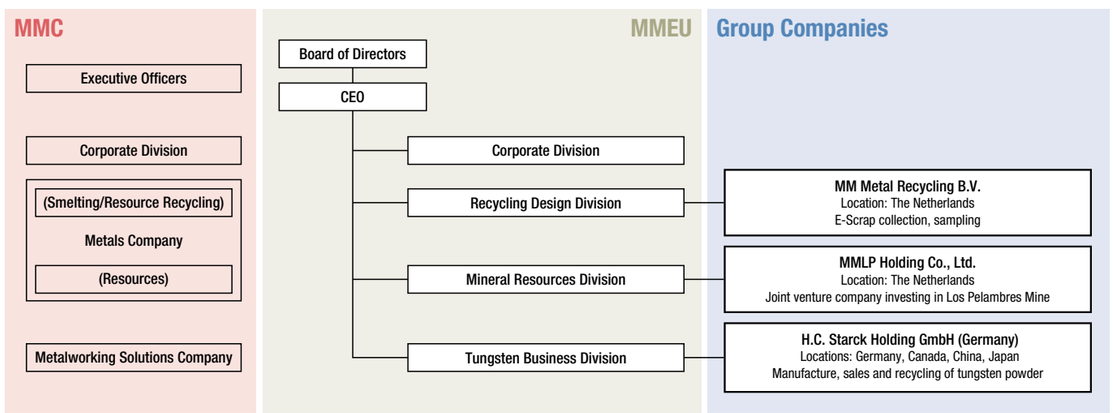
Expanding the scope of resource recycling	**E-Scrap recycling**	Improving processing capacity
	LIB recycling ▶ P41	Pilot plant under construction
	In-process recycling of the Copper & Copper Alloy business	Cost reduction, copper smelter load reduction → Increasing E-Scrap
	Cobalt recovery at copper mines ▶ P43	Pilot plant testing underway at Mantoverde Copper Mine
	Tungsten recycling ▶ P47	Acquisition of all shares of H.C. Starck Holding GmbH (Germany)
	Construction of resource recycling loop	Home appliances: Expansion of scale in Japan and overseas Automobile recycling: Scaling up targeting EVs Creating a recycling system to extract important mineral resources from various products and supply them as raw materials for products
Expanding business regions Economic bloc, enclosure of important mineral resources Japan: Economic security USA: IRA law EU: Various regulations ↓ **Toward intraregional circulation**	**Establishment of a new company in Europe ▶ P40**	Development of resource recycling strategies in Europe and rapid implementation (E-Scrap/Copper-based scrap/ LIB/Tungsten)
	Enhancement of E-Scrap recycling by domestic smelters ▶ P41	Enhancement of E-Scrap processing capacity by improving smelting and pretreatment capacity Expansion of Collection Centers in Europe Investment in mines to secure low-impurity copper concentrates Enhancing functions of MEX* *Online E-Scrap trading system
	Investment in Exurban ▶ P43	Participation in the construction and operation of a recycling plant in Indiana, USA Expansion outside the USA

Establishment of a New Company in Europe

Europe is a large-scale market and a global leader in policies and other measures relating to the environment and the securing of important mineral resources. Recognizing that the establishment of bases in Europe is essential for MMC Group to quickly and assuredly expand its resource recycling-related businesses in the region, we are establishing Mitsubishi Materials Europe B.V. (MMEU) as a management company managing businesses related to resource recycling in Europe. MMEU will engage in planning strategies in Europe, including the Recycling business relating to E-Scrap and copper-based scrap, and the Tungsten business. Its role will also include managing and supervising operating companies in Europe and managing copper mine dividends. MMEU will also plan strategies for creating synergies across business divisions. Further consideration of its role and positioning, including the overall management of MMC Group in Europe, is planned in the future.

MMEU (Overview)

Name	Mitsubishi Materials Europe B.V. (Name changed from MM Netherlands B.V.)
Location	Amsterdam, the Netherlands
Established	Scheduled for September 1, 2024
Shareholder composition	100% subsidiary of MMC
Business areas	Recycling Design business (E-Scrap, copper scrap, LIB recycling), Resources business (mining dividend management), Tungsten business



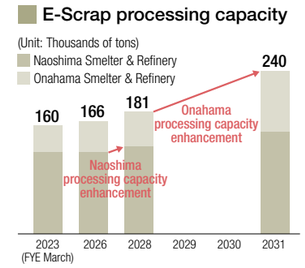
Enhancement of E-Scrap Recycling by Domestic Smelters

Copper smelters play a major role in resource recycling and are essential to achieving our stated goal of expanding resource recycling. Smelters and refineries operate in a business environment with an uncertain future direction, due to factors such as worsening copper concentrate purchase conditions and rising raw material costs. Despite this, we are working to build systems to achieve stable profitability.

Naoshima Smelter & Refinery plans to maximize the processing capacity of E-Scrap by limiting the increase in copper concentrate processing capacity in order to expand its scale and maximize its cost competitiveness as a core smelter.

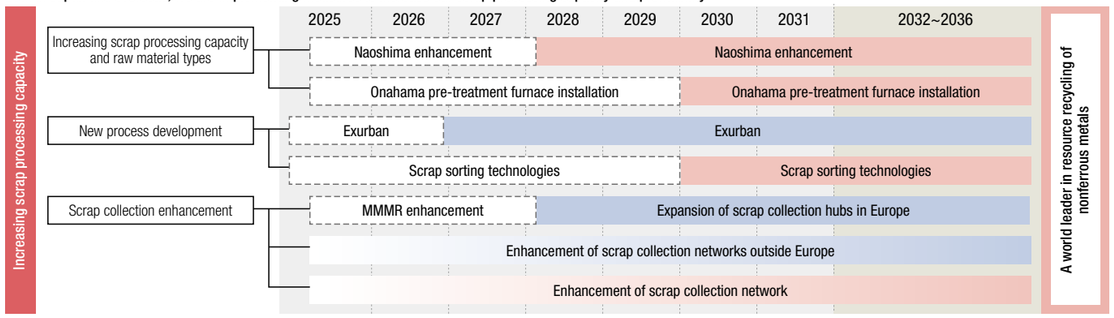
At Onahama Smelter & Refinery, we are aiming to improve competitiveness by increasing recycling profitability through the installation of a pretreatment furnace, and we will work to transform the smelter into one that excels in processing recycling materials.

E-Scrap processing capacity



Strategic Roadmap

Both in Japan and overseas, we are implementing measures to increase our scrap processing capacity and profitability.



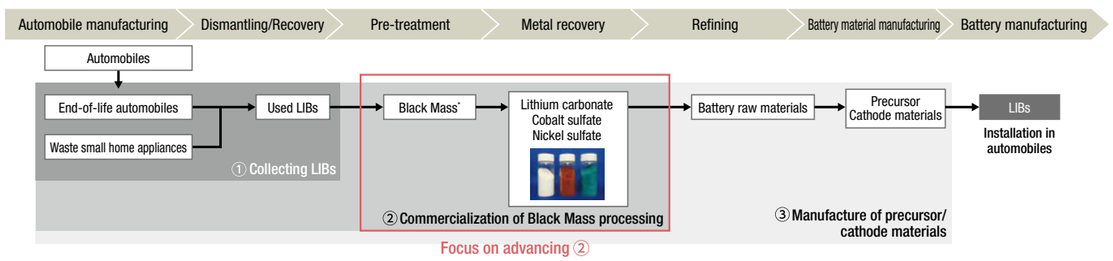
LIB Recycling

We are developing technology for hydrometallurgy operations to recover and refine lithium, cobalt and nickel contained in Black Mass produced in LIB recycling processes and are exploring commercialization of this technology.

We are aiming to achieve global competitiveness through the rapid development of a comprehensive recycling process for producing battery raw materials from end-of-life LIBs, using the network we have built through our E-Scrap business to collect Black Mass, and the efficient recovery of lithium carbonate, cobalt sulfate, and nickel sulfate from Black Mass. We are broadening our business fields by expanding into collection of LIBs from end-of-life vehicles (①), and commercialization of Black Mass processing through collaboration with other companies (②), as well as expanding into producing precursor and cathode material (③).

Having achieved a certain degree of positive results through small-scale testing up to now, we began construction of a pilot plant in Iwaki City, Fukushima Prefecture in December 2023, with operations scheduled to start in 2025. We are also proceeding to further develop of our technology, toward the commercialization of recovery of rare metals from Black Mass.

Produced by MMC using information from the Geospatial Information Authority of Japan's Map and Aerial Photograph Browsing Service

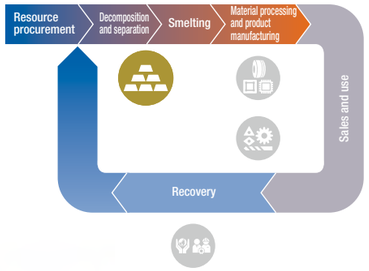


*Black Mass: Concentrated residue of rare metals such as lithium, cobalt and nickel sorted from LIBs that have been discharged, dried and crushed

Review of Operation

Metals Company

Katsuyoshi Isaji
Managing Executive Officer
President, Metals Company



Aiming to be the "Leader in resource recycling of nonferrous metals" by FYE March 2031

The Metals Company has set a target of being the "Leader in Resource Recycling of Nonferrous Metals" by the fiscal year ending March 2031. In the fiscal year ended March 2024, we engaged in wide-ranging business activities aiming for long-term growth, including collaboration with external partners. In the fiscal year ending March 2025, the Metals Company will continue its all-out efforts to be a leading nonferrous metallurgy business that meets the needs of a recycling-oriented society.

Looking Back on FYE March 2024

On the procurement side of raw materials, while the market conditions continued to be difficult due to factors such as concerns about copper concentrate supplies from major mines and strong spot demand from Chinese smelters, E-Scrap collection remained steady. On the sales side, despite recovery in domestic sales of our products such as copper cathode for use in automobiles, the overall trend of decreasing demand continued. Under these circumstances, in April 2023, we acquired an equity stake in Western Copper and Gold Corporation, which owns the Casino Project in Canada. In January 2024, we launched the recycled metal brand REMINE. Also, in home appliance recycling-related businesses, we have started exploring opportunities for commercialization in Malaysia in collaboration with local partners and Japanese appliance manufacturers.

Looking Ahead to FYE March 2025

Demand for copper cathode, one of our main products, has been sluggish due to factors such as China's economic downturn centered on the real estate market, but medium- to long-term demand is expected to rise with progress towards decarbonization. On the procurement side of raw materials, expanding smelting capacity and growing concerns about supply due to issues such as operation stoppages at large mines have led to the copper concentrate market being in short supply. In the E-Scrap market, competition is becoming fiercer due to tighter regulation and the entry of competitors into the market, but supply is expected to increase in the long term, and so we will continue to enhance collection. We started copper production using sulfide ore from the Mantoverde Copper Mine in June 2024 and are aiming to commence full-scale operation in the second half of this year. Moreover, we are making progress in increasing the competitiveness of the Naoshima Smelter & Refinery, enhancing the Recycling business at the Onahama Smelter & Refinery, optimizing coordination among domestic smelters and refineries, and carrying out detailed examination of the Exurban Project feasibility study.

Future Business Strategies Considering First Year of FY2031 Strategy

In the Resources business, the Mantoverde Copper Mine is positioned as a core asset that has a high copper grade in the ore feed and a high potential for future expansion. In addition to starting production of copper concentrate from sulfide ore, a cobalt collection process is currently under development, with commercial production expected to begin in the fiscal year ending March 2028. We will continue to support each of the mines in which we invest to achieve our planned goals. In the Smelting & Resource Recycling business, we are further examining capital investment and collection strategies in order to build optimal processing facilities at Naoshima Smelter & Refinery and Onahama Smelter & Refinery for processing the raw materials, whose composition is expected to yield higher profits derived from analysis of market trends and competing companies. In our global business, we will work to formulate and focus on region-specific strategies.

TOPICS

Mantoverde Copper Mine Project Progress

The Mantoverde Copper Mine is one of the outstanding assets of its type on the market and is highly rated due to its future potential. We have positioned it as a core asset that will contribute to the growth of the Group's Resources business because of its high copper grade in the ore, relatively good access, and high level of cost competitiveness. It started production in June 2024 and is scheduled to reach full operation in the second half of 2024. The current mining plan targets only about 20% of the copper resources in the Mantoverde deposit, with future expansion anticipated.

The Democratic Republic of Congo currently accounts for more than 70% of the world's total supply of cobalt. At the Mantoverde Copper Mine, both sulfide ore and oxide ore contain trace amounts of cobalt, and we are developing processing technology for separating and recovering this cobalt as a cobalt-nickel intermediary by-product. Testing at a pilot plant began in January 2024 with the aim of commencing commercial production in 2027. The Mantoverde Copper Mine has significant potential for business expansion with enhanced cost competitiveness, which is consistent with the Group's mission.

- **Location:** Atacama Region III of Chile / Approx. 50 km from coastline, approx. 100 km from nearest city (Copiapo City), 880 m.a.s.l. / Desert area with extremely low rainfall, but with seawater desalination equipment in place
- **Total mineral resources:** 5,700,000 t Cu
- **Total mineral reserves:** 2,100,000 t Cu
- **Mining method:** Open pit
- **Total copper production:** 1,700,000 t Cu over mine life
- **Mine life:** 2041

Concentrator

Aerial overview

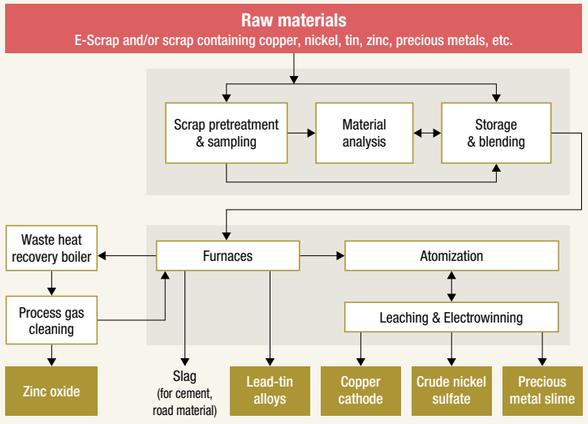
TOPICS

Exurban Project

The Group has become a major shareholder in British company Exurban after acquiring a portion of its shares and has established a strategic alliance with it. Exurban is working to realize the world's first zero-waste recycling plant, specifically designed to process complex metal scraps such as E-Scrap. Through this investment, the Group will promote business with Exurban to provide new solutions for building resource circulation systems. In the future, the circulation of resources within regions is expected to progress. Through this project, in addition to creating a foothold for resource circulation related businesses in North America, we are engaged in joint development with Exurban to acquire metallurgical technology that uses E-Scrap and other scrap as raw materials. We expect to expand this technology to other regions outside North America.

Exurban Project

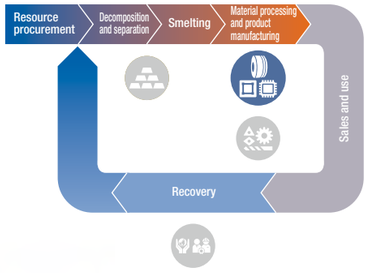
Recycled products
- Copper cathode
- Precious metal slime
- Crude nickel sulfate
- Tin & lead alloys
- Slag, etc.



Review of Operation

Advanced Products Company

Toshinori Ishii
Managing Executive Officer
President, Advanced Products Company



Focusing on enhancing our earning-oriented capabilities and commitment to become a business entity that delivers stable profitability

In order to be a business entity that delivers stable earnings even when faced with economic downturns and other changes in the external environment, in the fiscal year ending March 2025, in addition to strengthening price competitiveness by reducing costs, we are working to maintain a sound financial structure in consideration of investment balance and strengthen our earning-oriented capabilities and commitment in areas such as manufacturing, sales, R&D, marketing, and business model building. Based on the Group's vision of "Circulating resources for a sustainable future," we are also working to enhance supplies of high-performance materials and products with the aim of becoming a global first supplier by the fiscal year ending March 2031.

Looking Back on FYE March 2024

In the fiscal year ended March 2024, while the number of automobiles produced showed signs of recovery, demand for the Advanced Products Company's products did not return to original levels and we were impacted by market factors such as prolonged semiconductor inventory adjustment. Consequently, results were significantly below the targets of the FY2031 Strategy. Despite these circumstances, we were able to steadily implement wide-ranging measures such as lowering break-even points through improved manufacturing process efficiency and other cost reductions, accelerating investment in focal products and passing on raw material price increases through appropriate sales pricing. Through these positive efforts that will carry on into the following fiscal year, our work has borne some fruit.

Looking Ahead to FYE March 2025

It is anticipated that automobile production will recover further and downstream demand from the semiconductor supply chain will return, as inventory adjustments are expected to be resolved. As a result, demand for the Advanced Products Company's products is also expected to recover, particularly in the second half of the fiscal year. We remain attentive to manufacturing trends among major customers and suppliers, the economic situation and the market environment.
In the Copper & Copper Alloy business, in addition to working to ensure profitability through means such as cost reductions and appropriate sales pricing, we aim to expand sales for key accounts and pursue a differentiation strategy based on high-performance materials such as MSP Series copper alloys and MOFC®-HR oxygen-free copper.
In the Electronic Materials & Components business, we work to ensure profitability by expanding processed silicon products into components beyond existing applications, increasing sales by introducing differentiated electronic components, reducing costs and implementing appropriate pricing of sensor products.

Future Business Strategies Considering First Year of FY2031 Strategy

In addition to aiming to become a global first supplier, which is one of our targets for the fiscal year ending March 2031, we strive to create more business opportunities by pursuing a "concept-in" approach. We also work to develop new products and businesses by further refining our core competencies and combining them with our technologies. Furthermore, we plan to promote digitalization and continue to reform our business models and manufacturing with the aim of continuously strengthening our earning-oriented capabilities and commitment. As one important measure, the Copper & Copper Alloy business is establishing plans to increase the scale of domestic rolled products and expand overseas and is working to rationalize production of extruded products. In the Electronic Materials & Components business, we are working to expand and grow processed silicon products, columnar crystal silicon, sealing products and thermistor sensors, create new business and enhance manufacturing sophistication.

TOPICS

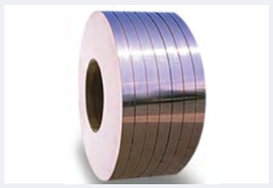
Investment to Enhance Rolled Product Capabilities

The Copper & Copper Alloy business has moved forward with investment plans to increase production capacity for rolled products by about 30%, and these plans are proceeding as expected. One example is the expansion of casting equipment at the Sakai Plant, which began operation in July 2023. At the Wakamatsu Plant, expansion work on the slitting, packaging and reflow tin plating lines is underway.

We are also proceeding with construction to increase the number of cleaning machines, slitters, and packaging machines at the Sambo Plant with the aim of starting operation in October 2024. In this way, we increase production capacity in our focus areas of copper strips and plates, increase our market shares in Japan and expand further in the global market. In parallel with these efforts, we also work to improve profitability by reducing costs through reducing material costs, improving productivity and lowering interest-bearing debt.

Rolled Product Line No. 3, Sambo Plant

Casting products (ex. cakes)

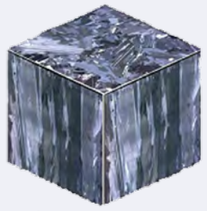

Copper strip

TOPICS

Semiconductor Product-related Initiatives

In the Electronic Materials & Components business, we handle wide-ranging semiconductor-related products, including processed silicon products and sealing products used in semiconductor manufacturing equipment, photoresistant materials necessary for semiconductor manufacturing, and low alpha solders needed to connect semiconductor packages. We are proceeding with planned investment to increase production in preparation for growing demand on a per-product basis. Mitsubishi Cable Industries, Ltd. has invested in increasing production of sealing products. The Kumagaya Works was completed in April 2023, and commercial production and shipments began in August of the same year. Mitsubishi Materials Electronic Chemicals Co., Ltd. has invested in expanding production of columnar crystal silicon, with operation beginning in April 2024. In addition, we are engaged in activities to expand sales for each product with aims such as acquiring new customers in target markets, increasing market share, and securing adoption for new applications. We also continue our efforts to enhance earnings by making progress in reducing costs through measures such as increasing manufacturing process efficiency.

Kumagaya Works, Mitsubishi Cable Industries, Ltd.

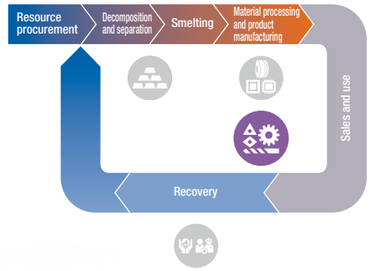

Columnar crystal silicon
(cubic ingot)

Seals for semiconductor manufacturing equipment

A processed silicon product
(columnar crystal silicon ring)

Review of Operation

Metalworking Solutions Company



Kazuo Ohara
Managing Executive Officer
President, Metalworking Solutions Company

Achieving "Winning business through active internal collaboration (Reach Out) and transformation"

To fulfill Our Commitment to the Future, the slogan "Winning business through active internal collaboration (Reach Out) and transformation" was created for the fiscal year ending March 2025. Under this slogan, our divisions will reach out to each other and work together as one team to build sales performance with excellent technology, quality, delivery times and cost competitiveness and, in doing so, become a leading company for tungsten cutting tools and other products, recognized by customers globally.

Looking Back on FYE March 2024

Amid external factors such as a decrease in demand for cutting tools, our main products, in Japan, China and greater Asia, and soaring labor costs and energy prices, we increased product prices and worked on cost reduction measures such as greater production price reductions than planned, but net sales and profits for the business as a whole nonetheless decreased compared to the previous fiscal year. We considered the strengthening of overseas sales, a pillar of our revenue stream, to be a priority in addressing this situation, and utilized our non-Japanese executive in charge of sales and strategies (Chief Strategy Officer) to strengthen our sales-related organizations and optimize our management resources. If we break it down by product, sales of wear resistant tools from Group company MMC Ryotec Corporation were favorable.

Looking Ahead to FYE March 2025

There are concerns that factors such as financial and geopolitical risks could cause a major downturn in our market environment, but we expect to see a recovery in demand for cutting tools for the automobile, aircraft and medical industries. Particular growth of sales is expected in the carbide tools business thanks to strengthening of our sales system and active investment in new products in Japan, Europe and the USA under the leadership of our non-Japanese executive (Chief Strategy Officer). Additionally, we will intensively invest development resources in the development of strategic products to expand our product lineup and drive an increase in sales, and will steadily work on ongoing cost reductions and strengthening our global production system to improve profitability. We will also take decisive action with H.C. Starck, with whom we have signed a basic agreement to acquire shares as a subsidiary, to gain a return on this acquisition as quickly as possible.

Future Business Strategies Considering First Year of FY2031 Strategy

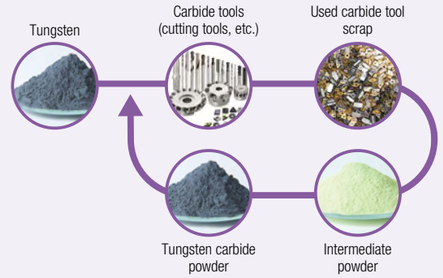
In the carbide tools business, we will utilize DX and IoT to optimize inventory management, automate production processes and improve the efficiency of sales activities and, in doing so, improve business efficiency, strengthen profitability and improve our financial position. We will also strengthen alliances, including procurement of OEM products, to expand our product lineup. With regard to rock tools, core products of MMC Ryotec Corporation that are used for purposes such as excavation in mining, we aim to further expand the Distribution Center we established in Panama last year to improve our capacity to supply products to Central and South America, where there is major demand.
In the Tungsten business, we will stabilize procurement of raw tungsten materials, a key material of cemented carbide tools, through the acquisition of H.C. Starck and accelerate the global expansion of our capacity for recovery and recycling of used cemented carbide tools. We will also strengthen research and development of high-performance tungsten powder for the semiconductor industry and rechargeable batteries, where demand is expected to grow in future.
In the Solution business, we will expand cutting solutions, develop our cutting IoT services and make our services profitable.

TOPICS

Initiatives to Expand Our Tungsten Business

On May 29, 2024, the Company concluded a final agreement to acquire all of the shares in H.C. Starck, one of the world's top tungsten product manufacturers. The Group uses tungsten as a main ingredient in cemented carbide tools such as cutting tools. Different volumes of tungsten are found in different regions, so steady procurement and resource recycling are critical elements in developing our Tungsten business. H.C. Starck has production bases in Europe, North America and China and among the greatest tungsten recycling capacities in the world. The addition of these will strengthen the foundation of the Group's Tungsten business and further accelerate the implementation of our business strategies. Additionally, through cooperation with Group company Japan New Metals Co., Ltd., we will strengthen our research and development capabilities, implement cross-selling and utilize elements such as recycling technology to create a synergy, as well as expanding our business into new applications and markets such as rechargeable batteries.

Tungsten recycling process



Profile of H.C. Starck Holding GmbH (Germany)

Address	Goslar, Germany
Business details	Production of high-quality powders containing tungsten powder, tungsten carbide powder and alloys of these in Europe, North America and China; sale through a global sales network including Japan Also has one of the world's greatest tungsten recycling capacities
Capital stock	€25,000 (around ¥4 million)
Year of establishment	1920
Net sales (FYE March 2024)	Approx. €334 million (around ¥52.4 billion)

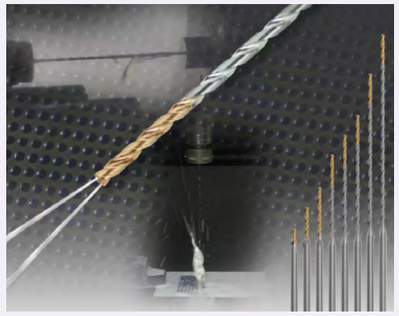
TOPICS

Initiatives to Expand Our Lineup of Cutting Tool Products

Our carbide tools business utilizes the technology and experience it has amassed thus far and dedicates itself to developing products for difficult-to-cut materials and areas to expand our product lineup. In the fiscal year ended 2024, it released 1,466 new products according to our plan, including tools that will contribute to improving productivity and environmentally-friendly tools. We will continue to work on creating new products that will receive high acclaim from customers. We are steadily carrying out market development for new products for the automobile, aircraft, medical and mold markets, core markets of ours, that meet the particular needs of each market, including high performance, long life and high precision. Additionally, in terms of small-diameter deep hole drilling in difficult-to-cut areas, we are accelerating our investment in the market for high-performance drills that enable much more reliable performance than conventional drills and our development of cutting tools with sensors that will drive the transition to automated and IoT-based drilling.

We are also carrying out decisive initiatives to ensure steady supplies as we expand our product lineup. Other initiatives include more sophisticated prediction of demand based on trend analysis and evaluation of past orders and market trends, designation and utilization of the optimal inventory for each product code, formulation of more precise production plans and centralized management of production and sales, with the aim of delivering standard products more quickly. We are also building a production system that enables agile product supply and inventory management, including converting our production lines to a smart factory system, to meet customers' diverse needs rapidly.

Our cutting tool products

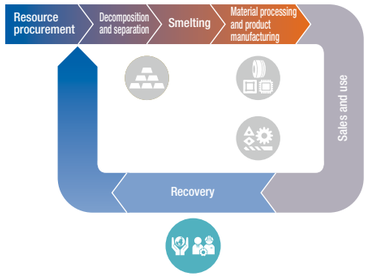


Small-diameter TRISTAR drills

Review of Operation

Renewable Energy Business

Under the FY2031 Strategy, we aim for long-term business expansion through Company-wide initiatives that consolidate the Renewable Energy business. By growing geothermal power further and expanding into other areas, such as wind power generation, we aim to achieve an effective 100% self-sufficiency rate for renewable energy by the fiscal year ending March 2051.



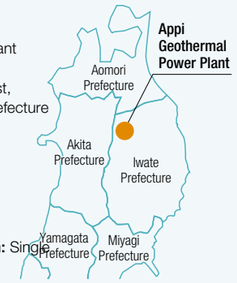
TOPICS

Start of Commercial Operation at the Appi Geothermal Power Plant

The Appi Geothermal Power Plant was created to contribute to the reduction of CO_2 emissions and the stable supply of electricity in Japan. Construction started in August 2019 and was completed four and a half years later. The plant started simultaneous steam emission tests in September 2023 and turbine ventilation in late December before reaching 100% power generation (14,900 kW) in January 2024. After subsequent testing, the plant started full operation on March 1, one month ahead of schedule. The Appi Geothermal Power Plant is located at an altitude of approximately 1,130 meters and utilizes promising geothermal resources in the Hachimantai region of Iwate Prefecture to achieve stable operation. This is the first time in 28 years that a geothermal power plant with an output of over 10,000 kW has operated in Iwate Prefecture. All electricity generated will be supplied to communities under the Feed-In Tariff (FIT) system for renewable energy.

*This development project is supported by JOGMEC's debt guarantee project for geothermal resource development funding.

- **Name:** Appi Geothermal Power Plant
- **Location:** Hachimantai National Forest, Hachimantai City, Iwate Prefecture
- **Type of motive force:** Steam power (geothermal)
- **Output capacity:** 14,900 kW
- **Construction started:** August 2019
- **Power generation system:** Single flash system



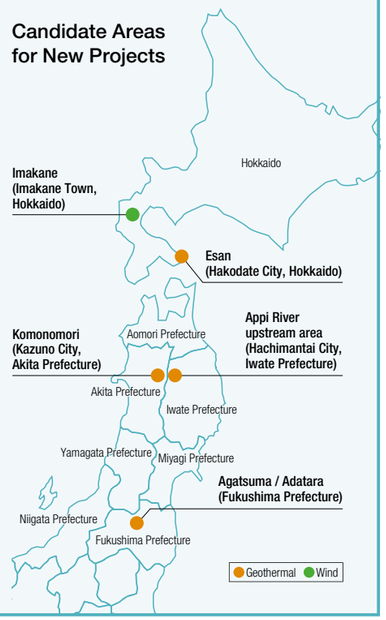
Appi Geothermal Power Plant

TOPICS

Initiatives for Further Renewable Energy Business Expansion

The Group will continue to develop various renewable energies and promote further expansion of the Renewable Energy business. In terms of geothermal power generation, forest road repair and site preparation were carried out in the Komonomori area of Kazuno City, Akita Prefecture in April 2024, and exploratory well drilling commenced in June of the same year. Steam emission tests were also carried out in the Esan area in Hakodate City, Hokkaido in 2023, and business evaluation based on the results is underway. In addition, in wind power generation, we are working to establish a new onshore wind power generation business using company-owned land. We are also collaborating with RENOVA, Inc. on the development of a wind power generation facility in Imakane Town in Hokkaido's Setana District. Wind condition observations started in the fiscal year ended March 2024, and business evaluation will continue. In terms of small-scale hydroelectric power generation, we are continuing to conduct wide-ranging exploration, including of areas not near existing power plants.

Exploratory well drilling in the Komonomori area



Employees' Round-table Discussion

Bolstering Resource Recycling Perspectives Amid Growing Awareness

Masayuki Hatama
Recycling Materials Department, Metallurgy Division, Metals Company
(Note: Changed to Logistics Section, Administration Department at Naoshima Smelter & Refinery at the time of the round-table discussion)

Kenta Kusunose
Section Manager
Production Department, Production Control Section, Naoshima Smelter & Refinery, Metals Company

Saori Koga
Assistant General Manager
Business Development Division, Resource Circulation Division, Metals Company

Naoki Takeuchi
General Manager,
Recycling Business Department, Second Factory
Kansai Recycling Systems Co., LTD.

We invited representatives from the Group's Resource Recycling and Recycling businesses to discuss their current efforts, challenges, and what excites them about their roles.

Employees' Round-table Discussion

Bolstering Resource Recycling Perspectives Amid Growing Awareness

What is the relationship between your work and Resource Recycling?

Masayuki Hatama (MH): I'm mostly involved in the collection of E-Scrap from the Americas. At one point, I was involved in a project to support the collection of used electrical and electronic equipment at Duoc UC, a technical college in Chile (founded under the umbrella of Pontificia Universidad Católica de Chile, one of Chile's prestigious private universities). The school was eager to foster a culture of recycling metal materials, but did not have the know-how to handle post-collection and other recycling issues. We set up collection containers inside the school and supported its initiatives. I believe that our Recycling business is one of the best in the world, and **spreading the word about doing the right thing the right way is a crucial part of that.**

Kenta Kusunose (KK): I'm involved in production management operations to estimate the volume of copper cathode, sulfuric acid, and other products produced at our plant based on the volume of copper concentrate and recycled raw materials processed. Since we process many types of recycled raw materials in a wide range of grades, it is important from a management perspective to constantly check the recovery rate to ensure that these materials are correctly evaluated and analyzed, and that they are being processed and manufactured as planned. Also, we not only assign processing sites according to the composition and shape of the recycled raw materials, but also optimize processing by adding sieving and sorting processes and crushing processes, and by considering input from existing lines where there is room. Recycled raw materials contain many metals that are not recovered in the smelting process, such as aluminum and chromium. For example, in order to make it possible to sell chromium externally as a raw material for stainless steel, we reviewed the sorting conditions in cooperation with the Production and Scrap Crushing and Sample Preparation Section and made improvements to increase the purity of the material. This effort is an example of our contribution to Resource Recycling.

We believe that our Recycling business is one of the best in the world, so doing the right thing the right way, and spreading the word about it is our crucial mission.

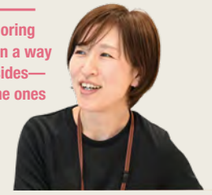
Saori Koga (SK): I'm in charge of strategically promoting Resource Recycling. This year, we launched REMINE, a recycled metal brand verified by a third-party organization for its recycled content rate, and began selling Refined Tin (100% recycled content) and Refined Lead (99.6% or more recycled content) as our first products. We are yet to see how this project pans out, but the reception from our customers so far has been exceeding expectations. We are determined to do the right thing by making sure that recycled raw materials are once again sent out to the world as resources.

Naoki Takeuchi (NT): Kansai Recycling Systems' Main Factory in Hirakata City handles refrigerators, air conditioners, and washing machines, while the Second Factory, where I work, handles CRT-based and flat-screen TVs. Our operations involve disassembling and sorting home appliances to extract as much recyclable material as possible, such as metals and resins, while minimizing waste as much as possible. On top of that, **we are working to make effective use of materials that are still waste, such as urethane and soundproofing materials, by turning them into resources with as much value as possible.**

What changes have there been in external awareness about Resource Recycling?

SK: We feel that **our smelting business is well understood by automobile and home appliance manufacturers as an indispensable part of resource recycling.** Customers now perceive us not just as fulfilling the role of processing recycled material appropriately, but also as an essential contributor to achieving a circular economy and carbon neutrality, reflecting their evolved perspectives compared to the past. European battery regulations now require the use of recycled materials, and such regulations are now becoming a major motivating factor.

We are committed to always exploring how we can circulate resources in a way that pleases customers on both sides—the ones that supply scrap and the ones that use metal.



MH: In the past few years, the number of visits to the Naoshima Smelter & Refinery by recyclers (companies that collect materials such as E-Scrap) has increased, and they have shown great interest in our E-Scrap processing and sampling methods. Also, when we participate in overseas E-Scrap conferences, we are increasingly being asked to meet with overseas electronics manufacturers with whom we are not yet acquainted, and we are receiving a much greater number of questions about our recycling technology and resource recycling process. I feel that awareness of resource recycling has increased significantly.

NT: When we are commissioned by our customers to recycle home appliances, they request that we collect as much as possible as a single material, rather than mixed metal or mixed resin, which is a mixture of several materials, and that the mixed metal ratio should be less than 9% and the mixed resin ratio less than 70%. At our plants, we need to recover materials even more thoroughly than before. As the awareness of our customers continues to grow, we must also strengthen our awareness and perspectives about recycling.

KK: It seems that the number of metal resources that customers want collected is increasing. Also, when we speak with companies that visit our smelters, more and more are interested in the smelter's recovery process. We're often asked about the percentage of recycled materials used in our products. This makes me feel that awareness about Resource Recycling is growing. To meet the demands of our customers, smelters must become more sophisticated. I believe that **the Mitsubishi Process for continuous copper smelting is superior in that it loses less valuable metals to the slag and has a higher metal recovery rate.**

Customers are becoming increasingly aware of resource recycling. We hope to add even more value to Naoshima Smelter & Refinery by leveraging the superior Mitsubishi Process for continuous copper smelting.

How do you want to aim towards circulating resources for a sustainable future?

I want to develop an efficient work system that can maintain quality without the use of manpower by automating home appliance dismantling processes as much as possible with the use of AI and other technologies.

NT: **In the sense of extracting recyclable materials from used home appliances, I believe that the role of Kansai Recycling Systems is exactly that of resource recycling itself.** Currently, we are having difficulty securing human resources, so in order to fulfill our role properly, we intend to develop a system that will allow us to automate as much as possible without compromising recycling quality by making full use of AI and other technologies, as well as considering line configurations that do not require a lot of manpower.

SK: We are committed to satisfying both types of customer: those who supply recycled raw materials like scrap, and those who use metal. The world is already moving towards a circular economy, and the term "urban mines" has become popular in Japan when referring to E-Scrap. It is now recognized as a given that making products from such recycled raw materials will reduce GHG emissions more than making products from ore. Although our recycling business is appreciated by our customers, **as a business, it is also crucial to generate enough value and profit to be recognized by the market.** We must be constantly thinking about what we need to do to achieve this and what "circulating resources for a sustainable future" means to the Mitsubishi Materials Group.

MH: We have built up a high level of knowledge and expertise when sampling the E-Scrap we receive (the process of taking a portion of E-Scrap and calculating the content of metals and other materials contained in it to determine the purchase price). We also have the facilities to accept smaller quantities of E-Scrap than other businesses, and I feel that we possess many factors that give us an advantage over our competitors. I believe that the direction our company is taking now is very good and in line with global trends. As we are forging new territory, **I'd like us to create something even more interesting by stimulating communication through coordination that crosses internal organizational boundaries.**

KK: With the external environment surrounding smelters and refineries deteriorating at a dizzying rate, including increasing raw material and fuel costs and stagnant TC/RC (treatment and refining charges), we believe that our destiny is to expand processing of recycled materials such as E-Scrap while maintaining stable operations in order to survive. The volume of copper concentrate processed at the Naoshima Smelter & Refinery is not so large compared to smelters and refineries in Japan and internationally, so taking advantage of scale is quite a challenge. We need to make optimal capital expenditure to balance the ideal processing volume of recycled raw materials such as copper concentrates and E-Scrap with the sales volume of various products such as copper cathode, while coordinating with each department to **improve the manufacturing process to allow more efficient and consistent processing of E-Scrap from analysis and evaluation to processing.** By doing so, we hope to add even more value to the Naoshima Smelter & Refinery.

Carbon Neutrality: Dealing with Climate Change

We are helping to build a decarbonized society, and are steadily implementing measures to achieve our ambitious greenhouse gas (GHG) emission reduction targets. Our goal is to achieve carbon neutrality by the fiscal year ending March 2046 and 100% self-sufficiency in electricity derived from renewable sources by the fiscal year ending March 2051.

Related Information:

Sustainability Report
▶ Strengthening Measures to Address Global Environmental Issues
https://mmc.disclosure.site/en

Response and Policies

The Intergovernmental Panel on Climate Change (IPCC) published its sixth Synthesis Report in 2023, in which it stated that human activities have "unequivocally" caused global warming and stressed the urgency with which GHG emissions must be reduced. Countries across the world have been promoting climate change initiatives under the Paris Agreement framework that came into effect in 2020, and with the signing of the Glasgow Climate Pact at the 2021 United Nations Climate Change Conference (COP26), there has been a major shift towards the target of limiting global warming to the 1.5°C target by achieving carbon neutrality by 2050.

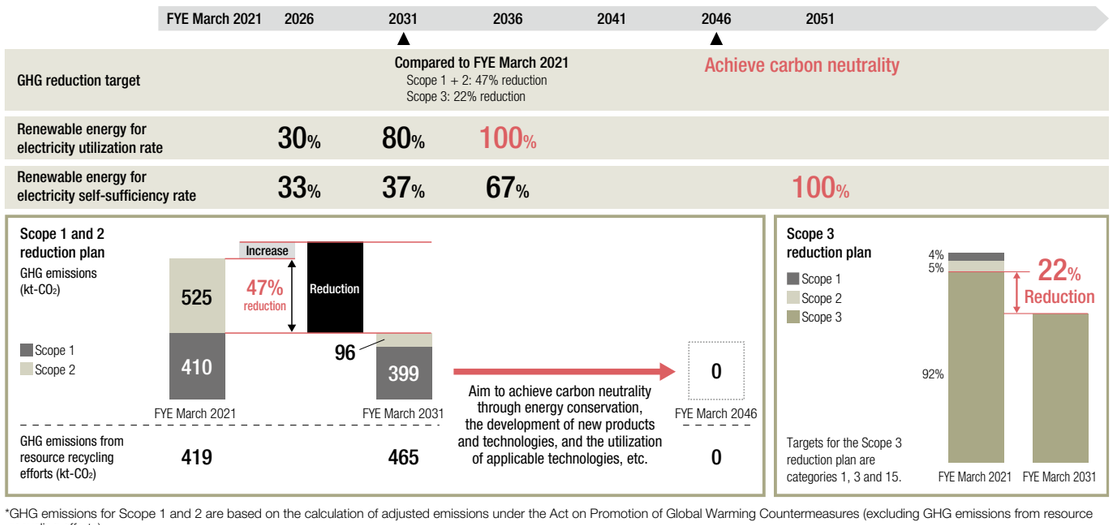
At Mitsubishi Materials Group, we recognize the seriousness of addressing climate change in line with our Corporate Philosophy of "For People, Society and the Earth." We are advancing our business activities with the goal of building a decarbonized society in numerous ways. In addition to setting a target of achieving carbon neutrality by the fiscal year ending March 2046, five years earlier than the Japanese government's target for the fiscal year ending March 2051, we aim to generate power equivalent to our electricity consumption from renewable sources by the fiscal year ending March 2051, achieving 100% self-sufficiency in electricity derived from renewable sources.

Indicators and Targets

The Group has set out its GHG emissions reduction targets (Scope 1 + 2 and Scope 3) in the Medium-term Management Strategy. Starting from the fiscal year ending March 2025, we have reorganized our GHG emissions reporting in accordance with the commencement of periodic reporting as mandated by the revised Act on Rationalization of Energy Use and Shift to Non-fossil Energy and the Act on Promotion of Global Warming Countermeasures. This includes the addition of CO_2 emissions previously excluded from calculations and reporting to the scope of legal reporting, such as those from the combustion of plastic contained in E-Scrap and CO_2 emissions from the chemical reaction of limestone used in the manufacturing process.

Since one of the pillars of the FY2031 Strategy is to strengthen our resource recycling efforts by leveraging our strengths, we have set a new GHG emissions reduction target (Scope 1 + 2) of 47% from levels of the fiscal year ended March 2021 by the fiscal year ending March 2031. This target excludes GHG emissions from resource recycling efforts.

As for Scope 1 + 2, we will continue to aim to achieve carbon neutrality by the fiscal year ending March 2046, including GHG emissions from our resource recycling efforts. To achieve this, we have established a roadmap toward carbon neutrality, and we plan to invest ¥10.5 billion, mainly on energy conservation measures and equipment improvements at manufacturing sites, by the fiscal year ending March 2031. As for Scope 3, we have set a reduction target of 22% by the fiscal year ending March 2031 (compared to the fiscal year ended March 2021). Additionally, we will promote the development and expansion of renewable energy such as geothermal power, which is one of the Group's strengths. We have set a target of using 100% renewable energy for electricity use by the fiscal year ending March 2036 and 100% self-sufficiency in renewable energy for electricity by the fiscal year ending March 2051. For this, we plan to invest ¥30 billion in the renewable energy business by the fiscal year ending March 2031.



*GHG emissions for Scope 1 and 2 are based on the calculation of adjusted emissions under the Act on Promotion of Global Warming Countermeasures (excluding GHG emissions from resource recycling efforts).
*GHG emissions exclude businesses and subsidiaries that have been or will be removed from the scope of consolidation due to business portfolio adjustment by the fiscal year ended March 2024.

Strategy

The Group conducted scenario analysis based on TCFD* recommendations to analyze climate-related Group risks and opportunities. We have established business indicators and targets regarding these transition risks and opportunities while maintaining consistency with the FY2031 Strategy announced in February 2023. We established and analyzed 1.5°C and 4°C scenarios for each theme. As a risk common to all businesses, we estimated the financial impact on the Group in the event that climate change policies, laws and regulations are strengthened, and in the event that carbon pricing systems are introduced and strengthened. We also analyzed impacts on our business from the perspective of risks and opportunities regarding changes in demand for electric vehicles, changes in energy usage patterns, and changes in recycling business demand due to the transition to a recycling-oriented society. We are working to achieve our business goals to reduce these risks and seize these opportunities. In our Company-wide risk management activities, we also manage physical water risks, including damage caused by acute and chronic risks such as torrential rains, floods, storm surges, and droughts, which are considered to be related to climate change.

*TCFD: Task Force on Climate-related Financial Disclosures. The TCFD was established in 2016 by the Financial Stability Board, an international organization that seeks to stabilize financial systems.

Carbon Neutrality Road Map

	FYE March 2031		Vision for FYE March 2046, after CN
Scope 1	• Fuel conversion (switch from heavy oil to LNG) • Reduction in fossil fuel due to increased E-Scrap processing • Electrification of heat utilizing equipment • Research & development on products and technology that contribute to CCUS, etc.	• Fuel conversion • Electrification of heat utilizing facilities • Implementation of technologies and transfer of facilities	• CN conversion of furnace (hydrogen, ammonia, etc.) • Electrification of equipment • 100% renewable electricity (stable procurement of in-house electricity) • Conversion of air conditioning equipment to non-fluorocarbons • Non-fluorine cleaning solution • Other (technologies for adopting CCUS, etc.) • Development and provision of products and technologies to contribute to a CN society
Scope 2	• Introduction of solar power generation facilities • Increased in-house power generation through installation of saturated steam turbines • Replacement with high-efficiency equipment • Switch to renewable energy sources • Renewable energy certificates, CPPA utilization, etc.		
Scope 3	• Supplier engagement and collaboration • Collaboration with Mitsubishi UBE Cement Corporation and other equity method affiliated companies		
Investment Plan	• ¥10.5 billion GHG reduction investment in facilities and processes • ¥30 billion in the renewable energy business		

Carbon Neutrality Road Map and Progress

To achieve our Scope 1 reductions, we are developing technologies that contribute to a reduction of CO_2 related to CCUS (Carbon Dioxide Capture, Utilization and Storage) and will promote fuel conversion from heavy oil to LNG and electrification of facilities. To achieve our Scope 2 reductions, we are installing solar power generation equipment, making high-efficiency equipment replacements, and switching to electricity derived from renewable energy sources. We are also making internal use of renewable energy certificates at our plants, such as using non-fossil certificates from our hydroelectric power plants. In anticipation of future demand reducing renewable energy certificate availability, we are also considering the use of CPPAs (Corporate Power Purchase Agreements) to secure renewable energy over the long term. From the fiscal year ending March 2025, we also began operating an internal carbon pricing system to steadily implement initiatives to reduce GHG emissions. We aim to achieve carbon neutrality by the fiscal year ending March 2046, including GHG emissions from the use of recyclable resources, by conserving energy and reducing the use of fossil fuels at manufacturing sites, promoting the development of products that contribute to a carbon-neutral society and technologies such as CO_2 capture and CO_2 treatment, and utilizing applicable technologies.

Transition-Linked Finance

The Company established the Transition-Linked Finance Framework in November 2023 to promote our efforts to achieve carbon neutrality. Based on the framework, we are issuing Transition-Linked Bonds and executing Transition-Linked Loans. Furthermore, along with the application of the performance-linked interest subsidies program (financial support for promoting the transition toward achieving a carbon-neutral economy) based on the Act on Strengthening Industrial Competitiveness, MMC was selected as a recipient of the Ministry of Economy, Trade and Industry (METI) subsidy for global warming countermeasures promotion project for the fiscal year ended March 2024.

We will promote our efforts to achieve carbon neutrality by utilizing the funds raised.

Execution date	Type	Procurement amount
Nov. 2023	Transition-Linked Bond	¥20 billion
Feb. 2024	Transition-Linked Loan	¥20 billion
Apr. 2024	Transition-Linked Bond	¥15 billion

Carbon Neutrality: Dealing with Climate Change

Carbon Footprint (CFP) Response

The Company has established a direction regarding the calculation of the Carbon Footprint of Products (CFP) and is promoting CFP initiatives. In concrete terms, we are expanding the CFP calculation to our main products, establishing a system to ensure data reliability, and promoting third-party verification and disclosure of CFP calculation results. It is important not only to calculate CFP but also to reduce it, and we are promoting integrated efforts to reduce CFP from upstream to downstream by systematically planning our GHG reduction measures and promoting supplier engagement.

Promotion of Switching to Renewable Energy at Metals Company Sites

Electricity-origin emissions account for 38% of the Group's total GHG emissions (including GHG emissions from resource recycling efforts). Our Metals business, which accounts for approximately 60% of the Group's domestic electricity consumption, will further accelerate the switchover of purchased electricity to renewable sources, bringing 80% of the Metals business sites forward to the fiscal year ending March 2025, up to 11 years ahead of schedule. The schedule for Naoshima Smelter & Refinery and Onahama Smelter & Refinery will also move forward by 7 years to the fiscal year ending March 2029.

Initiatives for Scope 3 Reductions Supplier Engagement

In order to achieve the Group's Scope 3 (categories 1, 3, and 15) emission reduction targets and reduce CFP, it is important to promote the reduction of GHG emissions not only in our businesses, but also in the entire supply chain. We are building relationships with our suppliers to reduce GHG emissions throughout our supply chain. Specifically, engagement letters are sent to copper concentrate suppliers related to category 1, which accounts for approximately 30% of Scope 3 emissions, information is shared on the status of efforts to address global environmental issues, GHG emissions reduction targets and reduction plans from both the Group and copper concentrate suppliers, and opinions are exchanged through discussions and other means. The Company plans to continue these efforts and expand the suppliers that they apply to.

Among copper concentrate suppliers, we have also signed a Memorandum of Understanding (MOU) with Anglo American plc, a multinational mining company headquartered in London, UK, to promote collaboration for providing sustainable and responsible products throughout the copper-related products supply chain. As global demand for copper increases, there is a desire that those supplies be greener and more sustainable. The Company and Anglo American plc will work together to meet these market demands.

Initiatives for Scope 3 Emissions Reduction MUCC's Efforts Towards Carbon Neutrality

Mitsubishi UBE Cement Corporation (MUCC) is an equity method affiliate, and the Company counts and reports 50% (shareholding ratio of MUCC) of MUCC's Scope 1 and 2 emissions as the Group's Scope 3 category 15 emissions. As these emissions account for approximately 60% of Scope 3 emissions (as of the fiscal year ended March 2021), reducing MUCC's emissions will contribute significantly to the Group's Scope 3 emissions reduction. MUCC has taken the "promotion of global warming countermeasures" as one of its top priorities in its Medium-term Management Strategy, "Infinity with Will 2025: MUCC Sustainable Plan 1st Step," announced in April 2023. It established the Carbon-neutral Technology Promotion Office and the Carbon-neutral Promotion Committee in the fiscal year ended March 2024, to strengthen the implementation structure by improving its organizational structure.

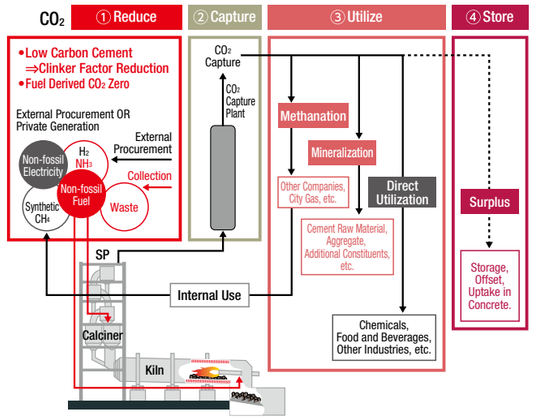
Through various efforts, it is aiming to achieve its interim goal of a 40% reduction in CO_2 emissions by 2030 (compared to 2013 levels) and carbon neutrality by 2050.

Regarding the reduction of CO_2, MUCC has jointly developed an eco-friendly concrete with Shimizu Corporation, which substitutes approximately 80% of the cement with blast-furnace slag. In addition, it has launched the world's first demonstration test of ammonia co-combustion in the cement manufacturing process.

Regarding the utilization of CO_2, MUCC has participated in the Kitakyushu Circular Economy Vision Promotion Council's subcommittee on the mineralization of concrete waste and its application, with the aim of building a business model to apply CO_2 fixed recycled products using CO_2 emitted from cement plants and concrete waste to construction projects.

Regarding the storage of CO_2, it has begun a joint study with MITSUI & CO., LTD. on carbon dioxide capture and storage (CCS) between Malaysia and Japan, aiming to achieve carbon neutrality in the cement manufacturing process. It has also initiated a joint study on carbon dioxide capture, utilization and storage (CCUS) with Osaka Gas Co., Ltd.

The Company will continue to promote communication with MUCC for Scope 3 emissions reduction.



Introduction of Internal Carbon Pricing (ICP) System

MMC introduced an internal carbon pricing (ICP) system in April 2024 in order to raise awareness about GHG emissions and further promote its decarbonization efforts. Under the ICP system, the Company sets its own hypothetical price for GHG emissions and uses it for investment decisions.

The internal carbon price is set at ¥10,000 per t-CO_2e and is used in investment decisions for capital expenditures that contribute to reductions in our own GHG emissions (Scope 1 + 2). We will actively promote the reduction of GHG emissions by promoting investments that contribute to decarbonization through the introduction of the ICP system.

Governance

The Company has appointed a Chief Sustainability Officer (CSuO) responsible for addressing sustainability issues, including dealing with climate change. Additionally, the Global Environmental Affairs Department in the Corporate Division has been set up to promote the Group's response to climate change. The Global Environmental Affairs Committee, for which the Global Environmental Affairs Department serves as secretariat, promotes the examination of scenario analysis based on TCFD recommendations, as well as evaluation and management of climate related risks and opportunities and discussion and sharing of information on measures to achieve GHG emission reduction targets and other climate change measures. These efforts are reported to the Strategic Management Committee and the Board of Directors for appropriate monitoring.

In addition, the Group established the Sustainability Committee, an advisory body to the Board of Directors, for the purpose of actively examining the direction of our sustainability efforts from different perspectives and presenting it internally. This Committee monitors our climate change initiatives, discusses methods and issues regarding those initiatives, and reports this information to the Board of Directors.

Risk Management

We recognize climate change as one of the major sources of risks that may have a significant adverse effect on the Group's results and financial position. Accordingly, we are working to address this through our Group-wide risk management activities.

Please refer to Risk Management for further details on the Group's Risk Management System, status of operation, major risk selection process, etc.

Related Information:

Integrated Report ▶ Risk Management
P75

Scenario Analysis – Summary of Results

▲ Primary Risks ● Primary Opportunities

Theme	Business	Risk/Opportunity Elements at 1.5°C	Impact on Business		Target
			1.5°C	4°C	
Changes in Carbon Tax, Energy Costs, etc.	Common to All Businesses	▲ Introduction/strengthening of carbon price tax system (increase in operation costs)	Total amount of burden of carbon price and increase in energy costs Approx. ¥23.7 billion	Approx. ¥15.8 billion	GHG emissions (Scope 1 + 2) Excluding GHG from resource recycling efforts: FYE March 2031 47% reduction (compared to FYE March 2021) Including GHG from resource recycling efforts: FYE March 2046 Carbon neutrality
Changes in EV Demand	Smelting & Resource Recycling Business	● Increase in xEV sales volume	Global demand in copper for vehicles (compared to FYE March 2021) FYE March 2031: 3.3 times FYE March 2051: 4.6 times	FYE March 2031: 2.1 times FYE March 2051: 2.7 times	Copper cathode sales volume FYE March 2031 830,000t per year
		▲ Decrease in volume of scrapped vehicles generated in Japan	Volume of scrapped vehicles generated in Japan (compared to FYE March 2021) FYE March 2031: 0.98 times FYE March 2051: 0.85 times	FYE March 2031: 0.98 times FYE March 2051: 0.89 times	Annual processing volume of vehicle recycling FYE March 2031 70,000 vehicles per year
	Copper & Copper Alloy Business	● Increase in xEV sales volume	Demand in connectors and busbars for vehicles (compared to FYE March 2021) FYE March 2031: 2.6 times FYE March 2051: 3.1 times	FYE March 2031: 2.2 times FYE March 2051: 2.4 times	Sales volume of automotive pure copper strips FYE March 2031 2 times (compared to FYE March 2021)
	Metalworking Solutions Business	▲ Rapid change in market for processed products due to modal shift, etc.	Sales of cutting tools for the automotive industry (compared to FYE March 2021) FYE March 2031: 0.996 times FYE March 2051: 0.718 times	FYE March 2031: 1.510 times FYE March 2051: 1.455 times	Sales of cutting tools FYE March 2031 2.3 times (compared to FYE March 2021)
			Sales of cutting tools for the aerospace industry (compared to FYE March 2021) FYE March 2031: 1.18 times FYE March 2051: 1.61 times	FYE March 2031: 1.48 times FYE March 2051: 2.60 times	
Changes in Forms of Energy Use	Smelting & Resource Recycling Business	● Increase in demand for automotive LIB and solar panel recycling	Volume of LIB recycling (compared to FYE March 2021) FYE March 2031: 50 times FYE March 2051: 350 times	FYE March 2031: 14 times FYE March 2051: 92 times	Processing volume of automotive LIB Recycling* FYE March 2031 870t LIB per year *Up to the point of Black Mass production (including LIB removal, discharging, dismantling, pyrolysis, crushing and sorting)
	Metalworking Solutions Business	● Increase in demand for EV batteries and storage batteries	Production volume of advanced powder for EV batteries and stationary storage batteries (compared to FYE March 2021) (considering the Company's production capacity) FYE March 2031: 1.9 times FYE March 2051: 3.8 times		Production volume of advanced powder for rechargeable batteries FYE March 2031 1.9 times (compared to FYE March 2021)
	Renewable Energy Business	● Increase in spread and demand for renewable energy	Difference from FYE March 2021 sales of the Company's share of power generation FYE March 2031: ¥5,240 million FYE March 2051: ¥23,668 million	FYE March 2031: ¥5,046 million FYE March 2051: ¥20,185 million	The Company's share of renewable power generation FYE March 2031 575GWh
Changes in Demand for Recycling Business Due to Shift to Recycling-Oriented Society	Smelting & Resource Recycling Business	● Increase in demand for E-Scrap recycling	Volume of E-Scape generated globally (compared to FYE March 2021) FYE March 2031: 1.4 times FYE March 2051: 2.5 times	FYE March 2031: 1.3 times FYE March 2051: 1.6 times	E-Scrap processing capacity FYE March 2031 240,000t per year
		● Increase in demand for home appliance recycling	Processing weight of waste home appliances in Japan (compared to FYE March 2021) FYE March 2031: 6% increase FYE March 2051: 10% increase	FYE March 2031: 2% increase FYE March 2051: 1% increase	Annual processing volume of home appliance recycling FYE March 2031 5.9 million appliances per year

*These results are based on analysis conducted in the fiscal year ended March 2023

Functional Strategy Overview

In addition to enhancing initiatives to tackle common Group-wide issues, we are advancing the reinforcement of our management foundation and working to enhance corporate value.

FY2031 Strategy		Initiatives in FYE March 2024	Issues / Future Initiatives
Human Resources Strategy **Related Information:** Integrated Report ▶ Human Resources Strategy P58	**Maximizing the value of human resources and creating an organization dedicated to winning** **Building a foundation for co-creation and growth**	• Establishment of pool of next-generation leadership talent and strengthened development initiatives Ratio of candidates on the Next-generation Leadership Talent Development Program to successors of Executive Officers: 56% in FYE March 2024 (result) • Promoting initiatives relating to support for the employment of women, non-Japanese people and mid-career hires Ratio of diverse attributes among managers: 24% in FYE March 2024 (result) • Promoting initiatives relating to improving employee engagement Positive response rate in employee engagement survey: 73% in FYE March 2024 (result)	• Building of a pipeline to Executive Officer roles through ongoing selection and development of next-generation leadership talent Ratio of candidates on the Next-generation Leadership Talent Development Program to successors of Executive Officers: FYE March 2026 target of 70%, FYE March 2031 target of 80% • Strengthening initiatives relating to support for the employment of women, non-Japanese people and mid-career hires Ratio of diverse attributes among managers: FYE March 2026 target of 20%, FYE March 2031 target of 30% • Enhancing initiatives relating to improving employee engagement Positive response rate in employee engagement survey: FYE March 2026 target of 75%, FYE March 2031 target of 80%
Manufacturing Excellence Strategy **Related Information:** Integrated Report ▶ Manufacturing Excellence Strategy P66	**Formulating plant visions based on the FY2031 Strategy, evaluating plant capabilities and setting issues, then pursing solutions**	• Creation of a manufacturing issues overview map in a drill-down format to comprehensively collate plant issues linked to the business and plant visions, and commencement of the use of this map as a common tool across plants • Revision of plant capability evaluation sheets to make them tools narrowed down to items of particular interest and enable more effective specialization-orientated awareness	• Extraction and visualization of latent issues through further refinement of manufacturing issues overview map • Taking insights gained through expansion of new plant capability evaluation sheets, and reflecting/collating them in manufacturing issues overview map, then working to utilize and establish them as part of problem solving in PDCA cycles
	Taking differentiation of manufacturing capabilities to the next level through bottom-up activities, enhancing our manufacturing foundation and technology development and improvement	• Visualizing production progress, lead times, bottleneck processes, process management losses and setup times as information fundamental for production management and quality stabilization in production line, which has been selected as a target for strengthening • Talent development using "learn and practice," through which employees learn through digital education, then put what they have learned into practice in the field	• Management of visualized information in each process, building of systems enabling autonomous, voluntary and continuous improvement from the perspective of SCQDE, and confirmation of effectiveness through KPIs • Continuation of "learn and practice" activities, solicitation of new DX themes and frontline utilization of digital technology and data
R&D Strategy **Related Information:** Integrated Report ▶ R&D Strategy P67	**Achieving sustainable enhancement of corporate value through the creation of new products, technologies and businesses**	• Implementation of acceleration program to recruit collaboration partners in order to promote commercialization • Implementation of Internal Posting for new businesses through internal venture system, with two projects transitioning to the commercialization preparation stage • Exploration of new business opportunities and startups to nurture, research and development Internal Posting system and progress in large-scale industry-academia collaboration	• Progress towards commercialization through continuation of acceleration program, enhancement of back office functions required for new business creation • Strengthening of exploration of overseas startups and research institutions and acquisition of new technologies to solve medium- to long-term issues in areas such as resource recycling and decarbonization • Assessment of technologies by working on them as corporate development projects at the selection stage
DX Strategy **Related Information:** Integrated Report ▶ DX Strategy P68	**Using data and digital technology to promote the three pillars of improving business added-value, operational competitiveness, and management speed**	• Implementation of expansion of Customer Relationship Management (CRM), etc. in Japan and overseas through Metalworking Solutions Company • Release of manufacturing and sales coordination system in Advanced Products Company • Implementation of MEX* function expansion at Metals Company • Reduction of labor hours through Robotic Process Automation (RPA), etc., Company-wide expansion of data infrastructure and usage guidelines, expansion of management information visualization system, introduction of Enterprise Resource Planning (ERP) accounting area, etc. *Mitsubishi Materials E-Scrap EXchange, an online E-Scrap (discarded circuit board) trading system.	• Horizontal expansion of themes in full-scale operation to Group companies and overseas business sites, and acceleration of Group-wide DX • Data infrastructure construction and promotion of data collection/visualization, deepening of data-based business operations through examples of utilization in departments
	Reorganizing themes and strengthening systems under MMDX, which was initially launched over two years ago, in order to strengthen manufacturing and steadily implement existing themes as it enters a new phase as MMDX 2.0	• Discovery and promotion of data utilization themes through activities integrated with manufacturing area • Implementation of DX Challenge, which supports themes put forward by employees • DX explanation sessions, etc. at business sites and Group companies, support for autonomous DX promotion activities at business sites and Group companies • Establishment of Mitsubishi Materials IT Solutions to strengthen implementation, and strengthening of the execution system and shifting to in-house systems in preparation for full-scale operation phase	• Continuation of DX explanation sessions at business sites and Group companies from FYE March 2025 onward • Autonomous acceleration of DX promotion through support for engineer dispatchment, etc. • Further strengthening of integration of activities with manufacturing area, and promotion of discovery and implementation of DX themes at business sites
IT Strategy **Related Information:** Integrated Report ▶ IT Strategy P69	**Promoting IT modernization to support businesses from the perspective of data utilization, work style, and security in order to realize the MMC Group IT WAY**	Formulation of common global policies and implementation of next-generation networks and cloud-based security (update completed at sites in China and ASEAN countries in FYE March 2024)	• Promotion of the utilization of common Group data analysis infrastructure, cloud infrastructure, and IT services and provision of back office functions that are essential for business
	Moving from legacy to global standard IT infrastructure and implementing appropriate information security measures	Renewal of Company-wide Enterprise Resource Planning systems, transitioning to cloud-based systems as a basis for establishing common secure cloud infrastructure	• Gradual refreshment of systems developed with legacy technologies by approximately FYE March 2031 • Formulation and implementation of common global-level security measures against increasingly sophisticated external threats in both IT and OT

Message from the Chief Human Resources Officer

It is employees who create new values. We will maximize the value of human resources to achieve Our Commitment.

The Group has established Our Commitment: "For people, society and the earth, circulating resources for a sustainable future." It is employees who fulfill this commitment through our business activities, and so we believe that employees are the source of new value creation and the Group's sustainable growth. We have formulated human resources strategies in the FY2031 Strategy to serve as the foundation for this and are investing in various measures. We will continue to view our employees as human capital and maximize their value to facilitate the growth of both individuals and the Company.

Makiko Nogawa
Managing Executive Officer
CHRO, Responsible for Talent and Organization Development, Human Resources & Labor Administration, HRBP, General Affairs, and Secretary

Human Resources Strategies and Initiatives

The two key pillars of the human resources strategies in the FY2031 Strategy are "Maximizing the value of human resources and creating an organization dedicated to winning" and "Building a foundation for co-creation and growth."

In order to "win" by developing the strengths of each employee and getting the most out of them—to achieve the targets in our management strategies and do things right and with conviction—we are working on various initiatives, including next-generation leadership talent development, fulfilling hiring needs in a shorter time, rolling out a job-based HR system for our management, enhancing performance management and promoting autonomous career development.

We are also working on initiatives such as DE&I, improving employee engagement and strengthening talent management through multifaceted use of talent information. The purpose of these efforts is to build the foundations for growth through co-creation among employees and between employees and the Company, namely the awareness, culture and structure that form the basis supporting various measures related to human capital.

The main KPIs of our human resources strategies are "Continuously retaining and developing management leader candidates" based on our first pillar, "Diversity in management" based on our second pillar, and "Employee engagement" as a metric for alignment between job fulfillment for our employees, who play a key role in all of our human capital initiatives, and the direction of the Company.

Our measures are wide-ranging but we will ensure that the results of all of our measures interconnect organically and invest in addressing labor shortages and enhancing our human capital to contribute to accomplishing the FY2031 Strategy.

Implementation Structure for Execution of Our Human Resources Strategies

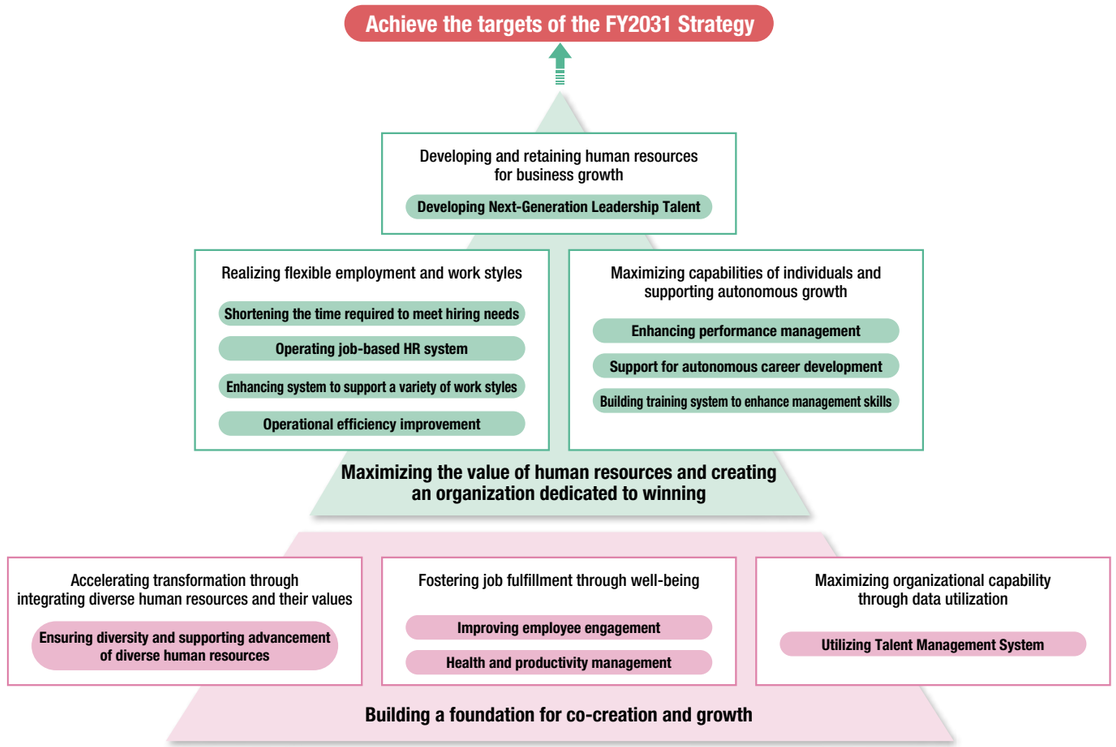
We have established the position of an Executive Officer overseeing the Group's human resources strategies (CHRO), a department in charge of human resource functions and Company human resource functions including HRBPs (HR Business Partners). These work together to strengthen our human resources functions. Through discussions on issues concerning human capital by the Human Resources Committee, whose members include all Executive Officers and the HRBPs, and measures such as selection of candidates for next-generation leadership talent development and reviews of those candidates' development plans, we implement various measures that combine our management strategies and human resources strategies. We also hold Town Hall Meetings where we communicate with each employee about the beliefs behind our human resources strategies and various initiatives, which provides opportunities for two-way dialogue.

The Board of Directors regularly monitors these human capital initiatives and reviews Executive Officers' succession plans, and actively works on initiatives such as meetings and dialogue between Directors and next-generation leadership talent.

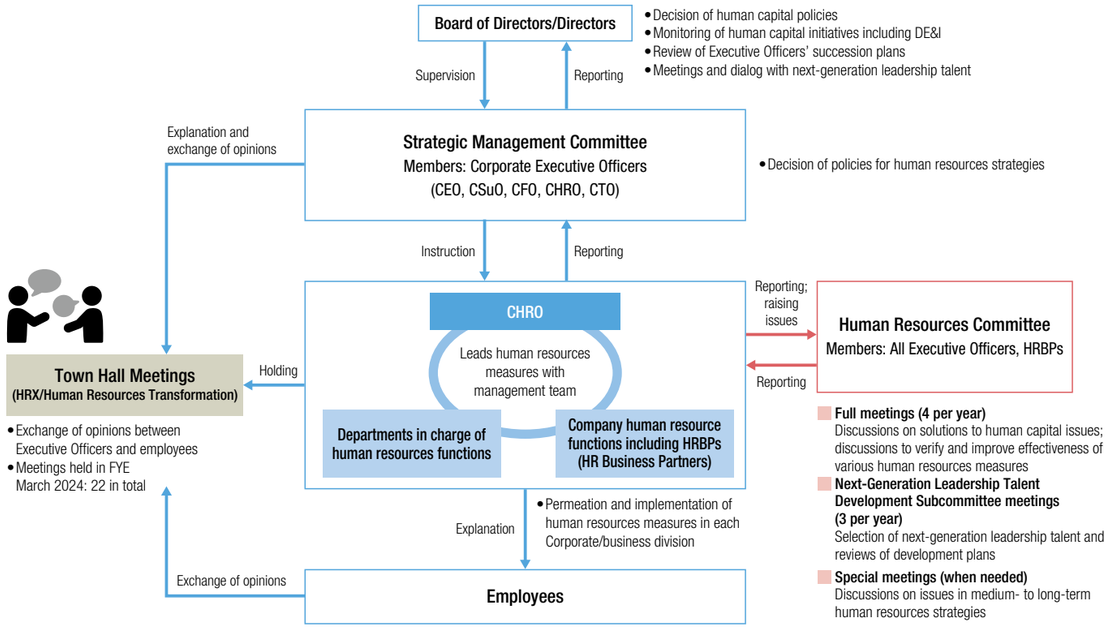
The Views of the CHRO: How to Accomplish the FY2031 Strategy and Fulfill Our Commitment

The Company has been pursuing Four Management Reforms with the aim of further enhancing our organizational capabilities in preparation for changes in our management environment. The results of one of these pillars, Human Resources Transformation (HRX), are the foundation of our human resources strategies today. The reforms we have made thus far are dramatically changing the way each employee thinks and acts. With that said, there is still room for improvement in areas such as building the muscles needed to effect change, diversity in management, and strengthening HR talent, and further work on this is needed in order to fully execute our human resources strategies. As CHRO, I am committed to starting by leading us to where we need to be by the end of the fiscal year ending March 2026, the final year of Phase 1 of the FY2031 Strategy, taking a strong leading role with ceaseless passion for reform.

Human resources strategies and initiatives



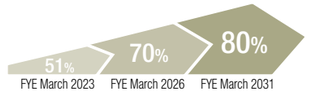
Implementation structure for execution of human resources strategies



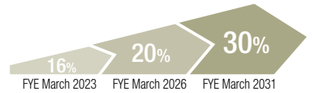
Human Resources Strategies and Medium- to Long-term Vision

Below are priority issues to be addressed in the execution of human resources strategies to fulfill Our Commitment, main measures and results for the fiscal year ended March 2024.
We have also formulated targets for the end of the fiscal year ending March 2026, the final year of Phase 1 of the FY2031 Strategy, and a vision for the end of the fiscal year ending March 2031, the final year of Phase 2, and the Human Resources Committee is conducting discussions for purposes such as solving issues, verifying the effectiveness of measures and making improvements in order to steadily accomplish these visions.

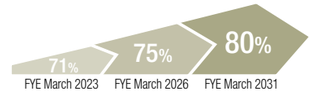
Key KPIs for human resources strategies



Continuously retaining and developing management leader candidates
Ratio of candidates on the Next-Generation Leadership Talent Development Program to successors of Executive Officers



Diversity in management
Ratio of diverse attributes* among managers
*Women, non-Japanese people, mid-career hires, people with disabilities



Continuous improvement of employee engagement
Positive response rate in employee engagement survey

Our Commitment

FY2031 Strategy

- **Metals Company**
  Leader in Resource Recycling of Nonferrous Metals
- **Advanced Products Company**
  Global First Supplier
- **Metalworking Solutions Company**
  A Leading Company in Tungsten Products Recognized by Customers Globally
- **Renewable Energy business**
  Expansion of Renewable Power Generation to Achieve 100% Self-sufficiency in Renewable Power Electricity

Human resources strategies

	Priority issues	Main measures	FYE March 2024 result	FYE March 2026	FYE March 2031	Materiality
Maximizing the value of human resources and creating an organization dedicated to winning	Developing and retaining human resources for business growth	★ Developing Next-Generation Leadership Talent	• Established a pool of next-generation leadership talent and enhanced development initiatives • Ratio of candidates on the Next-Generation Leadership Talent Development Program to successors of Executive Officers: 56%	• Build a pipeline to Executive Officer roles through ongoing selection and development of next-generation leadership talents • Ratio of candidates on the Next-Generation Leadership Talent Development Program to successors of Executive Officers: 70% • Develop organizations and talent to accelerate our resource recycling business, starting in Europe	We will have established and be executing a cycle of ongoing appointment and development of the next generation of management candidates for Executive Officer positions. Additionally, as an organization that is accelerating its global expansion, we will be developing talent with the management capabilities to lead multinational teams. *Ratio of candidates on the Next-Generation Leadership Talent Development Program to successors of Executive Officers: 80%	Enhancing talent retention and development
	Realizing flexible employment and work styles	Shortening the time required to meet hiring needs	• Enhanced publicity, diversified hiring channels and shortened lead times for hiring	• Improve recruiting capabilities	Through speedy hiring, placing the right persons in the right positions, a mixture of diverse employment patterns and work formats, and operational efficiency, we will utilize excellent talent from both inside and outside the Company to the maximum in our business operations.	Promotion of flexible work styles Addressing labor shortages
		Operating job-based HR system	• Placed the right persons in the right positions through proper placement at a management level • Promoted talent for early appointment to organizational head positions through stringent enforcement of age limits	• Acceleration of placements of the right persons in the right positions and early promotions		
		Enhancing system to support a variety of work styles	• Introduced trial system for side jobs / side businesses	• Improvement of appeal of our workplace (expansion of eligibility for coreless-flextime system, full adoption of system for side jobs / side businesses, etc.)		
		Operational efficiency improvement	• Implemented initiatives in each division for reform of business processes, promoting efficiency, labor saving, and workload saving	• Implement thorough measures for promoting efficiency, labor saving, and workload saving		
	Maximizing capabilities of individuals and supporting autonomous growth	Enhancing performance management	• Promoted understanding of and executed performance management cycles through training, etc. • Evaluation feedback given: 71%	• Establish support through performance management to achieve results and facilitate growth and development • Ensure that evaluation feedback is given	Each employee will be able to give their best and realize their growth as they build a career autonomously.	Strengthening talent retention and development Addressing labor shortages
		Support for autonomous career development Key measures of human resources strategies, P63	• Promoted autonomous career development (more active utilization of the Internal Job Posting System, held career event, provided opportunities to consult outside career counselors, provided support for re-skilling)	• Accelerate awareness-building about career autonomy and provide support for autonomous career development		
		Building a training system to enhance management skills	• Developed initiatives to improve the level of management throughout the Company (held "Basics of HR management" course for all managers, revised management training system)	• Continuously enhance management of organization and human resources (reflection of results of measurement of effects of training in the content of future training)		
Building a foundation for co-creation and growth	Accelerating transformation by integrating diverse human resources and their values	★ Ensuring diversity and supporting advancement of diverse human resources Key measures of human resources strategies, P62	• Ratio of diverse attributes among managers: 24% • Number of managers (compared to March 31, 2021): Women: Approx. 1.4 times, non-Japanese: Approx. 1.6 times, mid-career hires: Approx. 1.4 times • Percentage of women in management positions: 3.2%	• Ratio of diverse attributes among managers: more than 20% • Number of managers (compared to March 31, 2021): Women: Approx. 2.5 times, non-Japanese: Approx. 2.5 times, mid-career hires: Approx. 1.5 times • Percentage of women in management positions: 5.0%	By building an environment where team members with a variety of diverse attributes can coexist and recognize one another in an equitable manner and actively demonstrate their individual abilities at their very best, we will be able to get the maximum performance from our organizations and accelerate transformation. *Ratio of diverse attributes among managers: 30%	Promotion of DE&I
	Fostering job fulfillment through well-being	★ Improving employee engagement Key measures of human resources strategies, P63	• Positive response rate in employee engagement survey: 73%	• Positive response rate in employee engagement survey: 75%	Each employee will approach their organization and work autonomously with an internal motivation to contribute, and productivity per employee will be improving. *Positive response rate in employee engagement survey: 80%	Promotion of flexible work styles
		Health and productivity management Key measures of human resources strategies, P63	• Certified as a White 500 Health & Productivity Management Outstanding Organization for the first time in 2024 (Large Enterprise Category) • Received certification as an Excellent Health Company (gold certification) for the first time	• Keep certification as a White 500 Health & Productivity Management Outstanding Organization in 2024 (Large Enterprise Category) • Keep certification as an Excellent Healthy Company (Gold Certification)	Building workplaces where employees can be healthy and energized leads to the improvement of labor productivity and corporate values.	
	Maximizing organizational capability through data utilization	Utilizing Talent Management System	• Designed operations and implemented systems for skill data management • Commenced visualization and analysis of the situation of employees and organizations through aggregation of HR data	• Expand scope of HR data visualization and utilize HR data in talent management • Build a system to provide HR information to management in a timely manner	Decisions on human resources strategies and measures will be made based on HR data such as skill data and individual data, and the evaluation of this data.	Enhancing talent retention and development

★ indicates a measure related to a core KPI of the human resources strategies.

Key Measures of Human Resources Strategies

Ensuring Diversity and Supporting Advancement of Diverse Human Resources (Promote Diversity, Equity and Inclusion)

Basic Policy

The concept of "Equity" was added to the Group's basic policy on Diversity, Equity and Inclusion in April 2024. The policy is stipulated in our Basic Policy on Corporate Governance, Sustainability Policy and Human Rights Policy. In order to embrace and respect diverse personalities in an equitable manner, as well as to create new values that are sources of sustainable growth for the Group, we have set goals for the employment of women, non-Japanese people, mid-career hires and people with diverse attributes, and are deepening our efforts through a variety of measures.

Related Information:

Corporate website ▶ Basic Policy on Corporate Governance
https://www.mmc.co.jp/corporate/en/company/governance.html

Corporate website ▶ Sustainability Policy/Human Rights Policy
https://www.mmc.co.jp/corporate/en/sustainability/

Main Initiatives

To accelerate transformation through integrating diverse values, we are carrying out measures to ensure diversity and disseminate equity and inclusion.

<Ensuring diversity>

General
- Formulation of a three-year (FYE March 2024 - FYE March 2026) action plan for promotion of DE&I and execution of this plan by management and employees alike (plants and Group companies)
- Establishment of community for balancing work with childcare

Support of women's development and advancement
- Sponsorship program sponsored by Executive Officers
- Holding "DEI Forum" as an International Women's Day event in cooperation between eight nonferrous metal companies

Support for non-Japanese employees
- Holding recruitment events for international students

Support for mid-career hires
- Enriching information related to mid-career recruitment on our website
- Onboarding support initiatives

Support for employees with disabilities
- Implementing action plans at offices and plants
- Collaboration with organizations supporting people with disabilities, accepting trainees from special education schools

<Dissemination of equity and inclusion measures>

General
- Publishing information on DE&I on the intranet
- Implementation of unconscious bias e-learning (for all employees)
- Holding diversity seminars (for managers)
- Holding seminars by DE&I experts (for directors)

Promoting activities for LGBTQ+ awareness-raising
- Seminars held by Outside Directors (for all employees)
- Acquisition of Silver in PRIDE Index
- Sponsorship of Tokyo Rainbow Pride 2024
- Endorsement of Business for Marriage Equality

Support for male employees to take childcare leave
- Continuous communication and awareness-raising about taking childcare leave
  (target rate of employees taking leave from FYE ending March 2023: 100%)

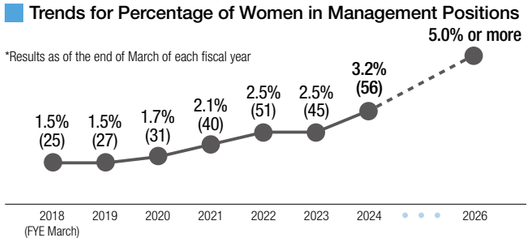
Related Information:

Corporate website ▶ Diversity, Equity & Inclusion
https://www.mmc.co.jp/corporate/ja/sustainability/diversity/

*This data is only available in Japanese on the website.

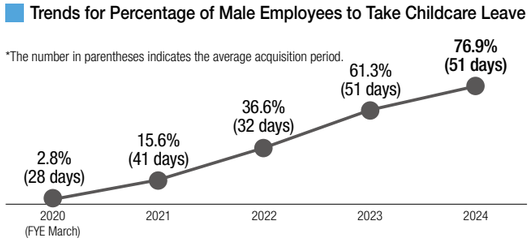
Trends for Percentage of Women in Management Positions

*Results as of the end of March of each fiscal year



Trends for Percentage of Male Employees to Take Childcare Leave

*The number in parentheses indicates the average acquisition period.



Holding a DEI Forum

To promote understanding and improve awareness of DE&I and accelerate initiatives throughout the industry, we held a DEI Forum on International Women's Day (March 8) 2024 through cooperation between eight nonferrous metal companies and the Japan Mining Industry Association.

Holding an International Women's Day Event

MMC HARDMETAL INDIA PVT. LTD. held an event to express gratitude for the presence of its female employees and further acknowledge what its female employees have accomplished so far.

Sponsorship of Tokyo Rainbow Pride 2024

We attend this event to support LGBTQ+ people. We are promoting an inclusive corporate culture and working to build working environments where everyone can shine in their own unique way.

Support for Autonomous Career Development

To enhance retention and development of human resources who can support our businesses growth, we are working to assist in career development by providing employees with opportunities for self-growth.
- More active utilization of the Internal Job Posting System (relaxing criteria for eligibility and expansion of internal communication)
- Holding a career event so that people can learn about jobs at MMC, get to know employees and develop a vision for their career (lectures by experts, round-table talk by employees with experience of Internal Job Posting, overseas postings, side jobs/side businesses and childcare leave, etc.) (from FYE March 2024)
- Providing opportunities to consult outside career counselors (for managers) (from FYE March 2024)
- On-demand online learning courses to provide support for re-skilling

Improving Employee Engagement

We are continuously working to improve employee engagement to foster job fulfillment through well-being. We have conducted engagement surveys once a year since the fiscal year ended March 2023 to visualize issues related to organizations and talent. The Human Resources Committee deliberates on matters such as policies to address issues and works on measures and improvements for each division.

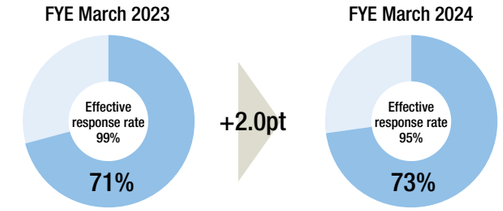
Our survey consists of five categories: "Work," "Colleagues," "Compensation," "Organization," and "Growth Opportunities." 95% of all employees responded to the survey for the fiscal year ended March 2024, and the positive responses rate for all questions (30 questions) was 73% (+2.0% year-on-year). The positive response rates for "Organization" and "Growth Opportunities" were relatively low in the previous fiscal year. As a result of various measures to strengthen these areas, the positive response rate for "Organization"*1 increased by 1.0% and the positive response rate for "Growth Opportunities"*2 increased by 4.9%.

We aim to achieve a positive response rate of 80% for all questions by the fiscal year ending March 2031. From the fiscal year ended March 2024, each business division has been identifying issues in the division, setting policies and targets to address them, and executing action plans to accomplish these.

Through this series of activities, we aim to continue increasing employee engagement in future.

*1 Example of a question in "Organization" that received a greater positive response rate: "The Company has a brand power and recognition that I can be proud of, and its reputation in society is good."
*2 Example of a question in "Growth Opportunities" that received a greater positive response rate: "I feel that I can autonomously develop the career I want."

Trends for Positive Response Rate



Areas to be strengthened

Category	Work	Colleagues	Compensation	Organization	Growth Opportunities	All questions
Change from FYE March 2023	+1.3pt	+1.7pt	+4.1pt	+1.0pt	+4.9pt	+2.0pt

Actions for improvement in areas to be strengthened based on the results for FYE March 2023

Organization
- Holding Town Hall Meetings
- Sharing information with employees through internal branding activities

Growth Opportunities
- Rigorous performance management cycles (feedback from evaluations)
- Continuous management support for growth through 1-on-1 meetings
- Holding a career event as a campaign to encourage thinking about careers

Health and Productivity Management

Our Group positions employee health management as a vital management issue, promotes health and productivity management, and develops activities in cooperation with Mitsubishi Materials Health Insurance Society to improve the mental and physical health of employees and their families.

Under the Policy for Activities to Promote Health and Productivity Management set for the fiscal year ended March 2024, 13 activity themes were set. For four focus issues, including addressing high health risk factors and carrying out mental health initiatives, medium-term metrics were set for the three years from the fiscal year ended March 2024, and ongoing initiatives are being carried out.

As a result, we received certification as an Excellent Health Company (Gold Certification) for the first time in September 2023, and in March 2024 we were certified as a Health & Productivity Management Outstanding Organization (Large Enterprise Category) for the third consecutive year and received White 500 certification for the first time.

健康優良企業

2024 健康経営優良法人 Health and productivity ホワイト500

Related Information:

Corporate website ▶ Health and productivity management initiatives
https://www.mmc.co.jp/corporate/ja/health_mgt/

*This data is only available in Japanese on the website.

VOICE

Interviews with employees

The CEO and other Executive Officers explain our human resources strategies and measures in their own words at Town Hall Meetings and venues for dialogue with employees.
After receiving these messages, each employee takes a starring role in executing our human resources strategies in their daily work.

Promotion of DE&I

Supporting the growth of diverse team members

VOICE

I want to engage with each team member as an individual, regardless of their gender or age, hear their thoughts and support them in what they do. When I do that, I get to see each team member grow and change, and that makes me happy. I strive to communicate with colleagues, not run away from decisions that need to be made, and first and foremost, be cheerful myself.

Kayo Ito
Administration Department
Administration Division
Advanced Products Company
(based in Osaka)

Employees with diverse attributes are displaying leadership not only at Headquarters but at plants and Group companies too. In addition to promoting diversity, we are dedicated to disseminating equity and inclusion.

Used the childcare leave system

Valuing both work and life

VOICE

My family welcomed its first child. I talked to colleagues who had experience with taking childcare leave, then consulted with my wife and talked with my workplace. I chose to take three months to get through that particularly difficult period. I got to spend time with my child and support my wife in her recovery after giving birth, and my child got to meet their grandparents who live far away. Taking childcare leave enabled me to be around for a precious period of time that you only experience a few times in your life. I want as many people as possible to use national or company systems to take this leave.

Yuya Sato
Drills Development Section
Drill, CBN & PCD Products
Development Department
Gifu Plant
Metalworking Solutions Company

As a result of continuous communication and awareness-raising through measures such as training and seminars, the rate of male employees taking childcare leave has increased by around five times in the last three years. We will continue working to build an environment and culture where employees can take childcare leave if they want to.

Used the Internal Job Posting System

By using systems where I could take on a lot of challenges, I can see how much I've grown

VOICE

Languages are a strength of mine, and I wanted an opportunity to use that. I also wanted to gain experience in new areas of business. Just when I was wondering how I could get the most out of my strengths, I found out about our Internal Job Posting System. I'm now in charge of negotiating with overseas partner companies and support and exploration of new businesses. Unlike the research and development work I had been doing before, I get to be involved in totally new challenges and projects I have no experience with, and I can see that I've steadily grown.

Henghui Chen
Business Development Department
Business Strategy Division
Metalworking Solutions Company

The Company lays the ground for employees to act on their own initiative to create an environment where they can show their strengths.

Used the Internal Job Posting System

Jumping in without hesitation to develop my career on my own initiative

VOICE

Ever since I first started here, I have wanted a role where I can feel that I am contributing to the Company. So in my 20s and 30s I wanted to gain various skills and experience. That was when the Internal Job Posting System started. I applied, amazed that there was such an innovative way to jump in without hesitation on my own initiative. I was able to attend presentations for each department and receive career advice from experienced employees. Each day I feel like I am getting closer to the person I want to be. I spend fulfilling days in an environment where I can challenge myself.

Takumi Tazawa
EPMO Group
DX Promotion Department

The Company has fields and opportunities where, if employees have aspirations, they're able to achieve them. This system gets employees thinking about how they can take ownership of their careers.

Improving Employee Engagement

Improving employee engagement to invigorate our organizations

VOICE

We evaluate survey results, together with HR data, from various angles. In this fiscal year, we have designated sharing and disseminating the Company's Vision as an important measure. A specific measure is our direct dialogue meetings, where the Company's President directly visits each plant and explains our vision, his expectations of the plant, and scenarios for future growth. Additionally, feedback from employees is reflected in our management to foster unity between the Company and its plants. Surveys are used to verify the effect of this measure and further improve employee engagement.

Nana Ohkura
HR Business Partner Section
Administration Division
Advanced Products Company

In addition to Company-wide initiatives, we are also striving to continue efforts at a department level to address department-specific issues based on the survey results, with the aim of further improving employee engagement.

Promoting Health and Productivity Management

Making health promotion enjoyable for all employees

VOICE

Various health-related events have been held as company-wide initiatives. When we plan and execute them, we try to add elements that the employees will enjoy to keep motivation up. In particular, through various anti-smoking measures, we have managed to reduce the ratio of employees who smoke from 52.8% (FYE March 2018) to 11.7% (FYE March 2024).

Kodai Takahashi
Administration Section
Administration Department
Hosokura Metal Mining Co., Ltd.

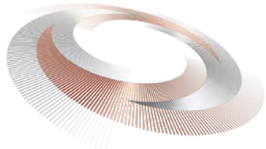
As a result of various activities, Hosokura Metal Mining Co., Ltd., a Group company, was certified as a Health & Productivity Management Outstanding Organization (Small and Medium Enterprise Category) and received a Healthy Company Declaration (Gold Certification), and achieved outstanding results from its unique measures to reduce the ratio of employees who smoke.

Communication/Inner Branding

**MMC Group began its inner branding activities in the fiscal year ended March 2022.
We aim to be an organization with good and healthy communication where employees have unrestricted communication. As a foundation for this organizational culture, our goal is to ensure that each individual employee feels a sense of ownership in relation to Our Commitment as MMC Group. Activities to raise awareness of Our Commitment were a key focus in the fiscal year ended March 2024, and we utilized our framework of existing measures as we made progress in this area.**

Key Visual Development

We have created a key visual with the aim of fostering recognition and understanding of Our Commitment by representing it in a visual form. The circular design represents the uninterrupted and powerful circulation of metal resources and their growth while adding further value. The texture evokes metal, expressing Mitsubishi Materials' unique approach to resource circulation. This key visual is widely used in documents such as internal posters and templates.



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

Circulation Map

We have developed a Circulation Map as a communication tool to help each individual employee to see the role they play in realizing Our Commitment. This map is used in various settings, from Officer messages at the start of each fiscal year to internal events, and is helping to foster ownership of Our Commitment.

Upper Management Communication Work

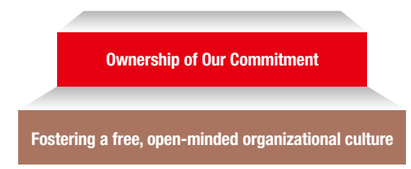
Aiming to close the gap between upper management and employees and foster an organization with good and healthy communication where employees have unrestricted communication, members of management have been visiting Group locations to create opportunities for dialogue with employees. In the fiscal year ended March 2024, a total of 77 meetings were held at 51 sites, with opinions on the FY2031 Strategy being exchanged. Employees' questions covered wide-ranging topics, including the business strategies aiming to realize Our Commitment and everyday issues, and a lively exchange of opinions took place.

In the fiscal year ended March 2024, in addition to carrying on existing measures, we deepened our activities through a strategic, multifaceted approach covering both the revitalization of our organizational culture and awareness of Our Commitment while leveraging our framework of measures, including incorporating some discussions on Our Commitment.

List of Measures

Measure	Content
Ambassador activities	Ambassadors are appointed from throughout the Group through an open application process. They promote inner branding, and have been actively fulfilling this role since the fiscal year ended March 2022.
Internal radio-style broadcasts	Created to promote communication with managers and employees, regular radio-style broadcasts where the CEO personally acts as an entertainment personality, answering a range of questions from Group employees, have been delivered since the fiscal year ended March 2022.
Half-day workplace experiences	Half-day workplace experiences are being carried out as an opportunity for employees to experience jobs at other workplaces. This started in the fiscal year ended March 2022, with about 70 people taking part.
Reverse mentoring	Reverse mentoring is a program in which young employees become the mentors and give mentoring to management. Discussing various themes from a standpoint different from that of work provides opportunities to gain mutual awareness.
Town Hall Meetings	In connection with internal branding activities, we hold Town Hall Meetings as a way to enhance communication of management information and promote two-way dialogue. We held 42 meetings covering 6 themes in the fiscal year ended March 2024.

Awareness of Our Commitment
85.5% FYE March 2024
56.4% FYE March 2023



Message from the Chief Technical Officer

Creating abundant new products and services to further enhance our business competitiveness

In my role as CTO, I oversee the Monozukuri and R&D Strategy Division, the DX Promotion Division and the System Strategy Division, which engage in activities such as new business creation, research and development, the strengthening of manufacturing capabilities, intellectual property formation, the application of digital and data processing technology, and information security across wide-ranging technical fields. This is the basis for maintaining and enhancing the business competitiveness of the Group, which makes its living through manufacturing. In the fiscal year ended March 2024, our efforts yielded results in many fields. However, in order to prevail in an unpredictable business environment, we will keep pushing forward in the fiscal year ending March 2025 to further enhance our business competitiveness, create abundant many new products and services, and ensure that they grow significantly.

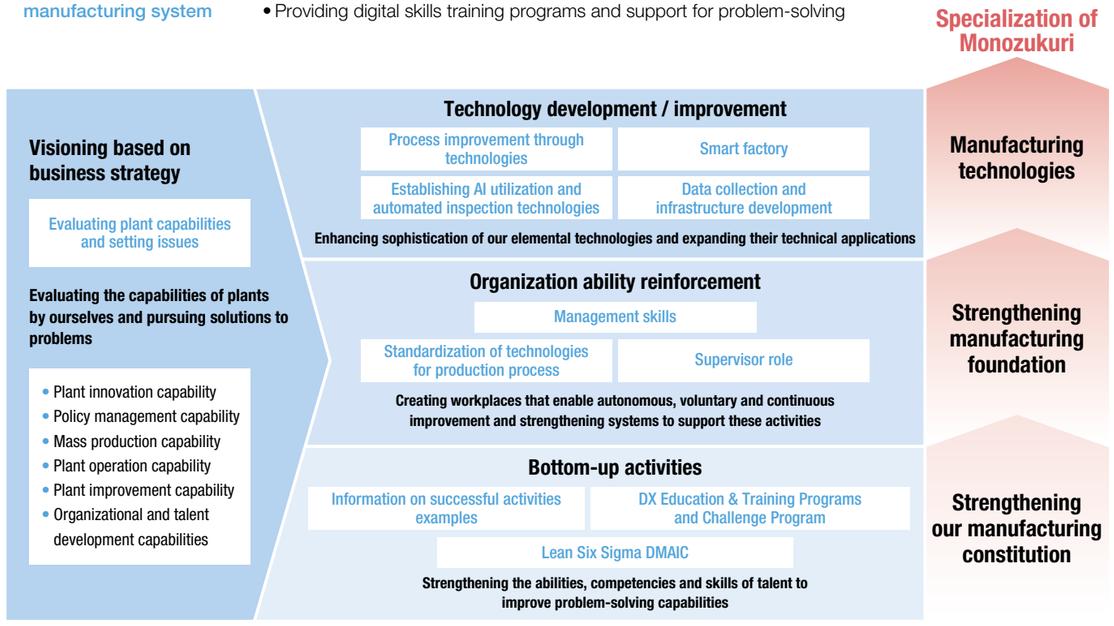
Makoto Shibata
Managing Executive Officer
CTO, Responsible for Monozukuri and R&D Strategy, DX Promotion, System Strategy

Manufacturing Excellence and R&D

Manufacturing Excellence Strategy

Contributing to Group-wide growth by taking differentiation of manufacturing capabilities to the next level

1. Strengthening manufacturing capabilities
   - Working to strengthen manufacturing capabilities by collaborating with work sites while setting high aspirations
   - Ensuring widespread, effective and rigorous use of digital technology
2. Strengthening the manufacturing foundation
   - Strengthening production preparation processes, reducing the occurrence of defects
   - Promoting standardization and visualization regarding talent, goods and equipment
3. Strengthening of manufacturing system
   - Development of human resources who can understand the principles and mechanisms
   - Providing digital skills training programs and support for problem-solving



R&D Strategy

Through the creation of new products, technologies, and businesses, we are providing sustainable materials designed for recycling and achieving sustainable enhancement of corporate value.

- Developing materials for future needs and trends
- Creating new products and technologies to enhance business competitiveness through the collaboration of the Corporate and Division Labs
- Early realization of R&D results through industry-government-academia collaboration (including CVC)

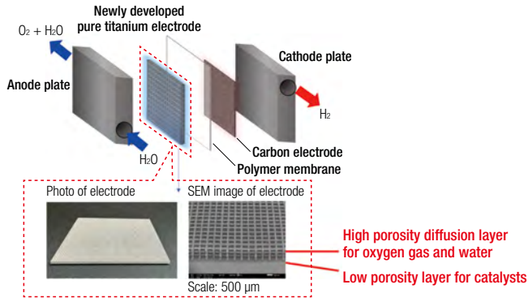
Providing sustainable materials designed for recycling

FY2031 Strategy Priority Policy Program	Fields of Focus	
Strengthening both the creation of new materials and components and the recycling of resources	Resource recycling	• Separation, recovery, and purification
GHG reduction throughout the product lifecycle	Decarbonization	• Energy material • Green material • Green process
Sophistication of organizational management through the creation of ideas, research and development, mass production, and commercialization	Semiconductor related products	• Packaging material • Components for equipment (resin composite materials)
Setting and executing development themes and accelerating commercialization through the flexible allocation of management resources (employees and funds)	Mobility	• High-performance copper materials and components • Cemented carbide tools

Product Development Contributing to the Realization of Sustainability: Development of a New Titanium Electrode

The Group has developed a new titanium water electrolysis electrode with a double-layer structure using 3D printer technology in a joint research and development project with Yokohama National University's Advanced Chemical Energy Research Center. These electrodes can be operated with high efficiency even under high current density conditions. Polymer electrolyte membrane (PEM) water electrolysis is a hydrogen production technology that has attracted attention in recent years. However, it faced the issue of high system costs. This joint development project was an effort to solve this issue, and in the future, we will continue to develop and improve electrode structures for practical use.

Schematic diagram of PEM water electrolysis



Intellectual Property Management

The Group implements the optimization of intellectual property portfolios in line with business and development strategies, and is working to enhance intellectual property-related risk management and intellectual property governance standards. We are implementing the following important measures to achieve the targets of the FY2031 Strategy.

1. Contribute to building and strengthening MMC Group's cyclical value chain, which consists of various arterial and venous businesses, from an intellectual property perspective

We implement intellectual property strategies that provide faster and more effective support for business strategies, including the formation of our cyclical value chain based on the characteristics of arterial and venous businesses.

2. Build a strong intellectual property portfolio for MMC Group as a whole

We aim to build a robust intellectual property portfolio in order to respond with flexibility and strength to intellectual property environments that differ from today's in the world envisaged by Our Commitment as set out in the FY2031 Strategy, including the emergence of new competitors and alliances.

3. Strengthen MMC Group's intellectual property governance structure

We carry out intellectual property related activities in line with the Corporate Governance Code and work to optimize governance in areas such as investment in intellectual property, the development and implementation of utilization strategies, risk management, and information disclosure. We do this using measures such as guidance and supervision from management through monthly interviews with the Managing Executive Officer responsible for intellectual property and appropriate reporting to the Board of Directors.

DX Strategy (MMDX*1)

Related Information:
Sustainability Report ▶ Deepening of DX
https://mmc.disclosure.site/en

DX Strategy

The Mitsubishi Materials Group implements the DX strategy MMDX, which serves as a foundation that enables us to prevail in global competition. We use data and digital technology to strengthen three key pillars of business, which are business added-value, business operation competitiveness and management speed.

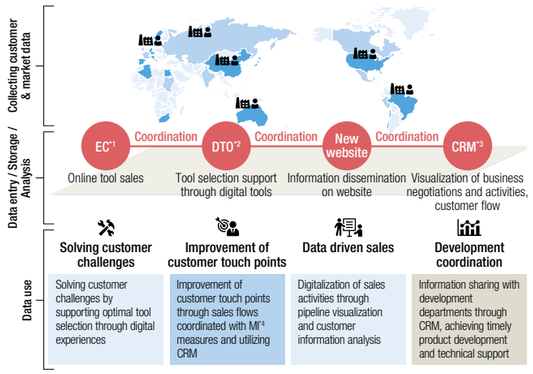
Under MMDX, the period from the fiscal year ended March 2024 to the fiscal year ending March 2026 is the full-scale operation phase. This fiscal year is the second year of that phase. This section introduces some examples of the several activities that are already underway and producing results.

*1 MMDX: Mitsubishi Materials Digital Business Transformation

Case 1: Strengthening Market Intelligence to Improve Customer Touch Points

The Metalworking Solutions Company is working to further strengthen its market intelligence with the aims of leveraging digital technology to help resolve customer challenges and providing reliable services with high added value. In the fiscal year ended March 2024, we built up coordination between our solutions platform, overseas electronic commerce (EC) website and customer relationship management (CRM) solutions, with the new integrated website playing a central role. The aim was to create an integrated digital service spanning from brand recognition that supports customer tool selection through to aftersales service.

With the solutions platform, we provide tool selection know-how as an online app. This supports customers in overcoming challenges by automatically displaying the most appropriate tool based on various conditions, including improved cutting efficiency and lifespan, the work material, the machining conditions, and the tool type. Together with the new global website and EC customer information, we analyze data collected from our systems and coordinate with CRM in order to promote utilization of data in technical support and product development. This is implemented through sales flows, project management and information sharing with development departments. Moving forward, we will work to further expand functions and the areas in which we provide services, offering digital experiences that resolve customer challenges and enhance convenience while also striving to produce results by enhancing the sophistication of data driven sales on a global Company-wide scale.



*1 EC: Electronic Commerce *2 DTO: Digital Tool Organizer
*3 CRM: Customer Relationship Management *4 MI: Market Intelligence

Case 2: Business Process Innovation and Operational Enhancement through ERP Introduction

We have implemented Enterprise Resource Planning (ERP) as a means to renew and standardize operations processes for Group companies worldwide. Implementation has started from the accounting area, with operations at Mitsubishi Materials Corporation beginning in the fiscal year ending March 2025. With the aim of building key business processes that can be improved and advanced through the integration of business and IT, we have worked to implement overall optimization and have established a structure that can rapidly respond to changes in the external environment (M&A, accounting systems, tax systems, etc.) by quickly and accurately creating and providing the financial statement data needed for management decision making. We plan to continue expanding this to Group companies worldwide.

In addition, we have started efforts to renew and standardize ordering and sales processes. We plan to continue examining current issues and the ideal state for business and IT respectively, from the perspectives of business management, cost management, sales activities, inventory management and master management.

Accelerating DX implementation at Group companies can lead to an even greater business impact.

In the fiscal year ended March 2024, the first year of the FY2031 Strategy, MMDX themes such as customer touch point areas and cooperation between manufacturing and sales were in operation. In addition, we have made progress in our future-oriented activities in areas such as developing data infrastructure and training talent with advanced digital skills. In the fiscal year ending March 2025, we will continue accelerating DX implementation at Group companies in Japan and overseas to achieve an even greater business impact.
We are also aware of the importance of cultivating a Group-wide digital mindset. In addition to promoting DX themes, we hope to see each and every employee take ownership of DX and show initiative in incorporating digital technology into their work. Through effective use of digital technology and data, we will aim to maximize corporate value.

Nobuhisa Hayama
CDO, General Manager of DX Promotion Division

IT Strategy

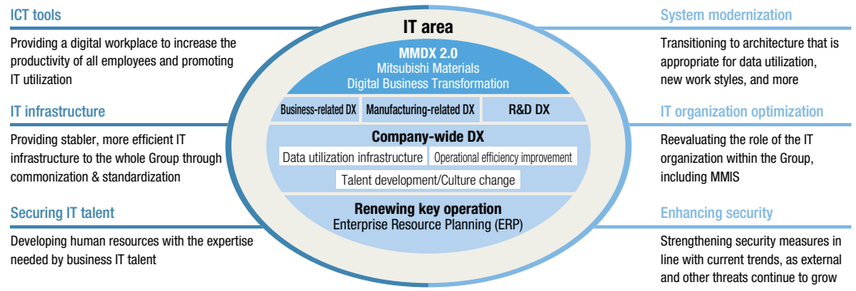
Related Information:
Sustainability Report ▶ Strengthening Information Security
https://mmc.disclosure.site/en

IT Strategy

The Group provides system functions that are indispensable to establishing and executing the MMC Group IT WAY (IT governance and IT synergies) set out in the Medium-term Management Strategy FY2031 and promoting MMDX. In our IT strategy, we take data utilization, operational efficiency and security as key elements and we are working on system modernization and the strengthening of security measures. We are also working on key areas such as commonization and standardization of IT infrastructure and fostering IT talent. We also support and promote Our Commitment by utilizing IT solutions as set out by Mitsubishi Materials Group.

The Group implements appropriate information security measures worldwide in response to changes in the external environment. Specific initiatives include transitioning from a perimeter defense-based security system to a zero trust security model and strengthening our supply chain risk management measures. In addition, we are developing our incident response system, security measures and operations under global common policies. We continuously develop our information security measures with reference to trends and are enhancing security within the Internet perimeter and with regards to external threats. Our work also covers the importance of OT security and secure cloud access.

- In order to realize the MMC Group IT WAY, we provide essential system functions that support the promotion of MMDX in the IT area.
- We plan to invest approximately ¥10 billion while ensuring that IT costs do not exceed 1.0% of net sales in FYE March 2031. (Currently approximately 0.8%)

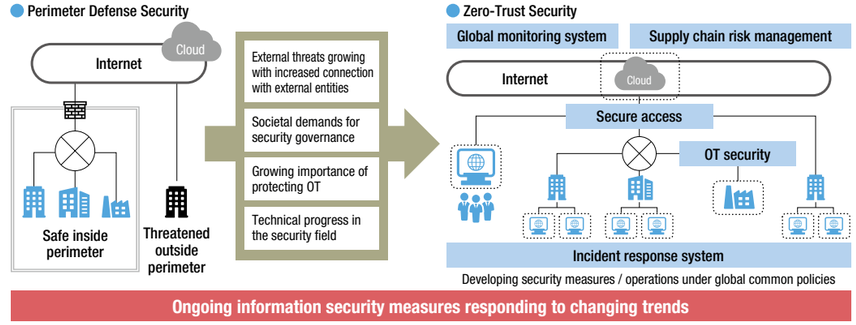


Information Security Initiatives

In order to maintain security for our systems, we are implementing appropriate information security measures worldwide, including responding to changes in the external environment.

Implementing information Security Measures

- We are transitioning from a perimeter defense-based security system to a zero trust security model, and strengthening measures such as supply chain risk management measures
- We will continue to develop appropriate information security measures in response to changing trends, from a global perspective



Leveraging new technologies such as generative AI can help the Group become even more productive and more efficient.

In the fiscal year ended March 2024, the first year of the Medium-term Management Strategy FY2031, we established the new IT operations company Mitsubishi Materials IT Solutions Co., Ltd. and started the process of reviewing the role of the Group's systems divisions and enhancing functions. In addition, we have adopted ERP in the accounting area for the first time, and have started modernization that breaks away from legacy systems.
In terms of information security, we are working on the overseas deployment of the next-generation network that had already been established in Japan and we will continue our efforts to support business execution through appropriate levels of security.
Furthermore, we are actively working on generative AI utilization and other new technologies in order to help the Group become even more productive and more efficient.

Norihiro Itano
CIO, General Manager of System Strategy Division