

# **Mitsubishi Materials Corporation**

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## **Investor Conference Material**

November 15, 2022

Naoki Ono Director, President and Chief Executive Officer  
Mitsubishi Materials Corporation

- 1. Financial Results for the First Half of the Fiscal Year Ending March 31, 2023, and FY2023 Full-Year Forecast**
- 2. Progress of the Medium-Term Management Strategy (the FY2023 Strategy )**

- 1. Financial Results for the First Half of the Fiscal Year Ending March 31, 2023, and FY2023 Full-Year Forecast**
2. Progress of the Medium-Term Management Strategy (the FY2023 Strategy)

## Business Environment for the First Half of the Fiscal Year Ending March 31, 2023

- The global economy is experiencing a wide-ranging sense of stagnation, with price rises and monetary tightening in response to Russia's invasion of the Ukraine and other factors, the European energy crisis, and the collapse of the Chinese real estate market.
- By industry, uncertainty remained in automobile-related demand due mainly to the effect of the shortage of semiconductors, and demand for semiconductors seemed to be pausing. Nevertheless, there was virtually no negative impact on our first-half results, and all of them remained steady.
- By region, China was affected by the restriction of economic activities due to urban blocking as a measure to combat infectious diseases, but in other regions, the economy remained on a recovery trend.
- Other factors included soaring energy prices, higher commodity prices, instability in metal prices, and the depreciation of the yen due to rising interest rates, particularly in developed countries. These factors had a significant impact on our results of operations. We will continue to closely monitor these economic trends, which will have a significant impact on our operations.

## Summary of the Financial Results for the First Half of the Fiscal Year Ending March 31, 2023

### FY2023 1H

- Operating income increased by ¥0.5 billion year-on-year due to higher sales in the Copper & copper alloy business and the Metals business, and the impact of the weaker yen.
- Ordinary income decreased by ¥15.1 billion year-on-year mainly due to a decrease in dividends received from the Los Perambres Mine and an extraordinary loss due to a restructuring of the manufacturing structure of Mitsubishi UBE Cement Corporation(MUCC).

### FY2023 Full-year Forecast

- Upward revision of sales due to the impact of yen depreciation, etc.
- Slight downward revision of operating income.
  - ✓ Earnings in the Copper & copper alloy business, the Metalworking Solution business, and the Environment & Energy business are expected to exceed the previous forecast.
  - ✓ In the Electronic materials & components business, sales for semiconductors and automobiles are robust, but growth will not be as high as the previous forecast in light of the current situation.
  - ✓ The Metals business is implementing various cost measures, but its earnings will be lower than the previous forecast mainly due to an increase in energy costs and sluggish sulfuric acid prices.
- Ordinary income has been significantly downwardly revised due to extraordinary losses in MUCC recorded as equity in earnings of affiliates.
- Net income has been downwardly revised significantly due to extraordinary losses in the Polycrystalline silicon business and other factors.

### Outlook for the next fiscal year and beyond

- The Company expects a large amount of one-time losses in this fiscal year, including equity-method losses and restructuring losses. However, it expects MUCC to become profitable from next fiscal year onward due to a restructuring of production and the effect of price hikes.
- As part of the FY2023 Strategy, the Company has been focusing on optimizing its business portfolio, and with the transfer of its polycrystalline silicon business, it has largely completed the reorganization of its problem businesses (selection of businesses). The Medium-Term Management Plan from the Next Fiscal Year will be presenting growth strategies.

### Approach to ROIC Management

- ROIC target of 4.0% in the FY2023 Strategy has been downwardly revised from the initial target (6.0%). Full-year ROIC forecast for the current fiscal year is 2.1%, which is significantly below the target (Excluding cement business:5.7%)
- Currently, in order to improve ROIC, the Company has established drivers to improve ROIC, such as expanding sales of products and reducing the cost of sales ratio and is making improvements.

# First-half FY2023 Results (Compared to the previous fiscal year)

## Compared to the previous fiscal year

### Net sales:

Decreased due to the negative impact of business transfers, etc., despite higher sales in the Copper & copper alloy business and the Metals business and the impact of the depreciation of the yen.

### Operating income:

Increased due to higher sales and the impact of the weaker yen, despite higher raw material costs and high energy costs.

### Ordinary income:

Decreased due to equity in losses of Mitsubishi UBE Cement Corporation and decrease in dividends received.

### Net income ※:

Decreased due to decrease in ordinary income, despite gain on change in equity (recorded in 1Q)

Unit: Billion yen	Year ended March 31, 2022 1H results (a)	Year ending March 31, 2023 1H results (b)	Increase/Decrease (b)-(a)
Net sales	860.0	831.9	-28.1
Operating income	29.0	29.5	+0.5
Ordinary income	38.2	23.0	-15.1
Net income ※	38.1	23.6	-14.5
Net income per share, yen	292.24	180.80	-111.44
Cash Dividends Per Share, yen	40	25	-15
Exchange rates (vs. US\$)	109.80 yen	133.97 yen	24.17 yen
Copper Price (LME)	432.78¢/lb	391.64¢/lb	-41.14¢/lb

※Profit attributable to owners of parent

## FY2023 Full-Year Forecast(Compared to the Previous Forecast)

### Compared to the Previous Forecast

**Net sales:** Increased due to the continuing trend of further yen depreciation.

**Operating income:** Decreased due to the impact of high energy costs, despite the impact of increased sales and the depreciation of the yen.

**Ordinary income:** Decreased due to equity losses of Mitsubishi UBE Cement Corporation and decrease in dividends received.

**Net income ※:** Decreased due to decrease in ordinary income and loss on transfer of business, despite gain on change in equity (recorded in 1Q)

**Dividend:** ¥50 per share, aiming for shareholder returns on par with the total dividend amount of just over ¥30 billion that was expected during the period of FY2023 Strategy.

Unit: Billion yen	Year ending March 31, 2023 Previous Forecast(a)	Year ending March 31, 2023 Full-year Forecast (b)	Increase/Decrease (b)-(a)
Net sales	1,640.0	1,690.0	+50.0
Operating income	45.0	44.0	-1.0
Ordinary income	32.0	18.0	-14.0
Net income ※	20.0	3.0	-17.0
Net income per share, yen	153.06	22.96	-130.10
Cash Dividends Per Share, yen	50	50	±0
Exchange rates (vs. US\$)	134 yen	139 yen	+6 yen
Copper Price (LME)	378¢/lb	368¢/lb	-10¢/lb

※Profit attributable to owners of parent

# FY2023 Full-Year Forecast(Compared to the previous fiscal year)

## Compared to the previous fiscal year

**Net sales:**

Decreased due to the negative impact of business transfer and other factors, despite an increase in sales in the Copper & copper alloy business and the Metals business and the impact of the weaker yen.

**Operating income:**

Decreased due to higher raw material costs and high energy costs, despite an increase in sales and the impact of the weaker yen.

**Ordinary income:**

Decreased due to equity losses of Mitsubishi UBE Cement Corporation and decrease in dividends received.

**Net income ※:**

Decreased due to decrease in ordinary income and loss on transfer of business, despite gain on change in equity (recorded in 1Q)

**Dividend:**

¥50 per share, aiming for shareholder returns on par with the total dividend amount of just over ¥30 billion that was expected during the period of FY2023 Strategy.

Unit: Billion yen	Year ended March 31, 2022 Full-year results (a)	Year ending March 31, 2023 Full-year Forecast (b)	Increase/Decrease (b)-(a)
Net sales	1,811.7	1,690.0	-121.7
Operating income	52.7	44.0	-8.7
Ordinary income	76.0	18.0	-58.0
Net income ※	45.0	3.0	-42.0
Net income per share, yen	344.56	22.96	-321.60
Cash Dividends Per Share, yen	90	50	-40
Exchange rates (vs. US\$)	112 yen	139 yen	+27 yen
Copper Price (LME)	440¢/lb	368¢/lb	-72¢/lb

※Profit attributable to owners of parent



1. Financial Results for the First Half of the Fiscal Year Ending March 31, 2023, and FY2023 Full-Year Forecast
- 2. Progress of the Medium-Term Management Strategy (the FY2023 Strategy)**

## Progress toward the FY2023 Strategy Targets | Financial indicators

For FY2023, it will be difficult to achieve the target of indicators such as ROIC due to the deterioration of market conditions, soaring energy costs, etc., as well as the recording of equity method investment losses and extraordinary losses due to the transfer of the polycrystalline silicon business.

		FY2022 Actual	FY2023 Forecast	FY2023 Strategy Target※	Difference
ROIC(%)		7.0	2.1	<b>4.0</b>	-1.9pt
Return on assets: (%)		3.7	0.9	<b>2.0</b>	-1.1pt
ROE(%)		8.0	0.5	<b>6.0</b>	-5.5pt
PL	Net sales	1,811.7	1,690.0	<b>1,410.0</b>	+280.0
	Net sales (excluding metal costs)	817.3	501.4	<b>600.0</b>	-98.6
	Operating income	52.7	44.0	<b>29.0</b>	+15.0
	Ordinary income	76.0	18.0	<b>38.0</b>	-20.0
BS	Total assets	2,125.0	1,882.6	<b>1,820.0</b>	+62.6
	Net interest-bearing debt	449.4	372.0	<b>360.0</b>	+12.0
	Shareholders' equity	584.8	587.0	<b>560.0</b>	+27.0
Net D/E ratio (times)		0.77	0.63	<b>1.0 or less</b>	
Assumptions Conditions	Exchange rates (yen /US dollars)	112	139	<b>110</b>	[Sensitivity] ◆US dollar +¥1/U.S. dollar ¥300 m ◆EUR +¥1/Euro ¥80 m ◆Copper prices +10¢/lb ¥300 m (LME) (Ordinary income)
	Exchange rate (Yen/Euro)	131	139	<b>130</b>	
	Copper prices (¢/lb)	440	368	<b>330</b>	

Progress toward the FY2023 Strategy Targets | Financial Target Progress by Business

Business		ROIC		EBITDA/ROA	
		FY2023 Strategy Target	Forecast	FY2023 Strategy Target	Forecast
Advanced Products business	Copper & copper alloy	3.0%	1.8%	¥14 billion	¥12.75 billion
	Electronic materials & components	4.2%	6.4%	¥11 billion	¥10.53 billion
Metalworking Solutions business		5.3%	7.7%	¥22 billion	¥26.68 billion
Metals business		12.9%	9.3%	7.2%	6.9%
Environment & Energy business	Environmental Recycling	2.4%	5.2%	2.8%	6.0%
	Renewable energy	2.6%	2.4%	3.3%	3.0%

## Improving ROIC (for the Copper & copper alloy business)

Each businesses have established drivers for improving ROIC and are working to improve ROIC. In the Copper & copper alloy business, which is particularly low in profitability, the Company has established the following improvement drivers and is advancing measures.

- At Sakai Plant, the company worked to improve yields and ensure stable operations. While 1Q fell short of the target, 2Q was achieved.
- At Wakamatsu plant and Sambo plant (Rolling), the Company announced revisions to processing fees in October due to the impact of soaring energy costs and other factors as a revision to roll margins.
- At Sambo plant (Extrusion), the Company is working to reduce inventories, but at the end of 2Q it was short of its target. As it is in a reduction trend, the Company aims for further improvement, including the effect of yield improvement.

Business	Plant	Outline of Drivers for Improving ROIC
Copper & copper alloy	Sakai	Improve yields of wire rods, etc., and improve MSP5 mass production techniques
	Wakamatsu	Increase in sales due to revision of roll margin
		Cost reductions due to improved yields
	Sambo Rolling	Increase in sales due to revision of roll margin
		Cost reductions due to improved yields
	Sambo Extrusion	Cost reductions due to improved yields Inventory Reduction

## Progress toward Medium-Term Management Plan Targets | Investment and Shareholder Returns

**Although the market environment is difficult in FY2023, investments for future growth will be made as planned in FY2023 Strategy, in anticipation of future market recovery**

## Investment policy

- If there are good large-scale investment projects for growth, aggressively invest within the range of net D/E ratio of 1.0 times or less.
- The accumulated forecast during the FY2023 Strategy for capital expenditure, investments and loans including growth investments are in line with the FY2023 Strategy target.

Billion yen	Total investment forecast in the FY2023 Strategy							FY2023 Strategy Target*	Increase/Decrease
	Copper & copper alloy	Electronic Material & Components	Metalworking Solutions	Metals	Environment & Energy	Common and Others ※	Total		
Cash out of capital expenditure	43.3	23.2	32.9	64.0	14.6	68.8	247.0	250.0	-3.0
Growth investment	21.0	12.4	9.8	11.4	10.1	21.3	86.0	90.0	-4.0
Maintenance and renewal investment	22.3	10.8	23.1	52.6	4.4	47.9	161.0	160.0	+1.0
Cash outflow from investments and loans							99.0	105.0	-60.0
Total cash outflow from investing activities							346.0	355.0	-90.0

※Common and Others include past capital expenditures in the cement and aluminum businesses.

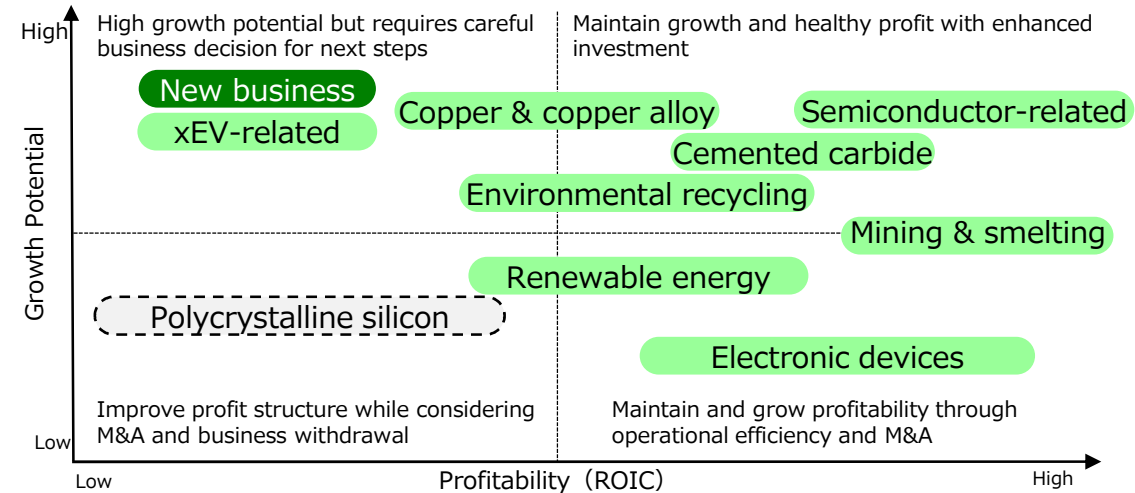
## Shareholder Return policy

- The lower limit of the annual dividend amount during the FY2023 Strategy has been changed to ¥50 based on the level of operating cash flow judged to be stably generated.
- By accelerating the sale of assets and flexibly allocating funds such as treasury stock acquisition and additional dividends, we aim to implement shareholder returns equivalent to the total dividend in FY2023 strategy original Plan.

Unit: yen	FY2021 Results	FY2022 Results	FY2023 Forecast	FY2023 Strategy Plan	FY2023 Strategy Original Plan
Annual dividend	50	90	50	50	80

# Optimization of business portfolio (Major movements in the Reform of Business Structure)

So far, optimization of the business portfolio has been preceded by optimization of business areas, such as spin-offs and business transfers of problem businesses. In FY2023, we will focus on profitability improvement by enhancing business competitiveness, including improvement of the earnings structure.



### [Concentration on businesses where the Company should take ownership]

- Businesses that are consistent with the vision and the mission
- Businesses that are governable by the Group
- Businesses that are competent in earning a leadership role in the world or specific region
- Businesses that can deliver stable returns over capital costs on a medium- to long-term basis

### [Building business portfolio]

- Profitability and growth potential determine the business direction
- Profitability is measured by ROIC (spread)
- Growth potential is measured by EBITDA growth rate, etc.

company	Advanced Products C.		Metalworking Solutions C.	Metals C.	Cement C.	Environment & Energy C.		Structural Improvements
Long-Term Goals of Business	Global First Supplier		Top 3 suppliers in strategic markets	Leader in environmentally-friendly smelting business	Leaders in the domestic and international cement industry with advanced environmental technologies	●Leader of resource-recycling system ●Leading company in geothermal development		●Reform of business structure improvement ●Improvement of profitability ●Acceleration of international business
	1 Copper & copper alloy	2 Electronic materials	3 Cemented carbide	4 Mining & smelting	5 Cement	7 Environmental recycling	Renewable energy	8 Sintered parts 9 Aluminum Business

Red : Initiatives announced after 2021

1	Mar. 2022: Transfer of shares of KMCT Corporation Mar. 2022: Transfer of shares of Sambo Shindo (Thailand) Co., Ltd. Apr. 2022: Merger of 3 consolidated subsidiaries to form MM Copper Products, Inc.	4	Jan. 2023(Planned):Convert PT. Smelting in Indonesia ("PTS") to contract smelting, First half in 2024(Planned):Convert PTS from a consolidated subsidiary to an equity method affiliate
2	Dec. 2021: Transfer of shares of Ryosei Systems, Ltd., a subs of Mitsubishi Cable Industries, Ltd. Dec. 2022: (Planned) Split optical components business of Mitsubishi Cable Industries, Ltd., and establish a new company, a joint venture with Furukawa Electric Co., Ltd. March 2023 (Planned) Transfer of polycrystalline silicon business to SUMCO Co., Ltd.* Mar. 2024: (Planned) Withdrawal from sputtering target business	5	Apr. 2022: Established Mitsubishi UBE Cement Corporation
3	Dec. 2020: Investment in Masan High-Tech Materials Corporation	6	Jul. 2021: Transfer of shares of Dia Consultants Co., Ltd.
4	Feb. 2021: Invested 30% in a Mantoverde copper mine March 2023 (planned) Convert Onahama Smelting & Refining Co., Ltd. to a wholly owned subsidiary*	7	Sep. 2020: Start operation of New Energy Fujimino Co., Ltd.(Biogasification of food waste)
		8	Dec. 2020: Transfer of shares in Diamet Corporation
		9	Mar. 2022: Reorganization of Aluminum Business (Transfer of shares in Universal Can Corp. and split Aluminum-related business from Mitsubishi Aluminum Co., Ltd.)

\*Detailed description on the next page



# Optimization of business portfolio | Recent Initiatives

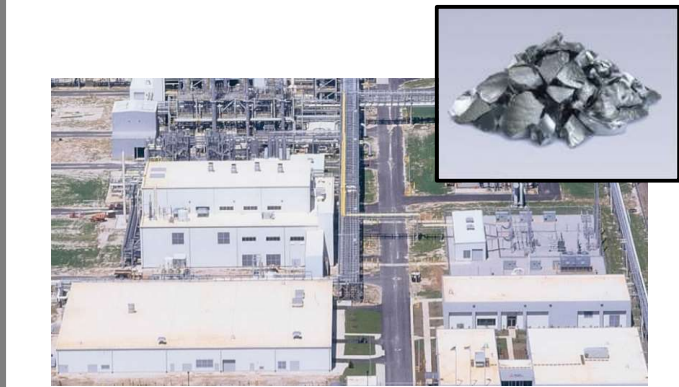
## Convert Onahama Smelting & Refining Co., Ltd. to a wholly owned subsidiary

- Our stake in Onahama Smelting & Refining Co., Ltd., which engages in copper consignment smelting, is 55.714% (other shareholders: 31.621% for DOWA Metal Mine Co., Ltd. and 12.665% for Furukawa Metal Resources Co., Ltd.).
- Our Metals Business C is working on the following.
  - Establish an annual 0.2 million tons E-Scrap treatment system by the end of fiscal 2031
  - Optimizing material flow between diverse sites
  - Strengthen management and development of separation and collection of diverse metal elements and promotion of commercialization
- By making it a wholly owned subsidiary, the company will construct a new pre-treatment facility for recycled raw materials at its Onahama Smelter & Refinery.
- Establish a flexible and efficient decision-making system to overcome difficult economic conditions such as soaring operating costs including electricity and fuel costs.



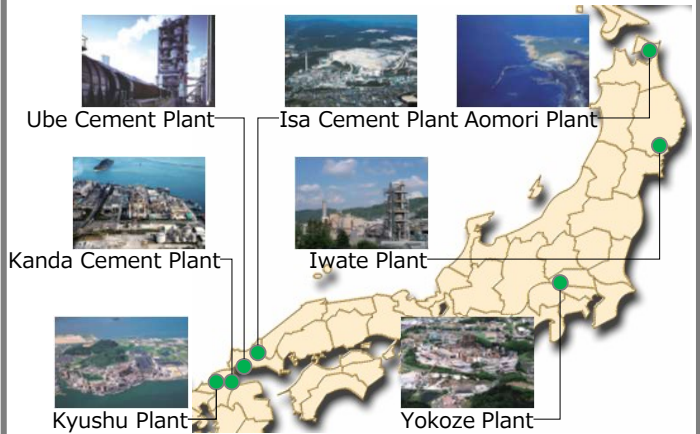
## Transfer of polycrystalline silicon business

- In the polycrystalline silicon business, the Yokkaichi Plant and Mitsubishi Polycrystalline Silicon America Corporation manufacture and sell polycrystalline silicon for silicon wafers for semiconductors, and MMC has a minor stake in Nippon Aerosil Co., Ltd., which manufactures and sells ultra-fine silica particles, etc.
- Due to the structurally low profitability of the polycrystalline silicon business, it was positioned as a problem business in the FY2023 Strategy, and MMC was exploring the possibility of business growth through drastic improvement in profitability and separate ownership.
- We judged that operating the business through vertical integration under SUMCO Corporation will contribute to enhancing the value of the business and that it is the best for us and the business.



## Mitsubishi UBE Cement Corporation (MUCC) restructuring of production system

- In order to cope with the rapidly rising cost of energy such as coal, the company has announced price revisions of cement and solidifying materials +2,200 yen, and further +3,000 yen from the portion delivered in October.
- It is extremely difficult to absorb all cost increases by price revisions alone.
- Decided that it was necessary to drastically strengthen the corporate structure, and announced the shutdown of the Aomori Plant (production capacity: 1.6 million tons/year) and the suspension of production of Kiln No. 1 at Isa Cement Plant (1.4 million tons/year).
- As MUCC, extraordinary losses of around ¥20 billion will be recorded from fiscal 2023 onward, however, from fiscal 2024 onward, an annual increase in profits of around ¥10 billion is expected.

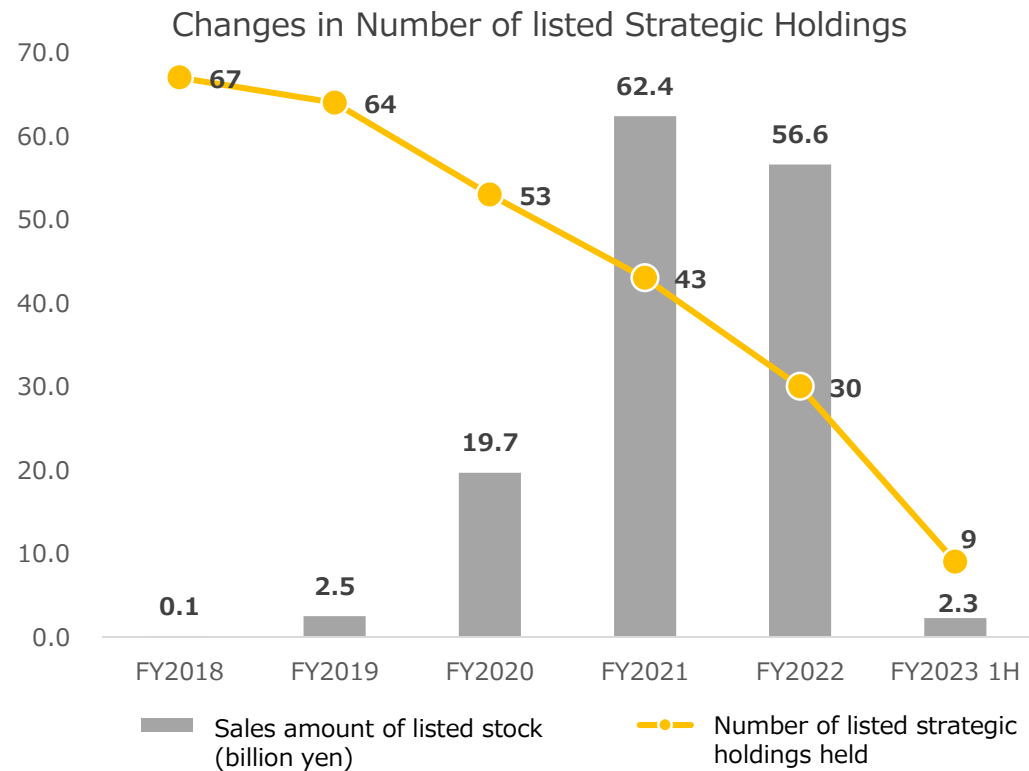


# Reduction in strategic stockholdings

## ■ Basic policy on Strategic Holdings

- ✓ The Company shall not acquire or hold Strategic Holdings unless doing so is necessary for the purpose of its business strategy.
- ✓ With regard to the Strategic Holdings, appropriateness of such holdings shall be specifically reviewed and examined at a meeting of the Board of Directors on an annual basis.
- ✓ As a result of such reviews and examinations, the Company will reduce any Strategic Holdings if it is not deemed to be necessary to hold such holdings.

## ■ Changes in Number of Strategic Holdings





# Four Management Reforms

To realize Group-wide Policy, we promote Four Management Reforms in unison to improve organizational capabilities. For “Corporate Transformation (CX)” and “Human Resources Transformation (HRX),” we will identify issues from effectiveness perspective in 3 to 6 months and implement improvements from October onward. We will promote DX flexibly while continuing to assess its effectiveness.

- CX :Reform into **optimal form of group management (organization / business management)Reform**  
<Strategic Headquarters + Professional CoE\* responsible for efficiency and sophistication + strong business divisions capable of autonomous business management (complete In-house Company system) >
  - HRX :**Reform of HR system and work style to acquire and develop autonomous talents who can adapt to changes**  
<Introduction of Job-based HR system / Internal Job Posting system / Talent Management / 1-on-1 communication / Next-Generation Leadership Talent Development>
  - DX :**Reform that utilizes data and digital technology to strengthen today, create tomorrow and cultivate talent**  
<Improvement of business added value, operational competitiveness, and management speed>
  - Operational efficiency improvement: **Reform that reviews organizations, business processes, and work styles**
- \* CoE (Center of Excellence): Organization with expertise in specific areas

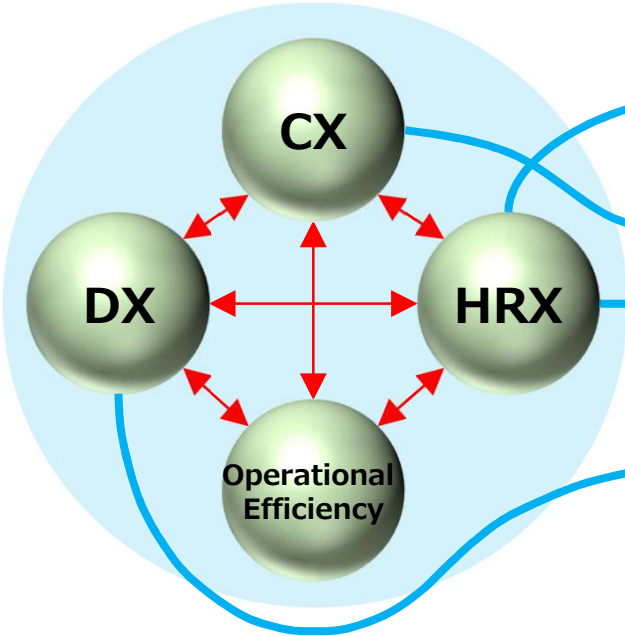
## Create both social and economic values

### Mission

To contribute to the building of;  
■ a prosperous society,  
■ a recycling-oriented society,  
■ a decarbonized society

### Group-wide policy

- Optimization of business portfolio
- Comprehensive efforts to increase business competitiveness
- Creation of new products and businesses



## Targeting organization and culture

- ① Organization with good and healthy communication where employees have unrestricted communication
- ② Organization capable of autonomously solving issues
- ③ Organization that adequately shares the understanding of its business
- ④ Organization that makes prompt and resolute decisions
- ⑤ Organization that manages its business with the awareness of the differences between product-type and process-type businesses
- ⑥ Organization that aims for thorough digitalization

## Improvement of organizational capabilities

- Change Adaptability**  
Ability to implement more agile responses to changing environment
- Ability to Integrate**  
Ability to implement strategies through human networks and combination of functions

## Key Measures to Improve the Effectiveness of CX

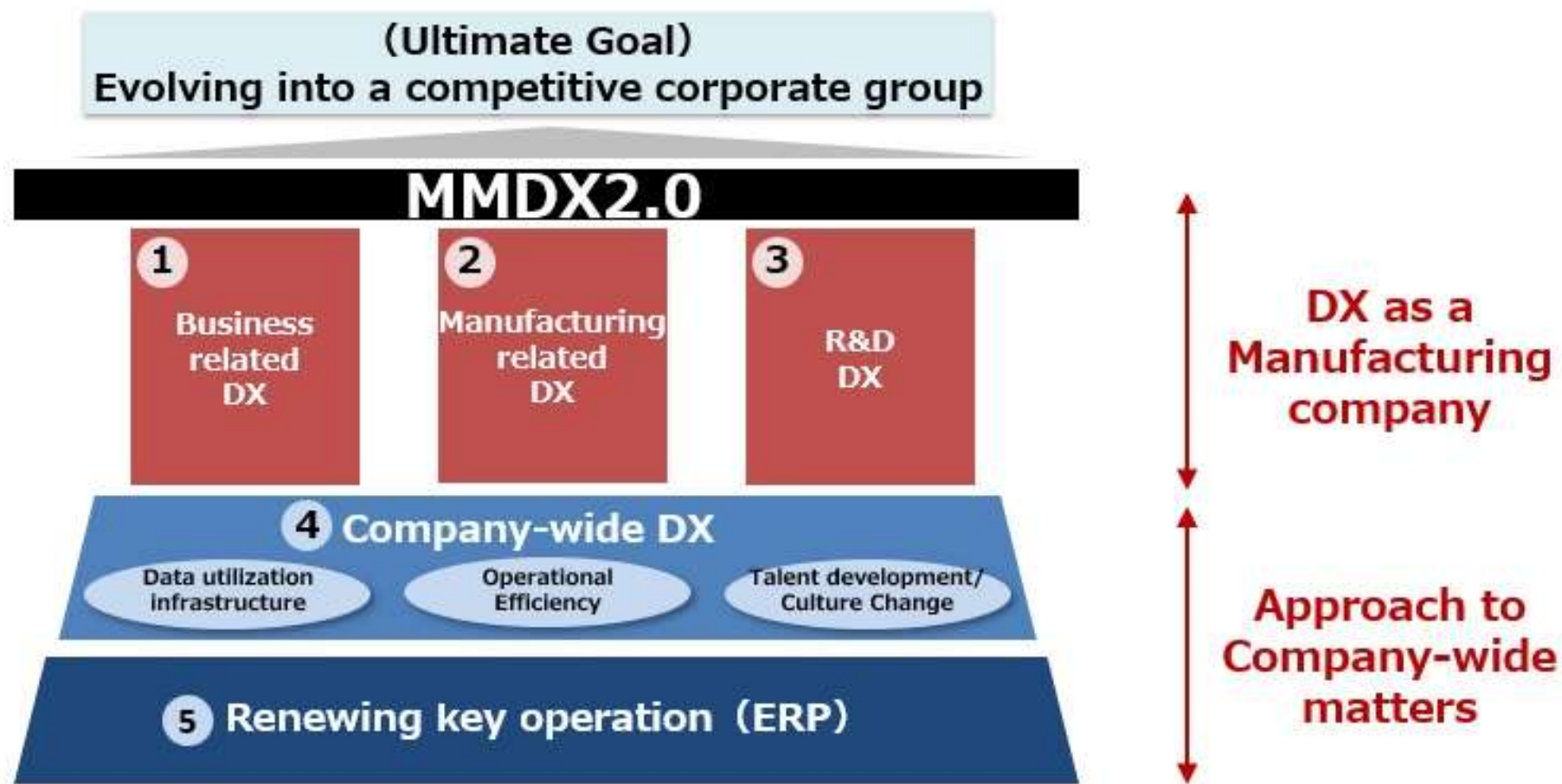
Although the self-contained company system (complete In-house Company System) creates decentralizing forces, the priority is to increase business competitiveness through autonomous management of each in-house company. We will work to improve the effectiveness of CX by balancing decentralizing and unifying forces through the following measures.

Company-wide meetings	Governance Deliberation, Budget Deliberation, Domestic/Overseas Group Management Committee, Safety, Environment, and Quality Managers Meeting, Manufacturing Strategy Meeting, All Materials Manufacturing Conference, R&D Strategy Meeting, Group technological development tours, and MMC-ICT Strategic Committee
Business Review by In-House Company	<ul style="list-style-type: none"><li>■ Implemented monthly between the Strategic Headquarters and each in-house company &lt;President + α ⇔ CEO + Executive Officers responsible for the Strategic Headquarters&gt;</li><li>■ Topics<ul style="list-style-type: none"><li>• SCQ, ESG, overall matters related to in-house company management, such as business strategies and new business plans from a medium-to long-term perspective</li></ul></li><li>■ Purpose<ul style="list-style-type: none"><li>• Maintaining unifying forces through strategic dialogue</li><li>• Monitoring of business operations by the Strategic Headquarters</li><li>• Reflection of in-house company management in company-wide strategies and policies</li></ul></li></ul>
Business PF Sophistication	Determining the business segments that manage the portfolio Evaluation using the nine quadrants of business screens in addition to the evaluation in EBITDA Growth-Rate/ROIC
Inner Branding	Visualization of management using the in-house intranet Holding town hall meetings to exchange opinions with employees on management reforms, etc.

**Activate consideration of the next management strategy from a medium-to long-term perspective for the entire company, including each in-house company**

## DX Initiatives

MMDX is working on 19 themes to improve “Business added-value”, “Business operations competitiveness”, and “Management speed” as a company-wide digitization strategy. While results are beginning to appear on themes such as customer touch points (MEX and CRM/SFA), there are issues such as insufficient enhancement of manufacturing. Therefore, we will reorganize themes, strengthen systems, etc., and move into a new phase as a "MMDX2.0." MMDX2.0 consists of five areas: "Business-related DX," "Manufacturing-related DX," and "R&D DX," the three pillars of DX as a manufacturing company, as well as "Company-wide DX" and “Renewing key operation” related to the entire company.



Overview of MMDX2.0 themes

Newly added theme for MMDX2.0

MMDX2.0 themes			Business Added-Value	Operations Competitiveness	Management Speed	Foundation for Data Utilization	Talent development/ Culture Change
Business related DX	Metalworking Solutions Co. DX	Market intelligence(MI)	✓				
		Ability to propose solutions	✓				
		Demand and supply management		✓			
	Advanced Products Co. DX	Improvement of customer touch points	✓				
		Supply chain integration		✓			
		Advanced cost management of electrical materials			✓		
	Metals Co. DX	Strengthening E-Scrap processing	✓				
Manufacturing related DX	Env.&Ene. Co. DX	Environmental recycling DX	✓	✓			
	Security and Safety	Safety related to facilities		✓			
		Safety related to humans		✓		✓	
		Safety related to materials		✓			
		Safety related to factory works		✓			
	Environment/ Energy	Reduce GHG		✓			
		Save energy		✓			
	Quality management	Better yield		✓			
		Better material efficiency		✓			
	Maintenance	Operational efficiency		✓			
		Predictive maintenance		✓			
		Risk-based maintenance		✓			
Manufacturing related DX	Production Processing	Advance development and production data utilization		✓		✓	
		Automation / Personnel saving		✓			
		Challenge the automizing test		✓			
		Shorten manufacturing lead time		✓			
		Improve productivity		✓			
		Inventory control		✓			
	Administrative and Indirect operation	Location management		✓			
		Production planning		✓			
		Electrical lab notebook		✓			
	R&D DX	Utilize knowledge on inside and outside of the company		✓			
		Materials Informatics		✓		✓	✓
		Operation efficiency on R&D		✓			
		Advance procurement		✓			
	Company-wide DX	Upgrading of business administration			✓		
		Data infrastructure and utilization				✓	
		Operational efficiency		✓			
		Talent management					✓
		DX talent development and literacy improvement					✓
	Renewing key operation(ERP)	ERP		✓	✓		

# Achievements of MMDX's Initiatives to Date

Full-scale results will begin in FY2024, but we are gradually achieving results in the following themes.

		Theme	Sub-themes	Release timing	Summary of Results and Achievements
Business-related DX	Metals Co. DX	E-Scrap	Phase1 Digitization of trading operations	2021/12	<b>We have received favorable reviews from customers who deliver E-Scrap to our smelter, and this has greatly contributed to securing quantities. Our policy is to continue to deepen our MEX by reflecting a variety of needs</b> <ul style="list-style-type: none"><li>• Increase in E-Scrap collection by about 5% after introduction of MEX in December 2021.</li></ul>
	Manufacturing-related DX	Maintenance	Predictive detection	2022/9	<b>The model construction for predictive detection is completed at Gifu Plant of Metalworking Solutions Company.</b> <ul style="list-style-type: none"><li>• It was found that abnormal signs leading to failure can be captured from the time-series data of the object equipment. We plan to continue demonstration tests by increasing the number of N.</li><li>• Data analysis will be used to detect signs of deterioration by observing changes in numerical data. This will be used as a replacement signal for equipment maintenance.</li></ul>
	R&D DX	Innovation Center	Insight Engine: Improved searchability of information within the center	2022/7	<b>Improve in-center information searchability by introducing insight engines</b> <ul style="list-style-type: none"><li>• You can quickly retrieve from a huge amount of file server data. It is also easy to look for related materials due to the path display function.</li><li>• Technical information (patents) can be searched "simply," "quickly," and "extensively."</li></ul>
Company-wide DX	Data Infrastructure	Data Infrastructure and Utilization	Study and development of education	2022/7	<b>Number of participants in digital literacy education: 685 (as of November 2)</b> 2,716 employees are expected to take the course by the end of March 2023.
	Operational efficiency		RPA	2022/4	<b>Reduced 33,000 hours at the end of 2Q compared to the annual target of 77,000 hours</b> ※Time is calculated by annualizing the reduced operations.
	HR	Talent Management	Building a talent management system Centralized management of human resource information	2022/2	<b>Introduced and started operation of a talent management system to realize data-driven HR</b> <ul style="list-style-type: none"><li>• Registered the career interview system previously implemented by Excel and the engagement survey, which is a new initiative, on the system and began operation. Registered 95% or more employees.</li><li>• Started implementing the evaluation process of union personnel on the system and registering "business and leadership experience" by employees themselves. Aim to support autonomous career development and improve efficiency and sophistication of HR operations.</li></ul>



## Efforts to Improve Operational Efficiency

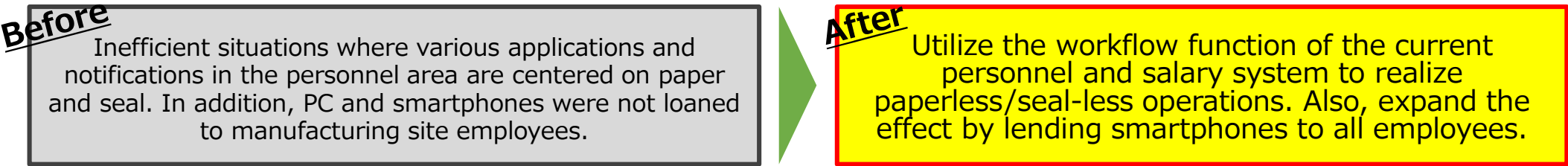
We will approach both on a “functional axis” from a company-wide perspective and a “divisional axis” with an awareness of the organization, and

- Radically reexamine the outdated work styles where paper and seals are still the norm
- Drastically review work methods relying on manpower, such as e-mail and Excel bucket relays.
- Use all tools to improve the quality and quantity of communications and improve organizational agility.

### [Measures 1] Introduction of an accounting and finance workflow system



### [Measures 2] Paperless/seal-less application and notification, and lending of smartphones to all employees



### [Measures 3] Introduction of RPA

#### Examples of Operations that were automated through RPA

- Development and production data linkage
- Acquisition of environmental data
- Alarms related to manufacturing
- Issuance of delivery slips
- Confirmation of billing details

**Reduced 33,000 hours  
(as of the end of 2Q)**

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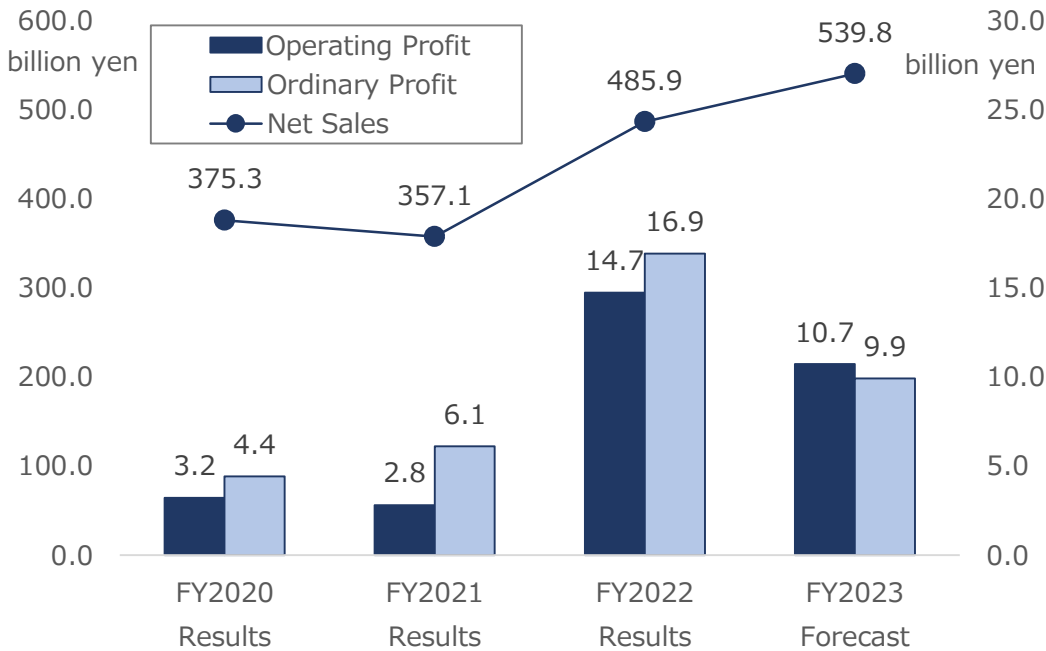
**FY2023 KPI 77,000 hours  
(as an annualized reduction time)**

**Reduction of  
more than 20 man-hours**  
(As 180 days per year × 8 hours of operation)  
→Shift to sophisticated operations, etc.



## Earnings overview

### Consolidated Results Trend



### Results by business segment

Billion yen		FY2020	FY2021	FY2022	FY2023 Forecast
Advanced Products C Consolidated	Net sales	375.3	357.1	485.9	539.8
	Operating Profit	3.2	2.8	14.7	10.7
Copper & copper alloy	Net sales	252.9	231.6	366.6	412.2
	Operating Profit	2.4	-0.3	4.6	4.7
Electronic materials & Components	Net sales	123.2	126.6	120.7	128.5
	Operating Profit	0.8	3.5	10.0	6.5
Others Consolidation adjustments, etc.	Net sales	-0.8	-1.1	-1.4	-0.9
	Operating Profit	-0.0	-0.3	0.0	-0.5

## Overview of FY2023

### ◆ Copper & copper alloy

In the automotive-related business, although it is in an adjustment phase due to a shortage of semiconductor materials, demand for xEV-related components remains at a high level. In the semiconductor-related business, demand is firm for industrial machinery applications, while demand for lead frames and server applications is in an adjustment phase. Decline in demand for consumer electronics applications is expanding. Although Luvata faces difficulties in procuring raw materials due to supply chain disruptions and other factors, sales of welding electrode materials and superconducting wires for MRI were firm.

### ◆ Electronic materials & components

Due to uncertainty in the semiconductor market, sales in the functional materials business declined due to the impact of the slowdown in precision silicon products (consumables for semiconductor manufacturing). The electronic devices business mainly for xEV (surge absorbers, sensors, etc.) expects increase in sales due to strong demand for xEV, despite the impact of reduced automobile production due to the impact of a shortage of semiconductors. In the polycrystalline silicon business, sales are expected to increase as higher metal silicon prices and energy costs are passed on to product prices, but profits are expected to decline due to higher costs.



## Priority Measures

### Long-term goals | Global First Supplier

#### Long-term strategy

- Refine and combine core competencies (e.g., the development and manufacturing technology of oxygen-free copper base alloys, development of functional materials, welding technology, etc.), to create new products and businesses.
- Pursue winning patterns from a market perspective.

#### FY2023 Strategy

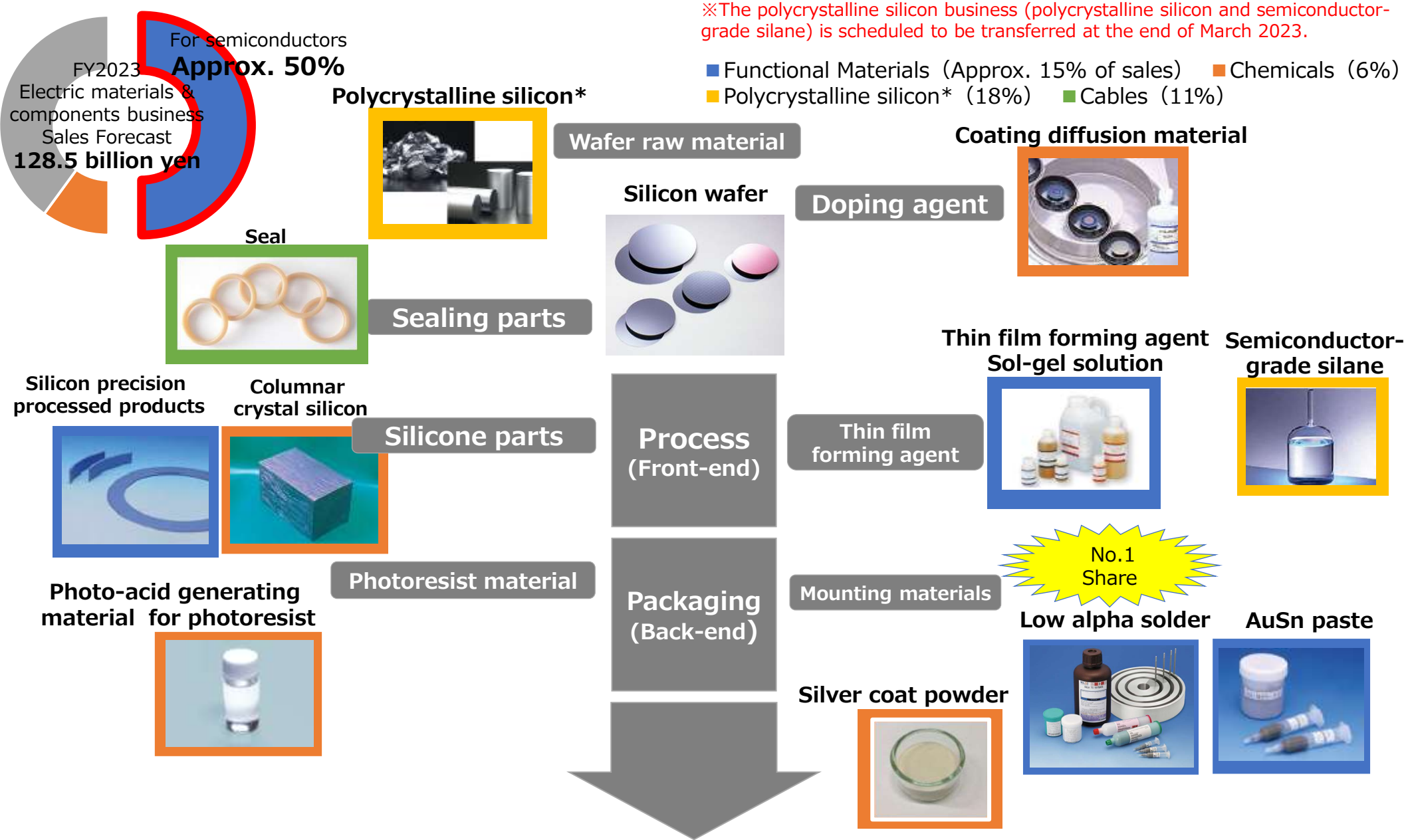
- Enhancing marketing capabilities
- Planning and development of new products and creation of new businesses based on product roadmaps
- Expansion of global bases
- Strengthen manufacturing capabilities (standardize operations, establish mass production system)
- Key account strategy (to become a first-call vendor)
- Securing and developing excellent talent

Key Measures for the FY2023 Strategy		FY2023 First Half Results	Future Initiatives
All businesses	Assignment of key account (KA) managers acting cross-sectionally	<b><u>Established KA strategy activities</u></b>	Continue to manage the status of KA through monthly meetings
	Enhancing customer touch points	<b><u>Establishment of SFDC introduction and KPI follow-up</u></b>	Improve retention rate through KPI follow-up
	Sales training (strengthening negotiation skills)	Continued training on preparations for negotiations, the art of negotiations, etc.	Continue implementation of program in 3Q
Copper & copper alloy	Business restructuring of the rolling and extrusion business and strengthening of production system	Established a plan to install facilities for increased production	Sambo plant: Continued stable operations
		Rolling: <b><u>Promoted start-up</u></b> of new slitting and packaging machines in Wakamatsu, and washing, slitting, and packaging machines in Sanbo <b><u>Promoted start-up of increased</u></b> copper mold production at Sakai Plant Extrusion: Reviewed <b><u>process streamlining</u></b>	Wakamatsu plant: Review of production planning system and horizontal deployment of activities to reduce major equipment failures Extrusion business: Improve earnings through price-raising activities
Electronic materials & components	Strengthen production capacity for sealing materials	Implementation of a plan to establish a new plant to strengthen the production capacity of sealing materials	Scheduled to start operation in FY2024 (Increased sales by 1.5 times in 2025)
	Growth in the device business	Clarifying the direction of the device business	Continue to consider options other than organic growth



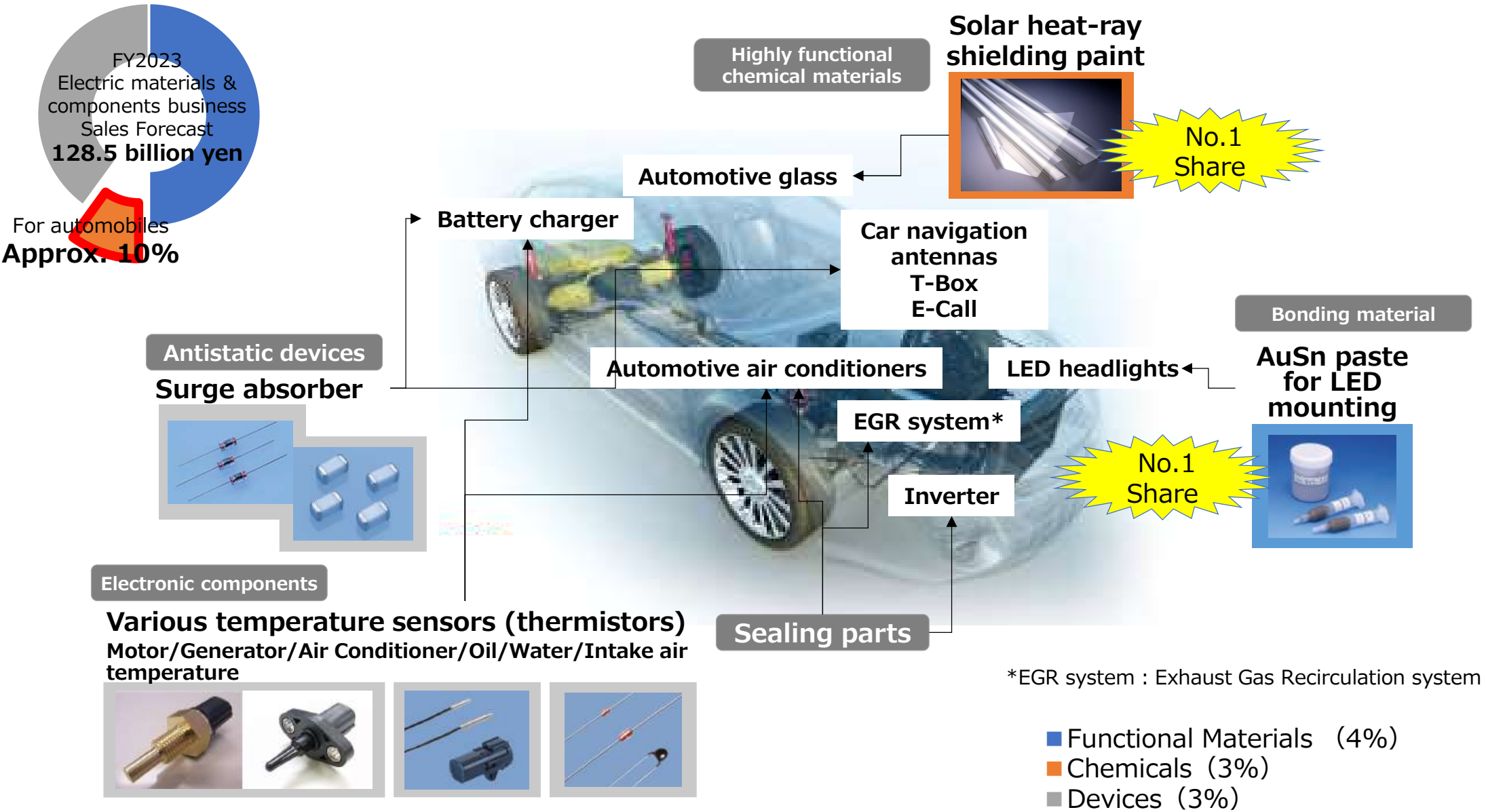


# Overview of Business Development for the Semiconductor Market





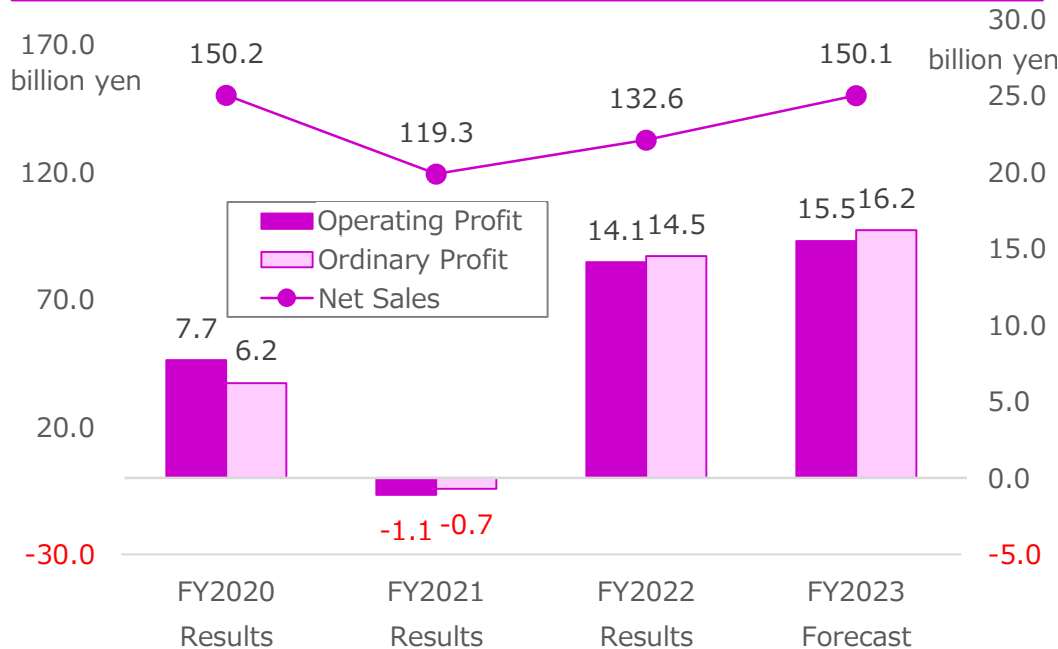
# Outline of Business Development for xEV Market





## Earnings overview

### Consolidated Results Trend



### Sales of Cutting Tools by Region

Billion yen	FY2020	FY2021	FY2022	FY2023 Forecast
Japan	23.7	18.2	22.1	24.8
China	8.2	9.9	9.6	9.8
Asia	9.0	7.0	9.7	10.7
Europe	20.0	15.4	17.1	17.9
North America	12.7	11.0	13.5	17.9
Latin America	3.7	3.6	3.8	5.0
Others	0.5	0.8	1.0	1.0
Total	77.9	66.1	77.1	87.2

## Overview of FY2023

### ◆ Cemented carbide products

Despite the impact of the Shanghai lock-down caused by Covid-19, the disruption of the supply chain caused by the situation in Ukraine, and financial measures in each country, etc., the market for the Metalworking solutions business in general is recovering due to the impact of the depreciation of the yen and favorable orders. Sales and profits increased year on year.

In the automobile-related business, demand is firm in Europe and the United States, particularly in the United States, but production is sluggish due to the continuing impact of shortage of semiconductors and rising component prices. On the other hand, in aircraft-related business, there has been a recovery trend in Europe and the U.S.

In 2H, in the automotive sector, although the weak yen is expected to boost earnings, sales of automobiles are expected to decline due to supply constraints caused by soaring material prices and declining production volumes throughout the supply chain. In the aircraft industry, the shortage of titanium materials due to the situation in Ukraine is expected to create a bottleneck in engine production and delay the recovery of production volume to the level before the outbreak of Covid-19.



## Priority Measures

### Long-term business goals | Top 3 supplier in strategic markets

#### Long-term strategy

- Promote clean manufacturing
- Provide high-efficiency products by utilizing advanced technology
- Develop advanced metal powder business

#### Specific Measures in FY2023 Strategy

- Increase recycling rate in our tool recovery system and utilize renewable energy
- Provide high efficiency tools and digital solutions
- Transition to smart factory and optimization of logistics and supply chain
- Expand advanced metal powder business to rechargeable battery market

FY2023 Priority Measures		FY2023 Fisrt Half Results	Future Initiatives
Provide products and services near customers through a four-polar system		Formulated a basic concept with each site for <b><u>transferring control function</u></b> such as manufacturing, sales, inventory.	<b><u>First establish European control base</u></b> , then expand to the Americas and China
Develop highly efficient tools		Launched sales of <b><u>629 new products</u></b> targeting key industries	Develop tools for machining difficult-to-cut materials for key industries, plan to launch <b><u>2,641 new products</u></b> in FY2023
Promote transition to smart factories		Formulated factory vision based on business strategy <b><u>to raise the manufacturing capability to the next level</u></b>	Promote <b><u>cross-departmental projects</u></b> to improve efficiency of goods, people and equipment, including progress, spare capacity, and physical management
Expand cemented carbide recycling and utilize renewable energy		<b><u>Achieved a recycling rate of 44% in FY2022</u></b> (FY2023 Strategy target: 35%)	Collaborate with Masan High-Tech Materials Corporation and <b><u>expand the amount of cemented carbide scrap collected from overseas areas</u></b> to achieve a recycling rate of 80% by 2030 (FY2023 target: 50%)
		In line with the revision of GHG reduction targets, the plan was changed to make the <b><u>entire amount of electricity used in the manufacturing process virtually CO2-free</u></b> by FY2031	Begin purchasing renewable energy electricity at domestic manufacturing sites, plan to <b><u>increase by 11% each year</u></b>
Expand advanced metal powder business to rechargeable battery market		Engaged in developments for the <b><u>commercialization of advanced metal powder for in-vehicle secondary batteries</u></b>	<b><u>Continuous implementation of prototype evaluation tests</u></b> at secondary battery manufacturers (lot repeatability confirmation)
		<b><u>Considered technical cooperation</u></b> with Masan High-Tech Materials (MHT) regarding advanced tungsten powder	<b><u>Continue consideration with MHT</u></b>



# Overview of Tungsten Powder Business

In the tungsten powder business, in addition to WC (tungsten carbide) for cemented carbide, which is our core product, we will focus on the advanced metal powder business, where market growth is high.

## WC for Cemented carbide

Support our management and technological bases with WC powder for cemented carbide tools, and grow by applying it to unique high-value-added products

## Cemented carbide Recycling

Contribute to a recycling-oriented society by improving the recycling ratio

## Advanced Metal Powder

Develop advanced metal powders with the characteristics and quality demanded by customers, and contribute to enhancing the product competitiveness of customers

### Semiconductors



- High-purity W for semiconductors
- W for electronic components

### Chemical



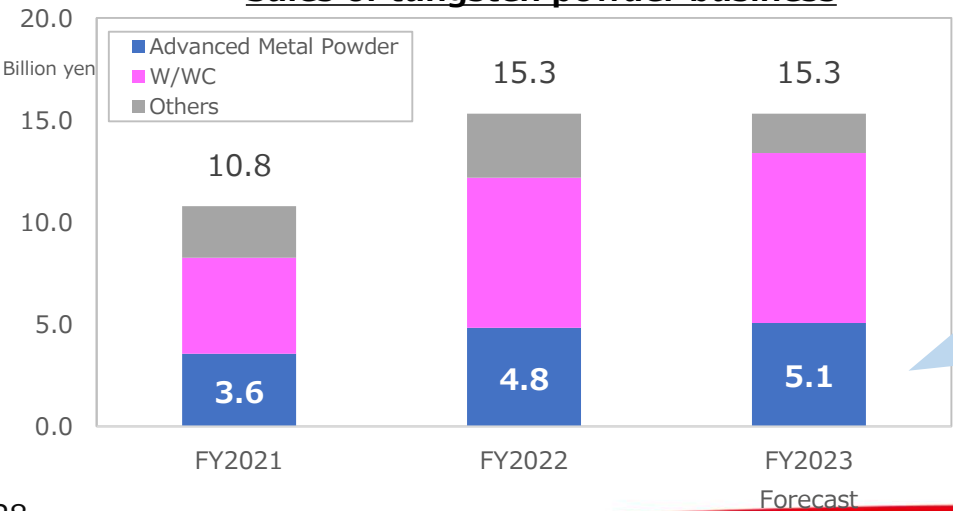
- WO<sub>3</sub> for secondary battery
- Various heteropolyacids for catalysts

### New fields



- Powders for 3D printers
- Heat-and oxidation-resistant ceramic powder

Sales of tungsten powder business



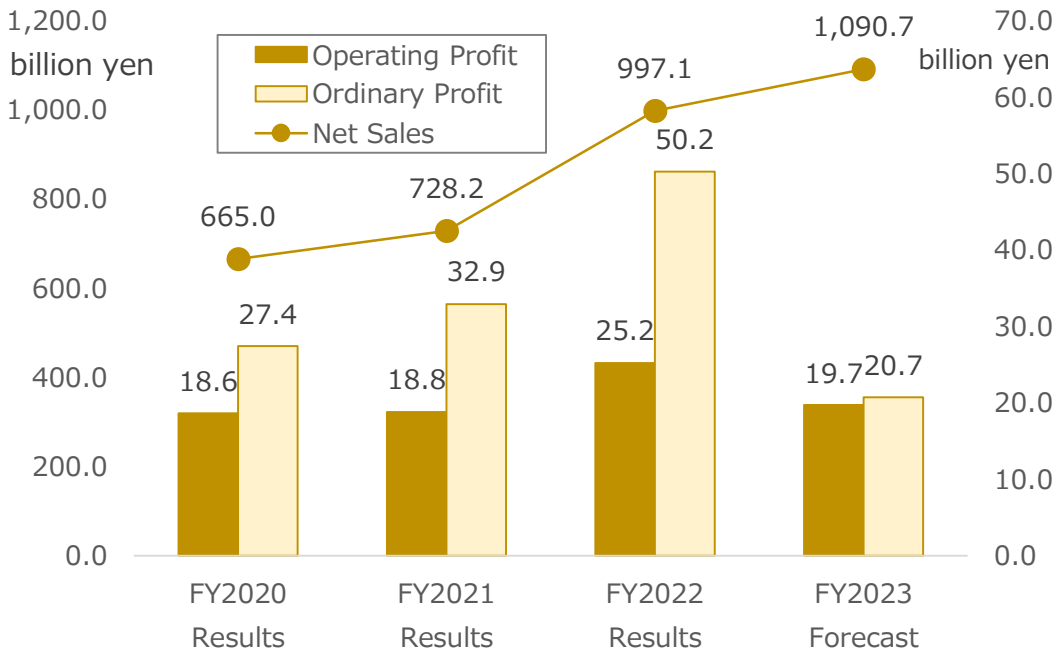
Advanced metal powder is expected to grow at an average annual rate of about 20% in three years.  
※Figures exclude specific projects affected by the lockdown in China.





## Earnings overview

### Consolidated Results Trend



### Mining Dividends and Electrolytic Copper Production

#### Dividends received from investee mines (consolidated)

Billion yen	FY2020	FY2021	FY2022	FY2023 Forecast
Los Pelambres	11.4	12.7	19.9	4.2
Escondida mine	1.3	1.4	3.6	3.3

#### Electrolytic copper production

Unit :t	FY2020	FY2021	FY2022	FY2023 Forecast
Naoshima	223,401	213,007	226,811	212,023
Onahama	200,942	197,182	185,502	214,968

### Overview of FY2023

#### ◆ Copper mine

We expect a large decrease in profit because the Los Pelambres Mine is expected to reduce dividends in FY2023 due to drought countermeasures (to be completed in 2023) and expansion work, and because fuel and other costs will increase.

#### ◆ Copper smelting

We are working on increased collection and processing of E-Scrap as well as various cost reductions. TC/RC as ore purchasing conditions, which had slightly improved from the previous year, fell at the end of July due to the resumption of operations at the Chinese smelter, which had been shut down, and then rose again at the beginning of September due to a sense of surplus in supply and demand caused by the delay in production at the new smelter in China, reduced production due to measures to restrict power consumption in China, and the commencement of production at the new mine.



## Priority Measures

### Long-term business goals | Leader in environmentally-friendly mining & smelting business

#### Long-term strategy

Stable supply and circulation of copper and other non-ferrous metals  
• Creation of a sustainable raw material portfolio consisting of clean copper concentrate and E-Scrap/  
• Promotion of recycling/  
• Combating climate change

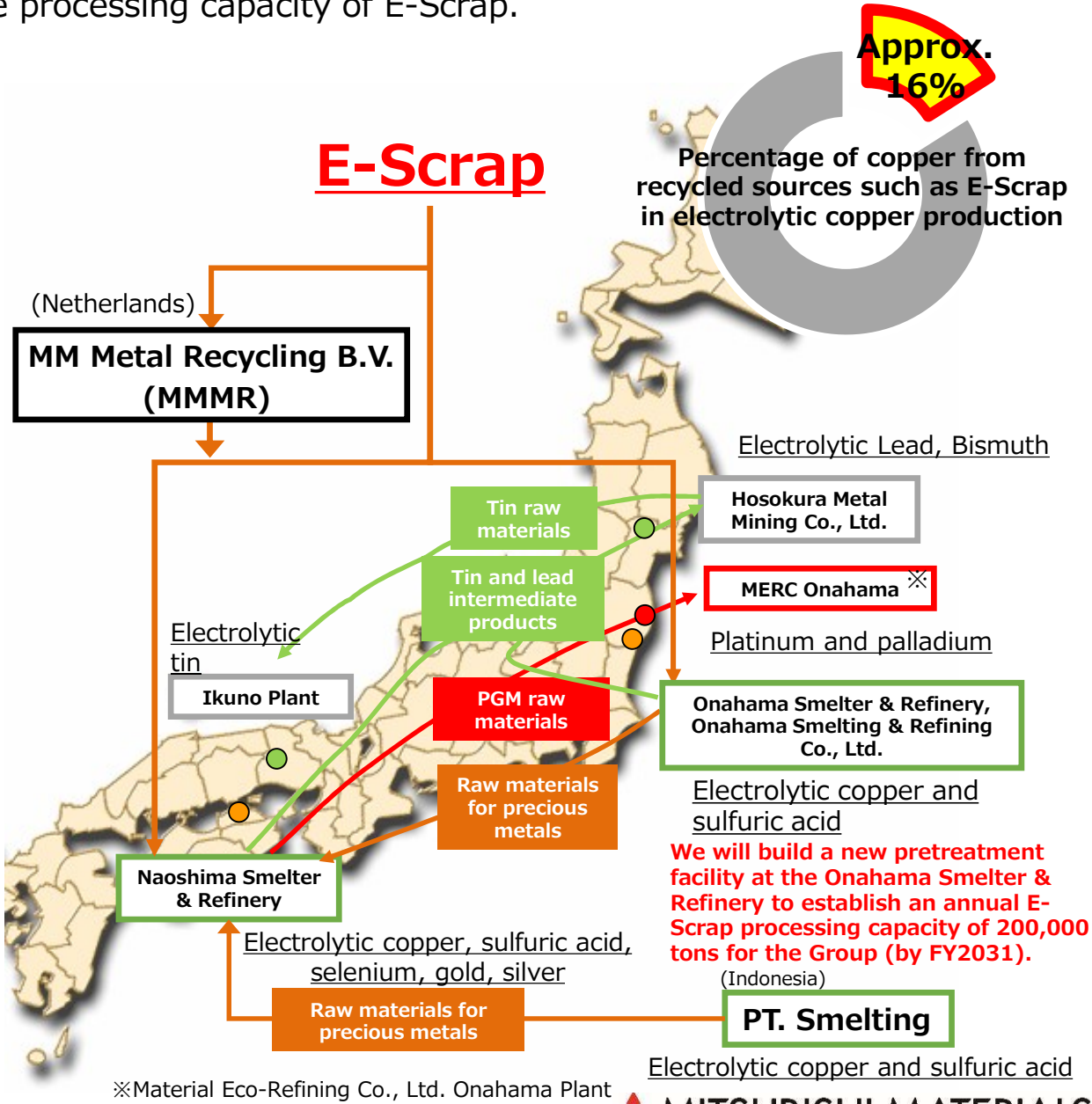
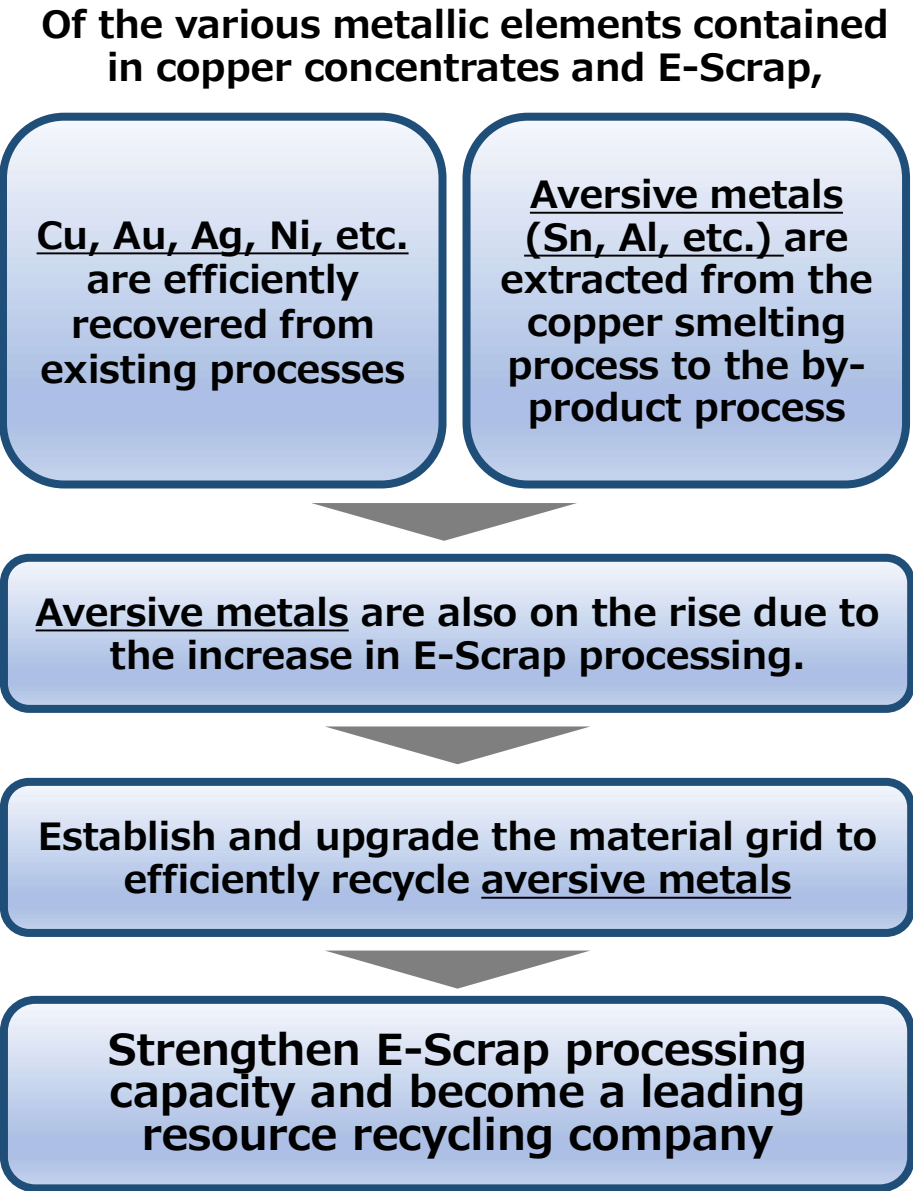
#### FY2023 Strategy

- Secure clean copper concentrate by investing in new mines
- Develop impurity removal technology in copper concentrate
- Optimize valuable metal material flow
- Reduce fossil fuels

Key Measures for FY2023 Strategy		FY2023 First Half Results	Future Initiatives
Mining	Securement of clean copper concentrate by investing in new mines	<p>The Zafranal copper project was partially delayed from the original plan due to local conditions in Peru (e.g., COVID-19). <b><u>We focused on obtaining an environmental permits (EIA).</u></b></p> <p><b><u>Conducted detailed engineering, stripping and other construction work</u></b> at the Mantoverde mine in preparation for the start of sulfide ore production in 2024 (64.5% progress against 71.4% plan as of the end of August 2022)</p> <p>Started <b><u>trial operation of the ore dressing plant expansion</u></b> at Copper Mountain Mine from the end of November 2021</p>	<p><b><u>Make final investment decision</u></b> after obtaining the environmental permit (EIA) for Zafranal copper project</p> <p><b><u>Steadily progress</u></b> Mantoverde copper project <b><u>construction work</u></b> (The ore dressing plant and tailings dam construction will be completed by the end of FY2024)</p> <p><b><u>Optimize mining operations</u></b>, including expansion</p>
	Optimization of material flow for valuable metal	<p><b><u>Increased recovery of valuable metals</u></b> by improving processes at the Naoshima Smelter and Refinery's precious metals plant</p> <p><b><u>The tin recovery facility (newly installed)</u></b> at Hosokura Metal Mining Co., Ltd. continued <b><u>stable operations</u></b>.</p>	<p><b><u>Develop technologies for separation and recovery of trace components in E-Scrap</u></b> for further efficient recovery of valuable metals (Sn, Al)</p>
Smelting	Reduction in fossil fuels	<p><b><u>Identified and optimized factors limiting E-Scrap input</u></b>, which can also be used as an alternative fuel, to reduce fossil fuel consumption (Progress as planned)</p>	<p><b><u>Promote fossil fuel substitution through increased E-Scrap processing</u></b> by taking advantage of the superiority of Mitsubishi Process for continuous copper smelting</p>

# Material Grid | Major Products of Each Business Site

In order to promote recycling, we strive to establish a flow between smelters to efficiently recycle metals, improve smelting processes at each smelter, and enhance the processing capacity of E-Scrap.

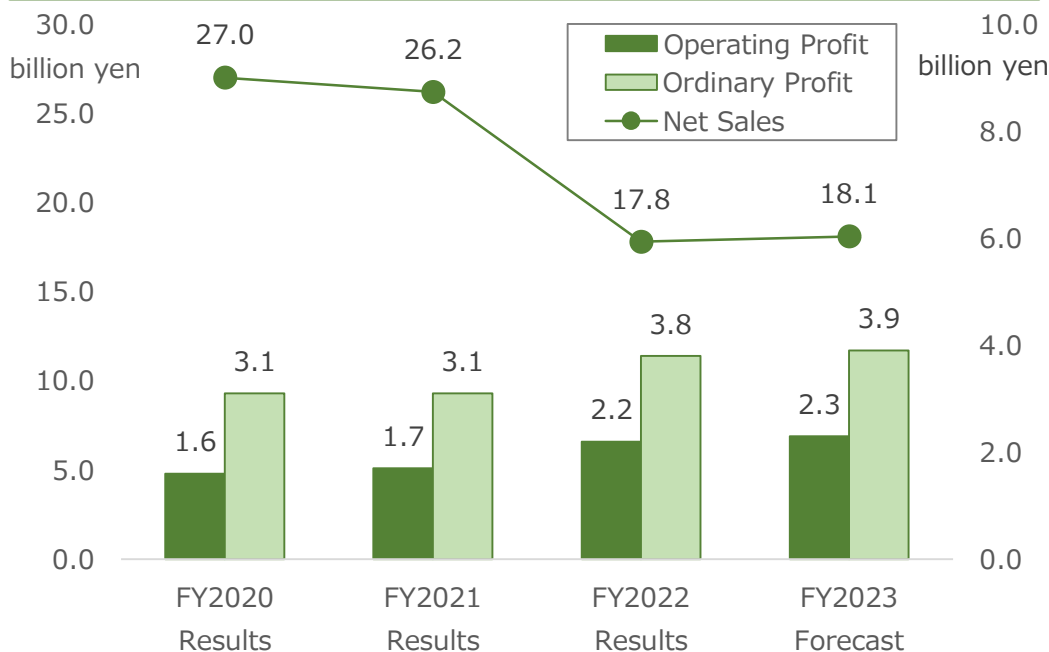






## Earnings overview

### Consolidated Results Trend



### Results by business segment

Billion yen		FY2020	FY2021	FY2022	FY2023 Forecast
Consolidated	Net sales	27.0	26.2	17.8	18.1
	Ordinary Profit	3.4	3.1	3.8	3.9
Renewable Energy	Net sales	2.6	2.7	3.0	3.2
	Ordinary Profit	1.7	1.5	1.0	0.8
Environmental Recycling	Net sales	3.0	3.5	4.7	4.8
	Ordinary Profit	0.0	0.2	1.5	1.0
Others Consolidation adjustments, etc.	Net sales	21.3	19.9	10.0	10.0
	Ordinary Profit	1.5	1.3	1.3	1.9

### Overview of FY2023

#### ◆ Renewable energy

Construction of Komatagawa new hydroelectric power plant and Appi Geothermal Power Plant is on schedule. The Komatagawa new hydroelectric power plant is scheduled to commence operation in December.

In the survey of new renewable energy projects, the Company will promote geothermal power generation initiatives in Esan, Komonomori, and Appi.

#### ◆ Environmental Recycling

The home appliance recycling business and the automobile recycling business were affected by a decline in earnings due to the fall in metal prices, despite efforts to improve efficiency.

In the incinerated fly ash recycling business, Kitakyushu Ash Recycling Systems Co., Ltd. will continue to expand collection volumes and stabilize operations.

In the food waste biogasification business, New Energy Fujimino Co., Ltd. reviewed its collection destinations, expanded collection volumes, and promoted the early stabilization of operations.



# Priority Measures

Long-term Business goals		(Environmental recycling) Driving force of resource-recycling systems (Renewable energy) Leading company in geothermal development		
Long-term strategy	<ul style="list-style-type: none"><li>• Provision of a safe recycling system with thorough traceability, etc.</li><li>• Decarbonization through the expansion of the Renewable energy business</li></ul>		FY2023 Strategy	<ul style="list-style-type: none"><li>• Expand home appliance recycling business, advancement of automation, and improvement of added value of recovered products</li><li>• Demonstrate LiB recycling technology and solar panel recycling technology</li><li>• Secure stable plant operations in fly ash recycling business and biogasification business</li><li>• Complete Komatagawa new hydroelectric power plant, construction of Appi geothermal power plant, and survey of new geothermal sites</li></ul>
FY2023 Strategy priority measures		FY2023 First Half Results		Future Initiatives
Environmental recycling	Promote automated dismantling in home appliance recycling	• Completed installation of a demonstration machine for automated recovery of AC outdoor unit compressors and started operation in August		• Conduct demonstration test
	Enhance added value of recovered products	• Transferred picking robot technology to Chubu Eco Technology Co., Ltd. (CETEC) and <b>it is in operation</b>		• Consideration is underway for the introduction to East Japan Recycle Systems Corp. (EJRS)
	Demonstrate LiB recycling technologies	• Reviewed LiB recycling processes and improved recovery rates, etc.		<b>•Ongoing implementation of system demonstrations</b>
	Demonstrate solar panel recycling	• <b><u>Delay in improvement plan of pretreatment processes</u></b> due to delay in parts procurement caused by insufficient supply of semiconductors		• Introduce of <b><u>improved pretreatment processes to East Japan Recycle Systems Corp. (EJRS)</u></b>
	Stable operation of incineration fly ash recycling business	• Continued to improve facilities, reduced trouble in transportation systems and genelally achieved <b><u>stable operations</u></b>		<b>•<u>Increase acceptance volume</u> and <u>promote process optimization</u></b>
	Stable operation of food waste biogasification business	• Continued to improve equipment, <b><u>with generally stable operations</u></b>		• Promote business by <b><u>increasing collection volumes</u></b> and stabilizing operations <b>•<u>Discussions underway with local governments, etc. on commercialization of the second plant</u></b>
Renewable energy	Complete Komatagawa new hydroelectric power plant	• Started carrying-in and installation of power generators • Steel tower foundation and revetment work is underway		<b>•<u>Commence commercial operations in December 2022</u></b> as scheduled
	Construct Appi geothermal power plant	• Construction of Appi geothermal power plant <b><u>progressed as planned</u></b> , including preparation of approach roads and commencement of production well drilling		• Drilling of production wells for confirmation in a simple fumarole test next year • Steam facility construction at production, power generation, and reinjection bases
	Survey new small hydropower	• Survey <b><u>progressed generally as planned</u></b>		• Continue conducting surveys



# Initiatives for Geothermal Power Generation

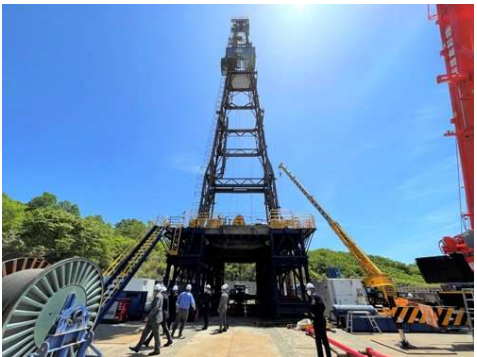
## Esan area Hakodate, Hokkaido

Promote business development with the aim of developing a new geothermal power plant in the Esan area of Hakodate City, Hokkaido.  
We contribute to the project by utilizing our experience and technological capabilities through investment.

- 2015 Renova and Denenergy began geothermal surveys
- 2016 Dec. Established Hakodate-Esan Geothermal Co., Ltd.
- 2019 Apr. Changed to LLC
- Lenova, Daiwa Energy Infrastructure, and Sigma Power (Toshiba) invested
- 2017-19 Drilled three survey wells
- 2020 ESN-1 short-term fumarole test
- 2021 Oct. Toshiba announced its withdrawal.

**May 2022 The Company participated in the project.**

※Adopted as JOGMEC's "FY2023 Geothermal Power Resource Survey Subsidy Project"



## Komomori area Kazuno, Akita

Maintain good relationships with local stakeholders and smoothly promote consensus building for the development of geothermal power plant.

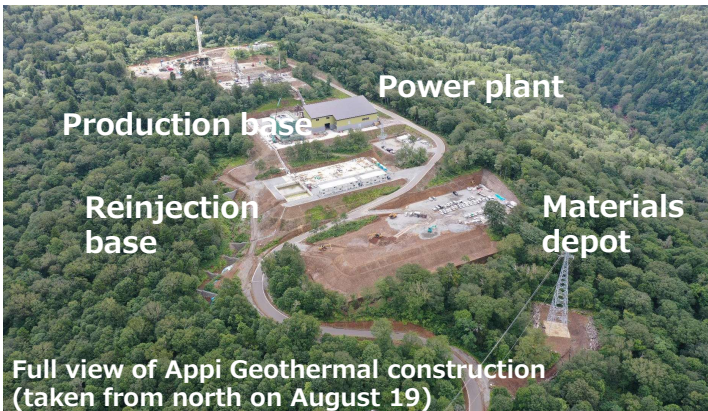
- FY2022 Electromagnetic exploration and continuous monitoring of hot springs
- FY2023 Logging and rooting work for new roads and site development
- FY2024 New roads and site development construction
- FY2025 Survey well drilling construction (Scheduled)
- Communication with local communities (Kazuno City, hot spring operators, etc.) is good.
- Continuous hot spring monitoring equipments provided by us began operations as originally planned.

※Adopted as JOGMEC's "FY2023 Geothermal Power Resource Survey Subsidy Project"

## Appi Geothermal Hachimantai, Iwate

Construction is underway in preparation for the start of operations in the spring of 2024.

- FY2023 Civil engineering work, steam equipment construction, and well drilling work
- FY2024 Scheduled start of construction of power generation facilities



Full view of Appi Geothermal construction (taken from north on August 19)





## Promote DX in food waste biogasification

We utilize New Energy Fujimino's operating data to visualize the environmental value of the biogasification business and upgrade operations through data analysis.



### Visualization of Environmental Value

We have visualized environmental values and started to use it as a sales tool. We aim to build a mechanism that can be used by users in the future and improve its appeal to customers.

#### Various Environmental values



Food waste reduction



Re-energy generation



CO<sub>2</sub> Emissions Reduction



Final disposal reduction



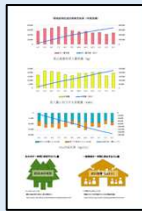
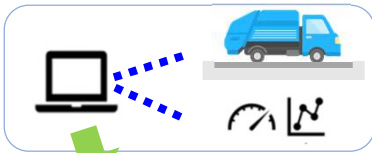
Chlorine reduction

#### Report type (current)



Currently provided to customers

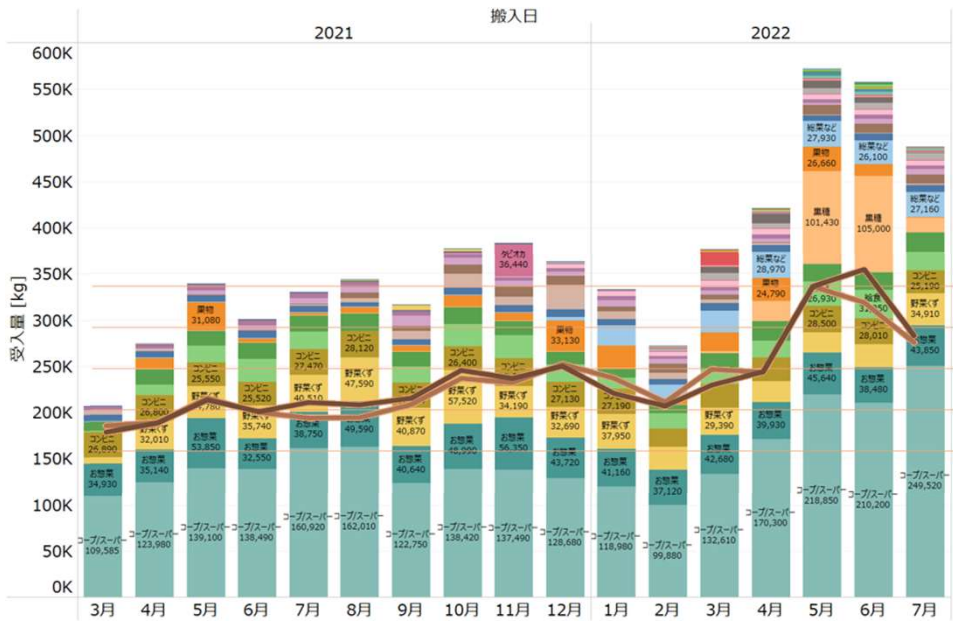
Report output from operation management data, Considering how to provide to customers



Hearings from customers on their needs for environmental value information during sales activities and reflects them

### Data Analysis

By analyzing data from operations, we aim to advance operations such as understanding the conditions in the tanks and optimizing operations.



### Breakdown of Received Waste by Type and Trends in Power Generation Efficiency (Example)

Implementing initiatives to improve power generation efficiency by identifying the influencing factors of gas generation from the breakdown of waste.

## Various ESG Initiatives

In fiscal 2022, the company actively promoted initiatives related to ESG. We will further strengthen our efforts in the future.

	Start of Medium-term Management Strategy (FY2023 Strategy) ▼ April 2020	ESG meeting (March 2021) ▼ April 2021	April 2022
<b>E</b> <ul style="list-style-type: none"> <li>Creation of a recycling-oriented society</li> <li>Dealing with climate change</li> <li>Environment protection technologies</li> </ul>	<ul style="list-style-type: none"> <li>Start of commercial operation of a biogas power plant</li> <li>Participation in Keidanren's "Challenge Zero"</li> <li>Support of TCFD recommendations</li> <li>Participation in the TCFD Consortium</li> </ul>	<ul style="list-style-type: none"> <li>Setting and revision of greenhouse gas emission reduction targets</li> <li>Carbon footprint calculation</li> <li>CO<sub>2</sub> recovery, methanation and utilization test progress</li> <li>E-Scrap <ul style="list-style-type: none"> <li>Processing capacity improvement expansion work</li> <li>Start of operation of the MEX business platform</li> </ul> </li> <li>Promotion of GHG reduction through industry-academia-government collaboration</li> <li>Adoption of carbon recycling technology for NEDO business</li> </ul>	<ul style="list-style-type: none"> <li>Participation in the 30by30 Alliance for Biodiversity</li> <li>Endorsement of Ministry of the Economy, Trade and Industry's GX League Basic Concept</li> <li>Cooperation with the Ministry of the Environment's Demonstration Project for Certifying Natural Symbiosis Sites</li> <li>Application for SBT certification</li> <li>Utilization of electricity derived from in-house hydroelectric power generation at in-house plants</li> </ul>
<b>S</b> <ul style="list-style-type: none"> <li>Responsibility in value chain</li> <li>Development of diverse talents</li> </ul>	<ul style="list-style-type: none"> <li>Optimization by positioning the head office as the communication core</li> <li>Certified as one of the 2020 Established Health &amp; Productivity Management Outstanding Organizations (Large Enterprise Category)</li> <li>From FY2018 Joint industry-academia activities (endowed course)</li> </ul>	<ul style="list-style-type: none"> <li>Human Resources Transformation</li> <li>Donations to four organizations working to solve social issues for the 150th anniversary of the Group's founding</li> </ul>	<ul style="list-style-type: none"> <li>Implementation of diversity and inclusion initiatives</li> <li>Establishment of Human Rights Policy and Procurement Policy</li> <li>Support for "Resource Sciences Education Consortium" by Hokkaido Univ. and Kyushu Univ.</li> <li>Kyoto Univ. Endowed Chair Established the "Non-ferrous Extractive Metallurgy"</li> <li>Certified as one of the 2022 Health &amp; Productivity Management Outstanding Organizations</li> <li>Signed the United Nations Global Compact</li> <li>Change of organizations related to management reform and introduction of a job-based personnel system</li> <li>Participation in G20 EMPOWER</li> <li>Continued donations to four organizations working to solve social issues</li> <li>Established "Sustainability Innovation Collaborative Research Cluster" in partnership with the Tokyo Institute of Technology</li> <li>Letter of Appreciation from East Japan Railway Co. for Early Delivery of Trolley Wire</li> </ul>
<b>G</b> <ul style="list-style-type: none"> <li>Governance</li> </ul>	<ul style="list-style-type: none"> <li><b>Corporate governance</b></li> <li>Review of executive remuneration system</li> <li>Establishment of Basic Policy on Corporate Governance</li> <li>Increase in the ratio of outside directors (6/11→6/10)</li> <li><b>Group governance</b></li> <li>Internal control enhancement measures</li> <li>Establishment of Sustainable Management Office</li> </ul>	<ul style="list-style-type: none"> <li>Revisions to the Corporate Governance Code</li> <li>Publication of Directors' Skills Matrix</li> <li>Introduction of a global in-house reporting system</li> <li>Inner branding, reverse mentoring and other communication initiatives</li> </ul>	<ul style="list-style-type: none"> <li>Application for Prime Market listing</li> <li>Establishment of the Sustainability Policy</li> <li>Strategic IP formation activities and promotion of IP governance</li> <li>Third-party evaluation of the effectiveness of the Board of Directors</li> <li>Launched "WITH MATERIALS," a corporate communications magazine</li> <li>Change in compensation system for executive officers</li> <li>Establishment of the Sustainability Committee</li> <li>Increase in the ratio of outside directors 6(1)/10→7(2)/10</li> <li>Female outside directors indicated in parentheses</li> <li>Launch of "Special Website on our Mission"</li> </ul>

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These projected performance figures are based on information available to the MMC's management as of the day for releasing this material. There are many uncertain or risk factors inherent in these projections, and there might be cases in which actual results materially differ from projections of this material.

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