

Medium-Term Management Plan

JGP2028
From FY2024 to FY2028

June 11, 2024

THE JAPAN STEEL WORKS, LTD.



#### [Note]

The performance forecasts and other forward-looking statements included in this report are based on the information that was available to The Japan Steel Works, Ltd. (the "Company") and certain assumptions deemed to be reasonable at the time this report was prepared, and the actual results may differ significantly from these forecasts due to a variety of reasons.

## **Composition of Business Segments and Major Products**

**Business Segments** 

#### **Industrial Machinery Products Business**

Japan Steel Works M&E, Inc.

Muroran

**Material and Engineering Business** 

**Other Businesses** 

**New Business** 

**Promotion H.O.** 

**Organizations** 

Plastic Machinery B.D. / Injection Molding Machinery B.D. / Industrial Machinery B.D. / Ordnance Business H.Q.

**Production** Bases





d dingara Chi

Film and sheet

Manufacturing equipment



Excimer laser annealing systems









Semiconductors and Electronic Devices



construction

(Large Anvil for Pile driver)

reactor pressure vessels

Parts for nuclear













**Pelletizers** 

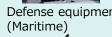
Twin-screw extruders (TEX)



Plastic injection molding

Magnesium alloy injection Vacuum laminators Defense equipment molding machines







Components for offshore wind power generation



Steel pressure vessels for hydrogen storage



**Products** 

**Plastic** 

Plastic injection

molding machines

**Mobility** 

High performance battery

**Electronic** Devices

Defense

Defense equipment



Renewable Energy

Infrastructure

**Photonics** 

machines (Special machine) deposition systems (Ground)

ECR plasma

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# PART 1 Review on JGP2025

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### **Review on JGP2025 Business Results** (FY2023)

Industrial Machinery Products Business: While sales are strong, it is necessary to respond to the sharp increase in orders and improve profits by maintaining and improving the in-house production rate. Material and Engineering Business: Orders are strong even though net sales did not reach the target; profitability is on track to improve due to optimized selling prices.

		FY2023 Initial Plan	FY2023 Results	Target/Results Contrast
Net sales (billion yen)		250	252.5	Same level
	Industrial Machinery Products Business	190	208.3	+9.6%
	Material and Engineering Business	50	41.9	-16.2%
Operat	ting income (billon yen)	20	18	-10.0%
	Industrial Machinery Products Business	21	20.4	-2.8%
	Material and Engineering Business	3.5	3.2	-8.6%
Operating income ratio (%)		8.0	7.1	-0.9PP
ROE (%	6)	8.5	8.5	Same level



## Review on JGP2025 Capital investment, R&D investment (Until FY2023)

Although capital investment is progressing almost as planned, a major review of investment plans is necessary to respond to increasing orders, including new businesses, and to avoid lost opportunities due to facility breakdowns.

	JGP2025 Initial Plan	Until FY2023 Results	Evaluation
Capital investment	45 Billion yen/Five Years	24.4 Billion yen/Three years	Almost as planned
R&D investment	30 Billion yen/Five Years	15.6 Billion yen/Three years	Almost as planned

#### **Major capital investment projects**



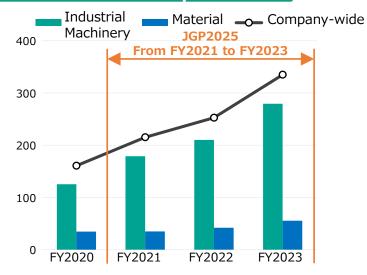
No.9 Assembly Shop (Hiroshima)
Assemble plastic injection molding machines/extruders



Recycling Technical Center (Hiroshima)

Conducting a chemical recycling test for plastics

## Backlog changes during the JGP2025 period



## Review on JGP2025 Basic Policies (Until FY2023)

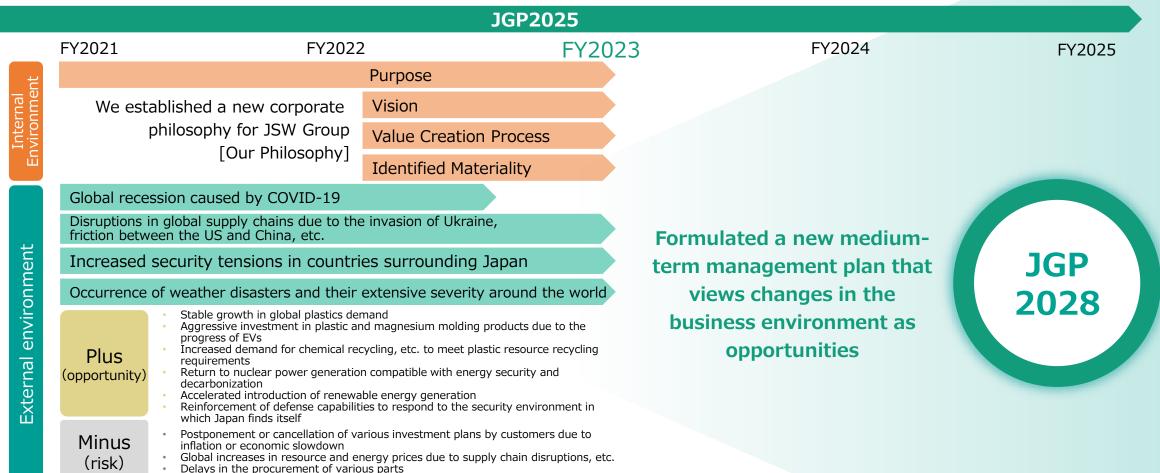
4 Basic Policies	Evaluation	Achievements	Issues still to be addressed
Towards the unprecedented general manufacturer of plastic processing machinery in the world  • Achieve the No. 1 global market share for existing products by strengthening competitiveness  • Promote plastic processing machinery complexification		<ul> <li>Promoted product mix optimization and mutual complementation at the Group's production bases.</li> <li>Pelletizers maintain top global market share.</li> <li>Maintained and strengthened relationships with top global companies for separator film manufacturing equipment.</li> <li>Established a production &amp; service base for injection molding machines in Europe.</li> <li>Increased production capacity at the Hiroshima Plant, the main plant for plastic processing machinery.</li> </ul>	<ul> <li>Increasing production capacity to meet sharp increases in orders and sales, and maintaining and improving in-house production rate</li> <li>Promoting global expansion and expanding service business</li> <li>M&amp;A for business expansion</li> </ul>
Make constant profit in Material and Engineering Business		<ul> <li>Improvement in profitability through the optimization of selling prices is on the horizon.</li> <li>Reviewed product portfolio to improve profitability.</li> <li>Strengthened quality assurance system (implemented measures to prevent recurrence of any misconduct in quality inspections).</li> <li>Increased orders for power-gen related components, taking advantage of the opportunity presented by the global energy policy review.</li> </ul>	<ul> <li>Preventing breakdowns by investing on the aging core production facilities</li> <li>Reviewing the product portfolio for stable profitability</li> </ul>
<ul> <li>Create new core businesses</li> <li>New industrial machinery products</li> <li>Photonics</li> <li>Composite Materials</li> <li>Metallic Materials</li> </ul>	$\triangle$	<ul> <li>Won orders for proposal-based development of defense equipment (railguns*).</li> <li>Expanded product portfolio by developing laser application products for power semiconductors.</li> <li>Commenced operation of a large-scale gallium nitride (GaN) substrate demonstration facility.</li> <li>Commenced operation of the world's most advanced copper alloy material production facility.</li> </ul>	<ul> <li>Establishing a production system for new defense equipment and increasing production capacity</li> <li>M&amp;A to strengthen the industrial machinery products business</li> </ul>
Promotion of ESG management		<ul> <li>Established The Japan Steel Works Group's philosophy system with "Purpose" as the starting point.</li> <li>Identified important issues (materiality).</li> <li>Strengthened environmental measures, including endorsement of the TCFD.</li> <li>Strengthened the monitoring function of the Board of Directors.</li> <li>Increased the ratio of outside directors, and the ratio of female directors &amp; auditors (to ensure skills and diversity).</li> </ul>	<ul> <li>Enhancing information disclosure and dialogue with stakeholders</li> <li>Strengthening the Group's governance structure</li> <li>Enhancing and strengthening human capital</li> </ul>



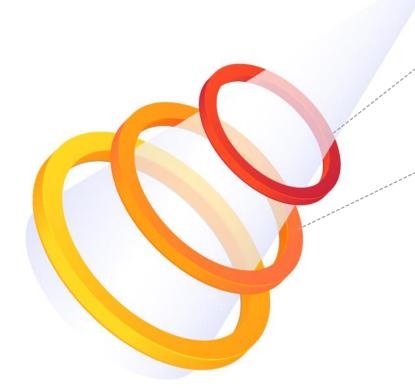
### **Review on JGP2025**

Due to significant changes in the business environment (internal and external), we reviewed the plan at the end of three years.

The new medium-term management plan aims to provide social value and increase corporate value based on the corporate group philosophy system.



## Corporate Philosophy of The Japan Steel Works, starting with Purpose "Our Philosophy"



## <u>Purpose</u>

What is the JSW Group's value?

## Material Revolution

making the world sustainable and prosperous.

## **Vision**

What will JSW Group aim for?

Benefiting all stakeholders by developing and implementing industrial machinery and new materials that solve social issues.

## Value Creation Process

How can JSW Group provide value to realize the Vision?

JSW Group Core Competence

Melting, Mixing, and Solidifying



Machine Element and Precision Control

JSW Group will further refine its core competence, develop industrial machinery and new materials that solve social issues, and supply them to the world, thereby simultaneously creating social value and enhancing sustainable corporate value.

# PART 2

# Medium-Term Management Plan JGP2028

PART 1 Review on JGP2025

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### FY2033 Our Vision

## Purpose Material Revolution

### Material Revolution, making the world sustainable and prosperous

#### **Creating Value and Solving Social Issues**

Realization of a Plastic Resource-Recycling Society

Contribution to a Low-Carbon Society



Contribution to a Super-Smart Society



#### Solving social issues through materiality management

**Bolstering Management Foundation for Sustainable Growth** 

**Human Capital** Improvement and DFI&B



Investment in the Future with Innovation Management



Governance Reinforcement of JSW Group



#### DEI&B Diversity, Equity, Inclusions & Belonging

We have changed the materiality "D&I" to "DEI&B" based on the belief that "E (fairness)" and "B (creating an environment where employees can be themselves)" are essential, in addition to "traditional D (diversity) & I (inclusion)" for each employee to reach his or her full potential.

**JSW** Group **Value Creation Process** 

The Group will further refine its core competencies while creating social value and sustainably increasing corporate value through the Value Creation Process, which involves the development and implementation of industrial machinery and new materials that solve social issues.

## **Sustainability Targets**

Contribute to the realization of a sustainable and prosperous world through the development and implementation of industrial machinery and new materials that solve social issues.

**Achieve** simultaneously

**Vision for FY2033** 

**Financial Targets** 

Aim to grow into a corporate group with sales of 500 billion yen

**Net Sales Operating** income ROE

**500** Billion yen

**50** Billion yen

11-12%



Benefiting all stakeholders by developing and implementing industrial machinery and new materials that solve social issues.



## Positioning of Medium-Term Management Plan JGP2028 and Basic Policy

Reforms and challenges for new growth: Sustainably increase corporate value while resolving materiality in order to realize our vision for FY2033.

#### **JGP2025** (Until FY2023)

#### **4 Basic Policies**

- Towards the unprecedented general manufacturer of plastic processing machinery in the world
- Make constant profit in Material and Engineering Business
- Create new core businesses
- Promotion of ESG management

#### **Financial Targets FY2025 (Plan)**

**Net Sales** 270 Billion ven **Operating income** 27 Billion ven ROE

FY2023 (Results)

10%

252.5 Billion yen **Net Sales** Operating income 18 Billion yen ROE 8.5%

### **JGP2028**

#### Improving corporate value while resolving materiality

Materiality .

- Realization of a Plastic Resource-Recycling Society
- Contribution to a Low-Carbon Society
- Contribution to a Super-Smart Society

#### Solve

#### **Basic Policy 1**

**Sustainable improvement** of value of existing businesses

### Solve

#### **Basic Policy 2**

Creating and nurturing new businesses

#### **Financial Targets**

Aim to grow into a corporate group with sales of 380 billion ven or more

**Net Sales Operating income** ROE

380 Billion yen 37 Billion yen 10-11%

Widening **Equity Spreads** 

#### **Improve financial foundation Basic Policy 3 Basic Policy 4**

**Expanding investment in** intangible assets, including investment in people

Strengthening corporate governance

#### FY2033

#### **Sustainability Targets**

Contribute to the realization of a sustainable and prosperous world through the development and implementation of industrial machinery and new materials that solve social issues.

> **Achieve** simultaneously

#### **Financial Targets**

Aim to grow into a corporate group with sales of 500 billion yen or more

**Net Sales** Operating income ROE

500 Billion yen 50 Billion ven 11-12%



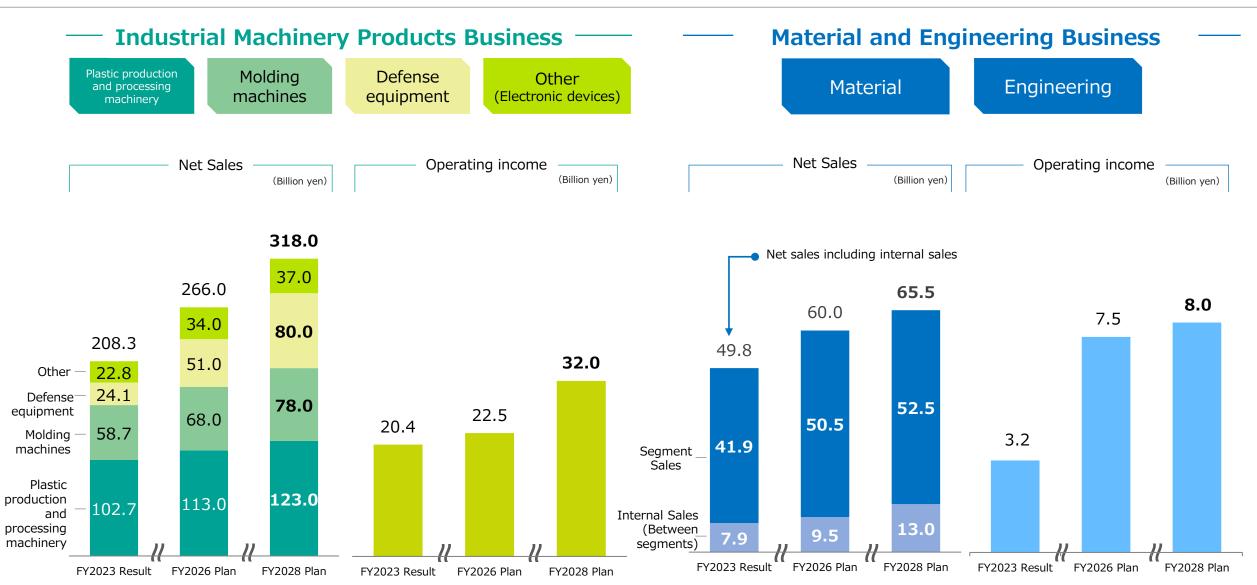
## **JGP2028** Financial Targets (consolidated)

Aim to achieve a record operating income plan and widen the equity spread through sustainable growth.

	FY2028	
Net Sales	Operating income	ROE
380 Billion yen	37 <sub>Billion yen</sub>	10-11%

	FY2023: Results	FY2026: Plan	FY2028: Plan	Change from FY2023
Net Sales (Billion yen)	252.5	320	380	+50%
Operating income (Billion yen)	18	26	37	+106%
Operating income ratio (%)	7.1	8.1	9.7	+2.6 <sub>PP</sub>
ROE (%)	8.5	9.0	10-11	+1.5-2.5 <sub>PP</sub>
Capital investment (Billion yen/year)	8.1*		20	+147%
R&D investment (Billion yen/year)	5.2 <sup>*</sup>		8.2	+58%
Dividend payout ratio (%)	30		35	+5 <sub>PP</sub>
DOE (%)	2.0		2.5	+0.5 <sub>PP</sub>

## **JGP2028** Financial Targets (by segment)



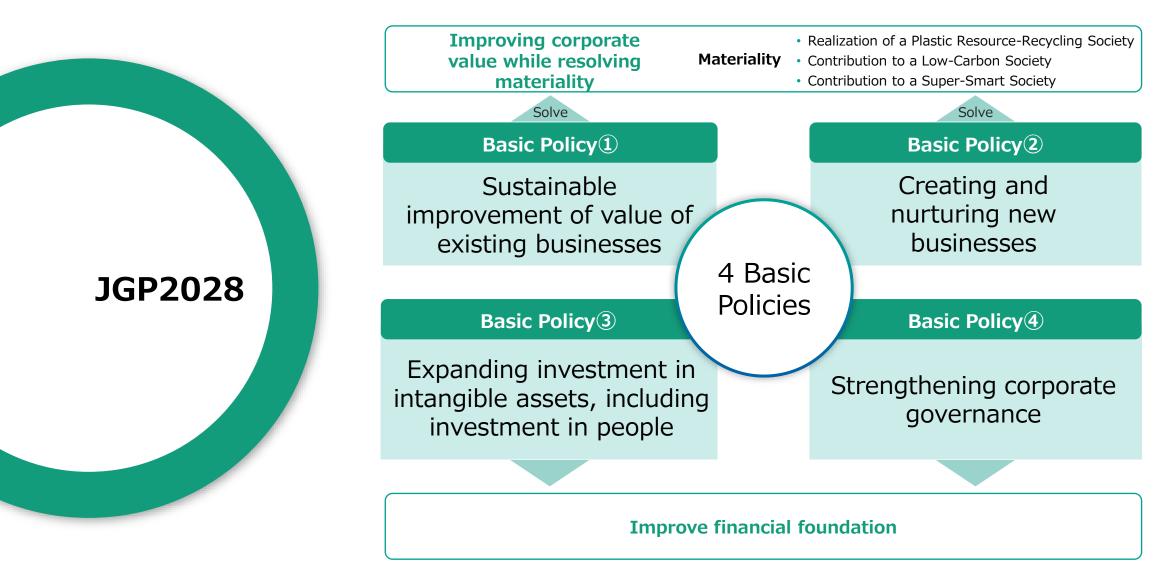


## JGP2028 Non-Financial Targets (Targets for resolving materiality/KPI)

Materiality	Targets/KPI	Current major initiatives	Related SDGs
	Creating Value	e and Solving Social Issues through JSW Group's Businesses	
Realization of a Plastic Resource-Recycling Society	<ul> <li>Product provision and development Percentage of the relevant product to FY2023 sales: 140% (As of FY2028)</li> </ul>	[Offering]     [Renewable] - Twin-screw extruder for biodegradable plastics     [Reduce] - Twin-screw extruder for biocomposites     [Recycle] - Twin-screw extruder for chemical and mechanical recycling  [Under development] - Global Standard (GS) specification twin-screw extruder     - Mono-material film manufacturing equipment	9 MILITITY INCOMPON NO INFRASTRUCTUR 12 RESTORBEL DOCAMPION AND PROJUCTION AND PROJUCTION THE PELON NOTICE
	Strengthen efforts	[Recycle] - Strengthening of test acceptance at domestic and overseas technical centers	<b>)</b>
Contribution to a Low-Carbon Society	<ul> <li>Reduction of CO<sub>2</sub> emissions through product lines Percentage of relevant products to net sales in FY2023: 120% (As of FY2028)</li> <li>Reduction of CO<sub>2</sub> emissions from production activities: Over 45% compared to FY2013 level (As of FY2028) [Reference: FY2030 target: Over 60%]</li> </ul>	[Offering] [Zero CO <sub>2</sub> emissions]- Spread of electric vehicles: LiB separator film manufacturing equipment - Spread of solar power generation: Pelletizers for panel protection film raw materials - Spread of nuclear power generation: Materials for major key components - Spread of offshore wind power generation: Materials for wind turbine construction materials [CO <sub>2</sub> emission reduction] - Energy-saving of equipment: Electric plastic injection molding machines - Spread of high-efficiency GTCC * power generation: Key component materials * Gas turbine combined cycle  [Under development] [CO <sub>2</sub> emission reduction] - Support for giga casting: Ultra-large plastic and magnesium injection molding machines	7 AFFORDARE DIE CIEDA FERRIT
	Strengthen efforts	[CO <sub>2</sub> emission reduction] - Establishment of a new magnesium injection molding machine technical center at overseas bases	
Contribution to a Super-Smart Society	<ul> <li>Improved performance and energy-saving of infrastructure equipment</li> <li>Increased performance of input/output terminals</li> <li>Percentage of the relevant product to FY2023 sales: 180%         <ul> <li>(As of FY2028)</li> </ul> </li> </ul>	- 3-stage vacuum laminator for next-generation package substrates [new product] - Laser thermal processing system for power semiconductors [new product] - Micro LA (laser annealing) system for sensors - ELA system with floating stage  [Under development] - GaN (gallium nitride) substrate	11 SIGNAMES CITIES AND COMMUNITIES
	Strengthen efforts	- Development of new markets for laser-applied equipment	



### **JGP2028 4 Basic Policies**





### Basic Policy Sustainable Improvement of Value of Existing Businesses: Key Strategies by Business Segment

# Develop a key strategy that fits each business segment and sustainably increase the value of existing businesses.

Industrial Machinery Products Business

#### Plastic Machinery product group

- Plastic production and processing machinery
- Plastic injection molding machines, magnesium alloy injection molding machines
- Electronic Devices group
  - Laser application equipment, hot press devices, vacuum laminators, deposition systems
- Defense equipment group
  - Various products for the Ministry of Defense and the Japan Coast Guard

### **Key Strategies**

- Increase production capacity through large-scale capital investment, and maintain and improve in-house production rate
- Promote global expansion
- Deepen our core competence
- Maintain and improve capital efficiency
- Resolve materiality

Material and Engineering Business

### Material product group

- Material and engineering, etc.
- Defense equipment (AMV APC)

- Meet market needs related to power generation equipment
- Increase capital investment to enhance business sustainability
- Maintain and improve capital efficiency through product portfolio replacement
- Deepen our core competence
- Resolve materiality



<sup>\*</sup> For more information on each business, refer to "PART 3: Segment Policies."

## Basic Policy Sustainable Improvement of Value of Existing Businesses: Hiroshima Plant Increase Production Capacity for Plastic Machinery Products

Make large capital investments (plants and facilities) to expand production capacity while maintaining the in-house production rate, which is one of our strengths.

	JGP2028					
	FY2024	FY2025	FY2026	FY2027	FY2028	
Factory		1 No. 10 Assembly	Shop			
			② (Provision	nal name) New No. 2 Ma	chining Shop	
		Construc	tion, etc.	③ (Provisional name) I	No. 4 Machining Shop	

## ① [No. 10 Assembly Shop] Expansion and construction underway

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Affected products	Plastic Machinery
Effect	Increase in-house assembly rate Improve distribution
Feature	Equipped with large cranes (ultra-large size machines can be assembled) 2-story plant Solar power generation installed on the entire roof
Start of operation	Scheduled for Jan 2025
Total floor area	6,754 m (including 2F: 303 m)
Solar power generation	1.1 GW/year (PV capacity 924 kW)

## **② [New No. 2 Machining Shop] Construction preparation underway**

Affected products	Plastic Machinery
Effect	Increase sales of service parts for medium- size extruders Maintain and improve in-house machining rate Respond to aging factories
Feature	Streamlined distribution by using lines; smart factory model plants (Unmanned forklift trucks, visualization of facilities, people, and goods) Solar power generation installed on the entire roof
Start of operation	Scheduled for Apr 2026
Total floor area	8,852 m (including 2F: 338 m)
Solar power generation	1.5 GW/year (PV capacity 1,244 kW)

## ③ [No. 4 Machining Shop] Reconstruction planning underway

Affected products	Plastic Machinery
Effect	Increase sales of service parts for large extruders Maintain and improve in-house machining rate Respond to aging factories
Feature	Installation of large processing machines (ultra-large size parts can be manufactured) Solar power generation installed on the entire roof
Start of operation	Scheduled for Oct 2026
Total floor area	3,400 m
Solar power generation	0.7 GW/year (PV capacity 556 kW)



## **Basic Policy Sustainable Improvement of Value of Existing Businesses:** Increase Production Capacity by Manufacturing in Optimal Locations and Mutual Complementation

Maximize production capabilities by optimizing the business and products of each

production base in implementing key strategies.

Main businesses: Molding machines, electronic device product lines, and railroad products

- A plan to build a new plant is being considered.
- The railway product business was transferred from the Hiroshima Plant.
- Meets the increased production of defense equipment lines.

The Meiki Plant merged into JSW in 2020 and was positioned as one of our main production plants, creating a mutually complementary relationship with the Hiroshima Plant.







#### Main business: Material product lines

- Invest on the aging facilities to maintain manufacturing capabilities of material products business.
- Meets the increased production of defense equipment lines. Newly manufactures defense equipment with potential synergies, such as the production of large welded structures.

**GM ENGINEERING CO., LTD.** 

The sheet equipment business was consolidated into the company (became a subsidiary in 2019). Develops products in collaboration with the Hiroshima

**TAHARA** MACHINERY LTD. Blow molding machines, excluding those for PFT (plastic gasoline tanks), were consolidated into the company (became a subsidiary in 2006)



#### Main business: Electronic device product lines

- JSW AFTY Corporation (became a subsidiary in 2014) was moved to the plant.
- Electronic device-related products were consolidated to strengthen collaboration: JSW Aktina System Co., Ltd., JSW AFTY Corporation
- Meets growing demand for plastic machinery product lines: Nikko Kouki Co., Ltd.

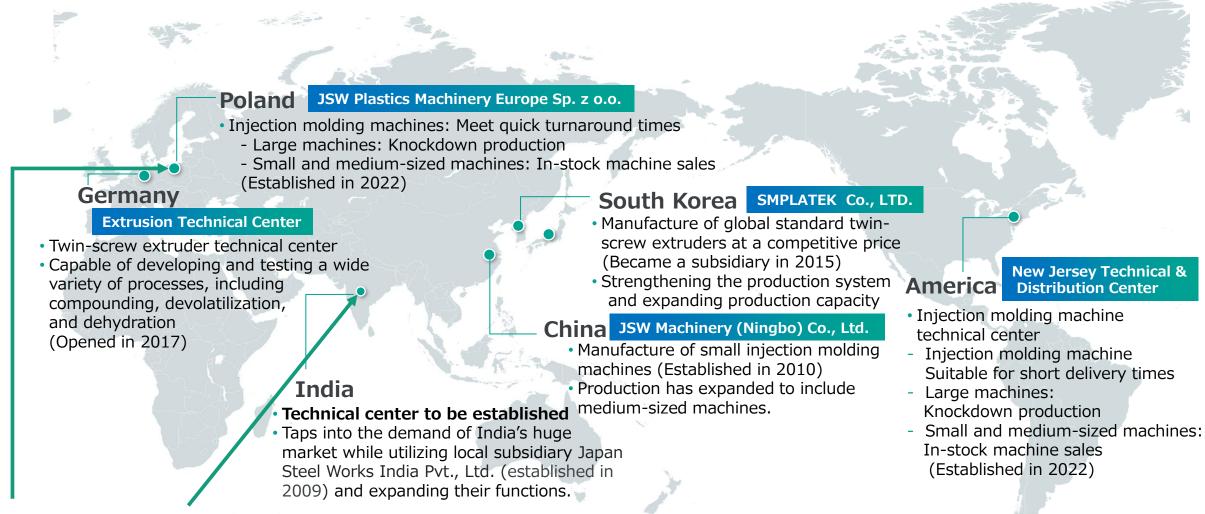


Main business: Industrial machinery segment products in general

- Made investments to meet growing demand for industrial machinery segment products.
- Maintained and improved in-house production rate. a source of its strength, by building an assembly and machinery plant: Nikko Techno Co., Ltd.



# Basic Policy① Sustainable Improvement of Value of Existing Businesses: Promote Global Expansion by Strengthening Local Production



Key regions are Europe and India.

\* Sales locations are excluded.



## **Basic Policy Creating and Nurturing New Businesses**

Strengthen existing businesses by developing elemental technologies and create innovative technologies through basic technology research.

#### **Development of elemental technologies in** laboratories established at the three plants

Strengthen existing products and resolve materiality by deepening core technologies through elemental technology development in close collaboration with plants.

#### Formulation and implementation of a businessspecific intellectual property strategy

Formulate and implement a strategy that creates value in each business from an intangible asset utilization perspective through a company-wide IPE structure.\*1

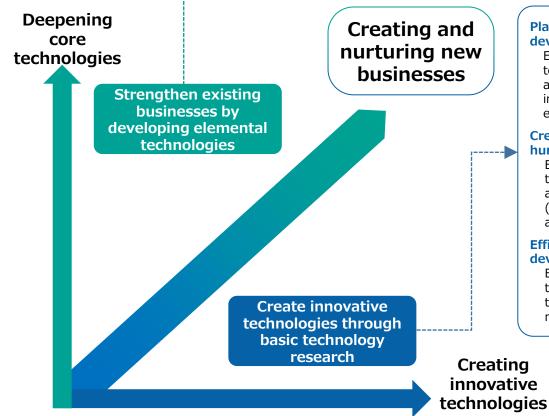
#### Sustained development of R&D personnel and strengthening of technological capabilities

Strengthen partnerships with universities and research institutes in Japan and overseas to promote sustainable human resource development and technological advancement by earning a doctorate degree, etc.

\*1 Intellectual Property Executive (IPE) System: A system in which an intellectual property manager is assigned to each business division to formulate an intellectual property strategy based on the business strategy

Resolution of Materiality Investment in the Future with Innovation Management





#### Planning to establish a new R&D center to develop innovative technologies

Establish a new laboratory within the mediumterm plan period that is not attached to a plant, and that conducts research and development of innovative technologies that do not adhere to existing products or core technologies.

#### Creating innovation by leveraging diverse human resources

Encourage the creation of innovative technologies and new businesses through the accumulation of diverse human resources (values) from inside and outside the company and the promotion of entrepreneurship.

#### **Efficient new product and market** development through IP analysis\*2

Double R&D investment focused on megatrends

Increase by 40% or more compared to FY2023

Examine the company's strengths, market trends, and R&D direction through IP analysis to efficiently develop new products and new markets.

> \*2 IP analysis: IP landscape Analysis of management and business information incorporating IP information

Strengthening the management foundation for the sustainable growth of our group				
FY	Y2023 results	FY2028 targets	Related SDGs	
R&D cost (annual average for the medium-term period) ¥5.2 billion/year		¥8.2 billion/year	12 RESPONSIBLE 17 PARTNERSI	
Doctoral ratio	14% (Innovation Management Headquarters)	16% (Innovation Management Headquarters)	12 RESPONSIBLE CONSUMPTION AND PRODUCTION OF THE EX	







Number of patent applications and external publications

Investment of R&D costs with the goal of "contributing to a super-smart society"

## Basic Policy<sup>③</sup> Expanding Investment in Intangible Assets, Including Investment in Human Resources (Human Capital Strategy)

Achieve sustainable growth and increase corporate value by fostering diverse individuals and maximizing organizational results.

#### Securing human resources that match the business strategy

Continue to hire diverse human resources to meet business strategies, including new graduates, experienced workers, women, people with disabilities, and foreign nationals.

## Developing individual skills and strengthening organizational (management) capabilities

Create a mechanism to link growth in individual skills to organizational growth.

## Passing on and DX of sales, design, and manufacturing technologies, skills, and know-how

Pass on proprietary technologies and skills; systemize tacit knowledge with DX.

## Reform towards an organizational culture that encourages challenge

Create a culture where challenges are rewarded by leveraging opportunities for continuous problem-solving through an organizational culture reform project.

## Spreading the purpose and promoting DEI&B (basic environment development)

- Promote dialogue that aligns with the purpose and realizes its connection to the business.
- Prioritize the creation of an environment where all employees work fairly and are valued and recognized as individuals by fostering a culture and building systems that respect DEI&B.

Human resource strategy to achieve the business portfolio strategy

Creating a work environment that increases engagement

Improve productivity

Create innovation

corporate value

Increase

Resolution of Materiality

Human Capital Improvement and DEI&B

Strengthening the man			
FY 2023 Results		FY 2028 target	Related SDGs
Organizational culture reform project in progress		Reduce workload, improve engagement, and select young high performers early	5 SENDER 8 DECENT WORK AND PRODUCTION OF STREET
Percentage of female managers/percentage of women among assistant managers	2.0%/9.9%	5.0%/15.0%	5 SEAGER BUILDING BEGINNING GROWTH BUILDING GROWTH
Percentage of male employees who took childcare leave	88%	80% or more continuously	+
DX project activities in progress		Improve business processes and create new business	

capital

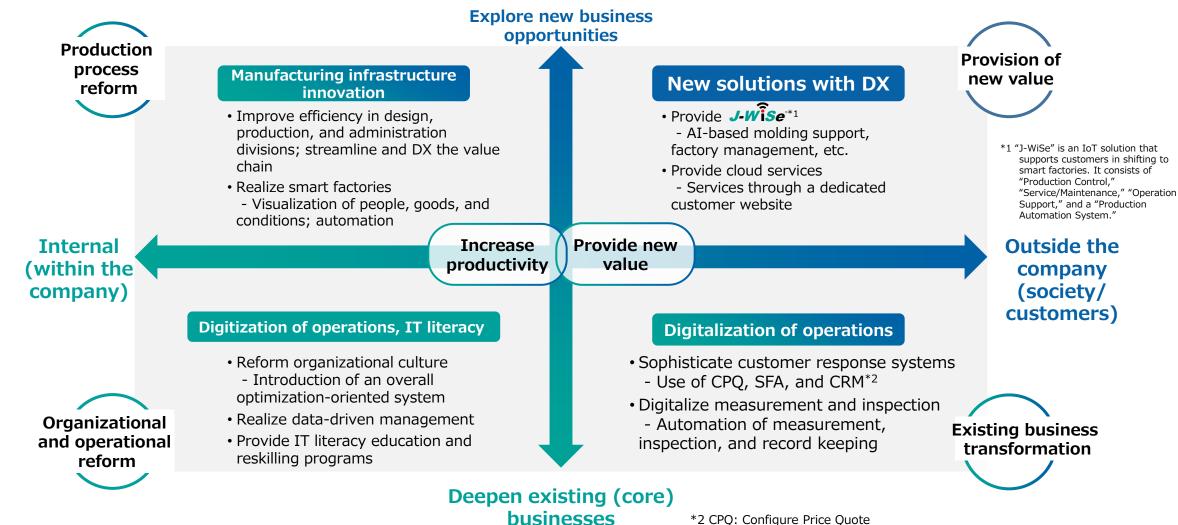
human

models with DX



## Basic Policy<sup>3</sup> Expanding Investment in Intangible Assets, Including Investment in Human Resources (Human Capital Strategy)

## Increase productivity and provide new value to society by implementing the DX strategy.





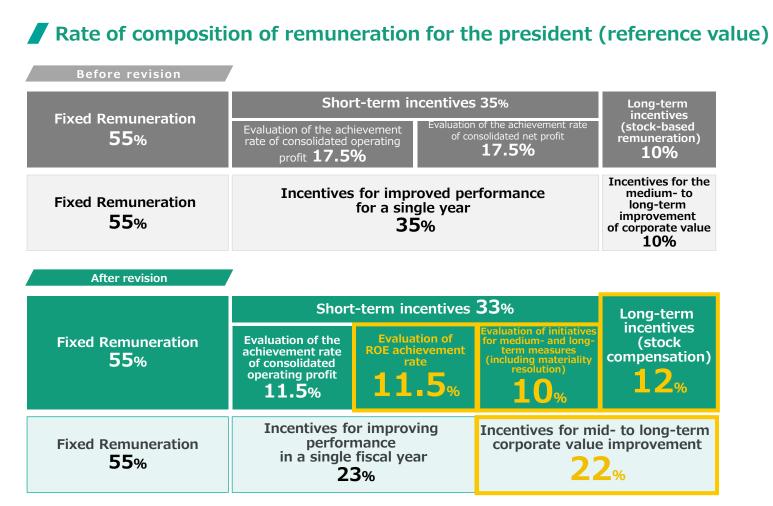
\*2 CPQ: Configure Price Quote SFA: Sales Force Automation CRM: Customer Relationship Management

## Basic Policy 4 Strengthening Corporate Governance: Review the Officers' Remuneration System

Partially revised the officers' remuneration system to strengthen the incentive function for medium- and long-term improvement of corporate value and to further promote the sharing of interests with shareholders.

## Basic policy on officers' remuneration

- Provide the incentive function for sustainability management to realize our Purpose and Vision
- 2. Make a remuneration system that corresponds to the respective roles and responsibilities
- 3. Ensure objectivity and transparency in the remuneration determination process
- 4. Make a remuneration system that shares interest with shareholders





## **Basic Policy 4 Strengthening Corporate Governance: Others**

## Sustainably increase corporate value by improving the feasibility of the sustainability and financial targets while reducing corporate management risks.

\* Scheduled following the General

Diversify the skill map based on materiality and increase the ratio of outside and female directors to improve supervisory skills.

Increase diversity of the Board of Directors and Audit & Supervisory Board

<b>Board of Directors</b>			hareholders on June 24	Audit & Supervisory Board		
		Scheduled for June 2024*	As of June 2021		Scheduled for June 2024*	As of June 2021
Ratio of out	side directors	(5 people/50%)	(3 people/33%)	Ratio of outside auditors	(2 people/50%)	(2 people/50%)
Ratio of fem	nale directors	(2 people/20%)	(0 people/0%)	Ratio of female auditors	(1 person/25%)	(0 people/0%)

Promote risk management

Establish a Risk Management Group in the Corporate Planning Office to further strengthen group governance. Promote company-wide risk management activities, including affiliates, to improve the Group's sustainability.

Reduce policy shareholdings

In accordance with our Corporate Governance Policy, in addition to selling shares of diminished value, continue to reduce our policy shareholdings to 10% or less of consolidated net assets, a level that is widely understood by investors, as we believe it is appropriate to do so.

Resolution of Materiality

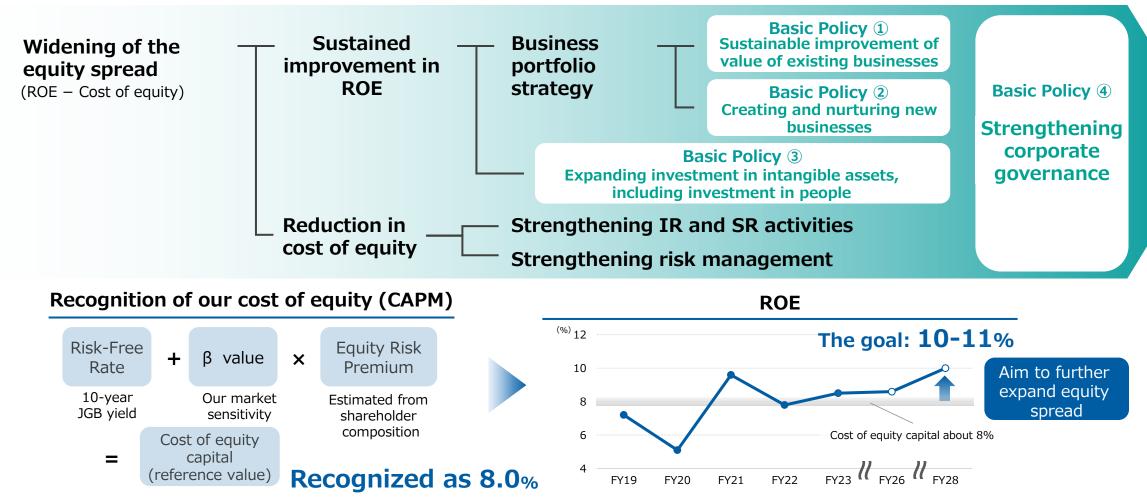
Governance Reinforcement of JSW Group



Strengthening the management foundation for the sustainable growth of our group						
FY 2023 Res	sults	FY 2028 target	Related SDGs			
Ratio of outside directors/female directors	44%/11%	50%/20%	40 PENNER			
Risk Management Team's activities		Strengthen group governance: Establish a new organization	10 REDUCED 16 PEACE JUSTICE AND STRONG INSTITUTIONS			
IR at interim and year-end closing, SR, etc.	as appropriate	Improve information disclosure and dialogue with stakeholders				
Reduction of policy shareholdings	13.4% of consolidated net assets	10.0% or less				

## Positioning of the Basic Policies for a Sustainable Increase in Corporate Value

The basic policies of JGP2028 are linked to the widening of the equity spread as follows and aim to increase corporate value by achieving these policies.

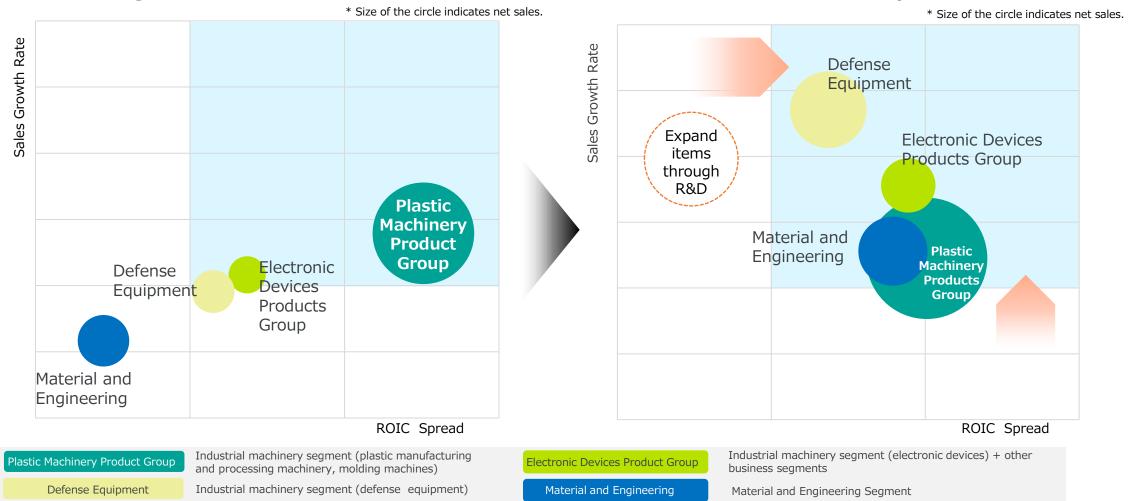


## **Business Portfolio Strategy**

Increase company-wide ROE by widening the ROIC spread of each business.

Average of FY2021 to FY2022

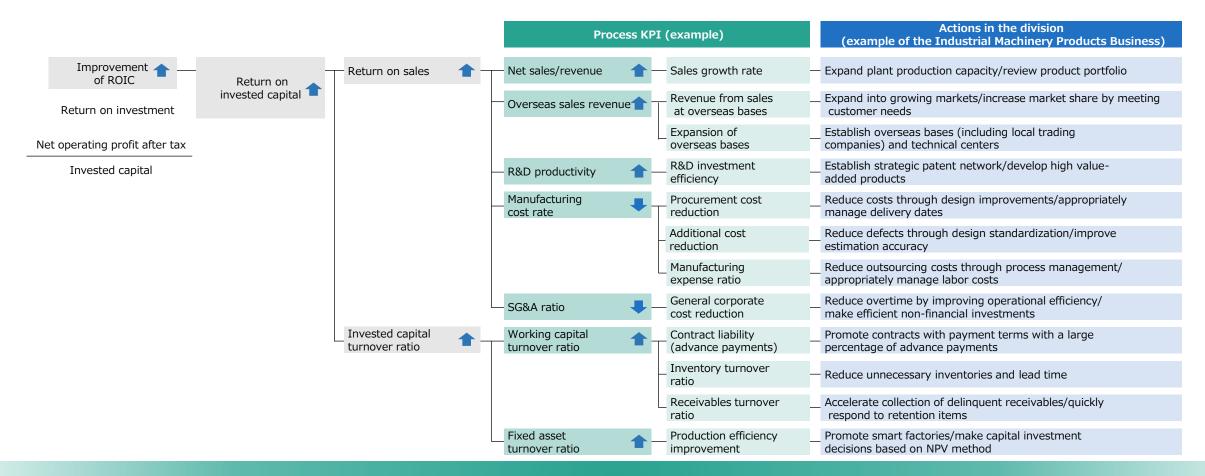
FY2028 plan





## **ROIC Tree (Example of the Industrial Machinery Products Business)**

Create an ROIC tree for each business as each business has different characteristics. Set process KPIs for the ROIC tree beforehand to establish it at each level to increase effectiveness.

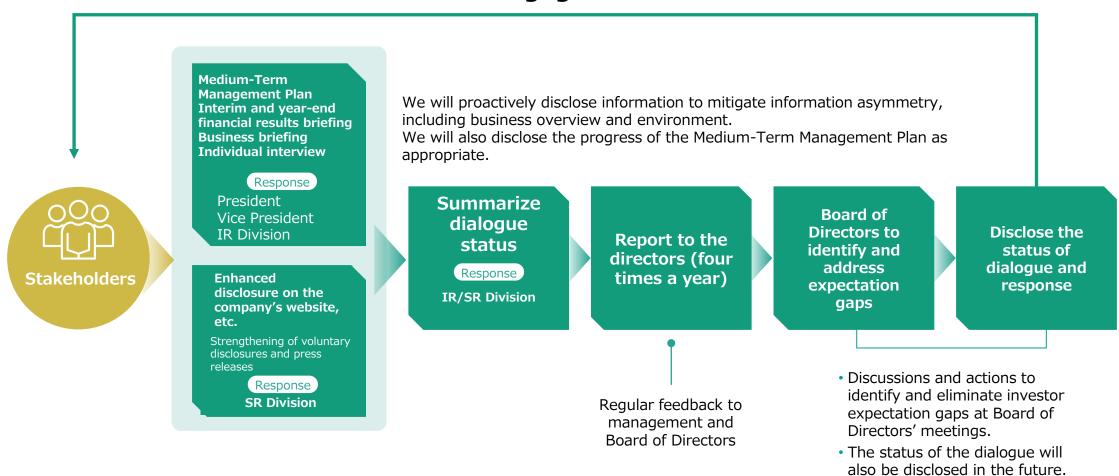


Increase company-wide ROE by widening the ROIC spread of each business.



## Initiatives to Reduce the Cost of Equity (Strengthening IR and SR Activities)

Fully disclose information by disclosing initiatives to increase corporate value and promoting dialogue, and share obtained evaluations and feedback with management and the Board of Directors for further engagement.

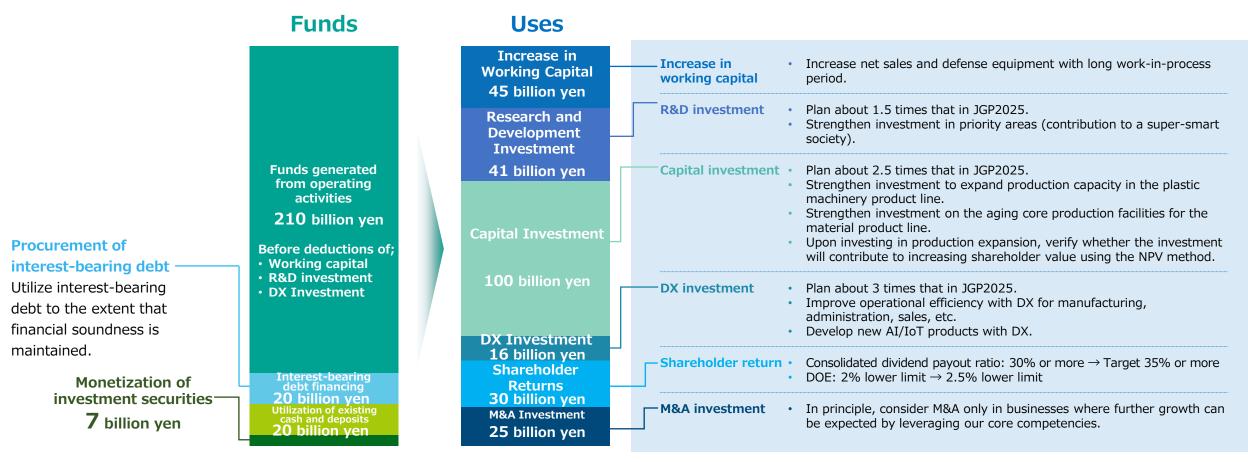


### **Cash Allocation Plan**

Of the 257.0 billion yen in funds available for distribution, approximately 88% will be used for corporate growth, mainly for capital investment.

At the same time, we will reward shareholders by raising the consolidated dividend payout ratio, etc.

**■ Total of JGP2028 (FY2024 to FY2028)** 





# PART 3 Segment Policies

PART 1 Review on JGP2025

PART 2 Medium-Term Management Plan JGP2028



## **Segment Policies**

#### Segment

Material and Engineering Business

#### **Material**

To meet market needs for power –gen related products, invest on the aging core production facilities to improve profitability.

#### **Engineering**

Contribute to capturing internal and external base construction orders and the improvement of production responsiveness of defense equipment.

Electronic Device Products Group

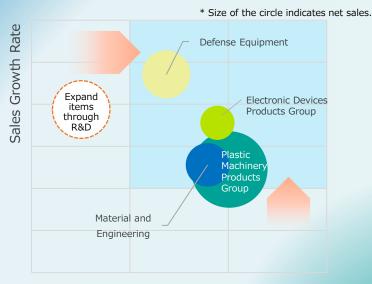
#### Segment

#### Other Businesses\*

Put new businesses, such as the photonics business, on track and develop them into our future core businesses.

### **Targeted Business Portfolio**

#### FY2028 Plan



**ROIC Spread** 

#### Segment

**Industrial Machinery Products Business** 

Plastic Machinery Products Group

#### **Plastic Production and Processing Machinery**

Accelerate growth through focused investments, expand the service business, and expand the plastic processing machinery complex to increase corporate value.

Plastic Machinery Products Group

#### **Molding Machine**

Define priority regions for each product, such as Europe and India, to achieve sustainable growth by expanding global market share.

### **Defense Equipment**

In accordance with the national security strategy, steadily improve the production system to meet the growing demand.

Electronic Device Products Group

#### **Electronic Devices**

Expand and stabilize the business scale by broadening the product portfolio through market launches of developed products.



st The "Other Businesses" segment is included in the electronic device product line in terms of business portfolio.

## Plastic production and processing machinery

# As JSW's core business, increase corporate value by accelerating growth through focused investments.

#### **Key Measures**

#### 1. Accelerate growth with focused investments

#### (1) Plastic production machinery

(pelletizers, twin-screw extruders)

- Achieve both sales growth and improved profitability by increasing production capacity.
- Capture growth markets, such as India, by strengthening global expansion.

#### (2) Film and sheet manufacturing equipment

- Capture separator film demand, which will grow in the medium to long term.
- Expand the lineup of functional materials and packaging materials.

### 2. Expand the service business

• Increase production capacity and expand sales in focused regions (India, Middle East, China, Japan).

## 3. Promote the expansion of the plastic processing machinery complex

• Expand our business scale through M&A (alliances) that leverage synergies with our broad range of plastic processing machinery.



Realization of a Plastic Resource-Recycling Society

Contributing to a Low-Carbon Society

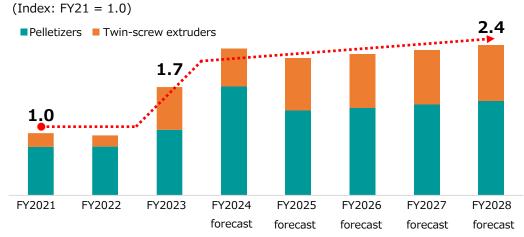
- Expanding chemical and mechanical recycling with twin-screw extruders
- Expanding recycling through the mono-materialization of films
- Contributing to low carbonization by providing equipment for renewable energy, EVs, etc.



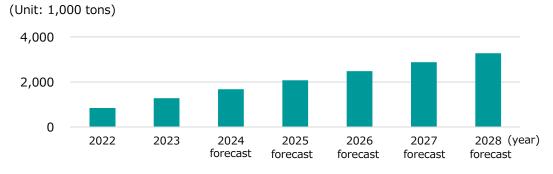
## Plastic production machinery

# Maintain strong performance against a backdrop of increased demand for plastics; respond to increased demand by strengthening production capacity.

Sales trends and forecasts for plastic production machinery (pelletizers, twin-screw extruders)

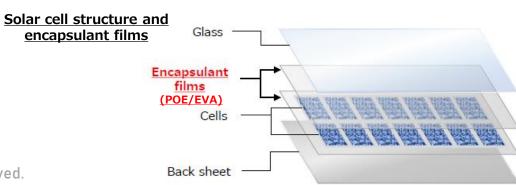


## **✓** Polyolefin elastomer (POE) demand forecast



#### Initiatives to strengthen global expansion

- There is no change in the trend of increasing global demand for plastics against the backdrop of population growth and economic growth.
   Plastics can reduce CO<sub>2</sub> emissions by making good use of their characteristics (lightweight, gas barrier properties, electrical insulation, etc.), and are therefore effective in solving social and environmental problems.
- In China, they will continue to make capital investments for the domestic production of plastic raw materials.
   In addition, in emerging countries such as India and the Middle East, demand for plastics is increasing in line with economic growth, and there is a move towards the domestic production of raw materials.
- Demand for polyolefin elastomer (POE) and ethylene-vinyl acetate (EVA) as raw materials for solar panel encapsulants is expected to increase due to the increasing adoption of renewable energy. Orders for medium to ultralarge twin-screw extruders are on an increasing trend.



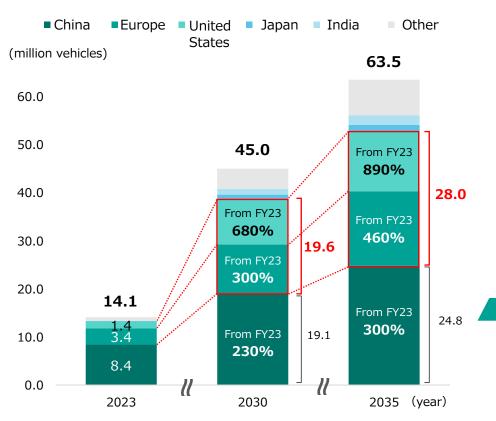
(Created by JSW based on various materials)

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## **Plastics processing machinery**

# Demand for EV batteries is expected to rise in the medium to long term, but is currently in adjustment phase.

## **I** EV sales by region (Stated policies scenario)



## Capturing the demand for separator film in response to the trilateral structure of the global market

- Growth in EVs is currently in a correctional phase, but the medium to long-term growth trend is continuing. However, the market is splitting into three district regions: the United States, Europe and China.
- In China, competition among EV manufacturers is intensifying, sparked partly by the economic slowdown and excess supply. Even though EVs continue to account for a growing percentage of new car sales, new investments are at a standstill.
- In the United States, efforts are underway to build supply chains within the region not reliant on China. Meanwhile, the focus on the impact of the US presidential election is a concern.
- Sales of the Company's production equipment for battery separator films should be maintained at a certain level in the future with capital investments continuing with an eye to medium to long-term growth in EVs. For applications beyond separators, such as the ones for industrial use, film and sheet equipment and after-sales services are being strengthened.

Trends in Sales of Film & Sheet Manufacturing Equipment

(INDEX: FY21 = 1.0)

<sup>\*</sup> The figures include PHEV as well as BEV.

Created by our company based on Global EV Outlook 2024, IEA





forecast

forecast

forecast

forecast

forecast

## **Molding machine**

## Achieve sustainable growth by expanding global market share.

### **Key Measures**

#### 1. Plastic injection molding machines

## Position Europe and India as key regions for future sales expansion.

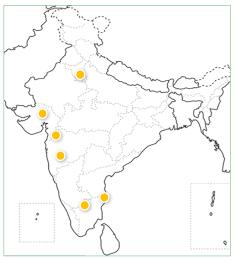
- Europe: Accelerate the adoption of electric machines to meet rising energy costs and the need to reduce CO<sub>2</sub> emissions.
- India: Establish a technical center to increase our presence and strengthen sales and service networks.

#### 2. Magnesium injection molding machines

 Expand large machine series that meet the growing demand for magnesium components for automotive applications, against a backdrop of lighter weight, higher recyclability, larger displays, etc.

## 3. Improve product competitiveness by incorporating AI/IoT functionality

 Remote maintenance (North America and Asia) and productivity improvement with smart molding machines (Japan)



• : Injection molding machine service agents in India



Contributing to a Low-Carbon Society



Realization of a Plastic Resource-Recycling Society



- Contributing to a low-carbon society by expanding sales of electric machines with superior energy-saving performance
- Realization of a resource-recycling society through molding technologies supporting various recycled materials and bioplastics
- Contributing to energy saving by reducing the weight of automotive parts to improve fuel and electricity costs



## Molding machine: Plastic Injection molding machine

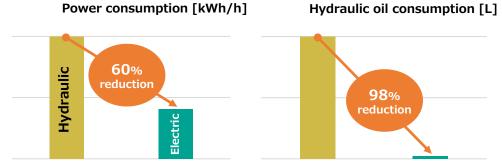
Demand to replace hydraulic systems with electric systems is on the rise in Europe due to rising electricity costs and the increasing need to reduce CO<sub>2</sub> emissions.

Capture demand by leveraging the strength of our entire line of electric injection molding machines, from small to large.

#### Percentage of molding machine electrification



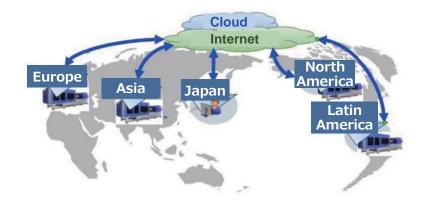
### Comparison of hydraulic and electric systems



(Our trial calculation is based on the assumption of a large-size electric machine (clamping force of 850 t).)

#### Expanding sales of electric machines and capturing emerging markets

- Leverage the large electric machine assembly and service capabilities of our Poland base, established in FY2022, to capture the growing need for electrification in Europe.
- Expand global sales by strengthening support for overseas customers through the expansion of J.Wise.
- Improve the level of service quality through collaboration between remote services from Japan and local service staff to establish the same service system worldwide and improve customer satisfaction.



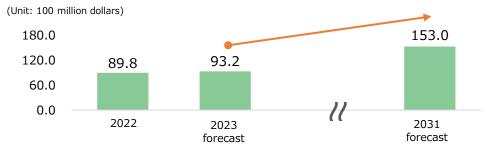


## Molding machine: Magnesium injection molding machine

The market size is expected to expand due to the need for larger in-vehicle displays and lighter vehicles with the growing trend of EVs.

Expand the lineup of large to ultra-large magnesium injection molding machines and offer them to the market.

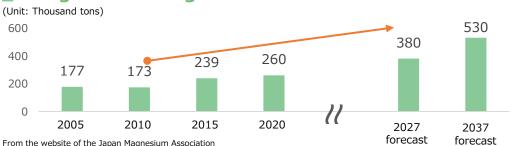
### Global automotive display market size forecast



\*1 Business operators' net sales basis. \*2 Forecast values for 2023 and 2031.

\*3 LCD-TFT, AMOLED, and Mini/Micro LED for automotive CID, Cluster, RSE, HUD, and Mirror are covered. Note that CID and Cluster include those for Digital Cockpit (Pillar to Pillar Display/Multi Display). Also, the market size does not include commercial products, and only genuine products are covered. (Source: Yano Research Institute Ltd., "Research on the Global Automotive Display Market (2023)" (released September 20, 2023))

### Magnesium usage for automobiles



#### **Expanding product lineup to meet needs**

Develop and introduce new models targeting large automotive component products.



Ultra-large magnesium injection molding machine: JLM3000-MG II eL

- Launch region-specific machines in Europe, the US, Southeast Asia, India, etc.
- Develop new markets for molded products by supporting customers with molding know-how, etc. by utilizing our group company which manufacture molded magnesium parts.

#### Features of magnesium products







In-vehicle equipment (sample)



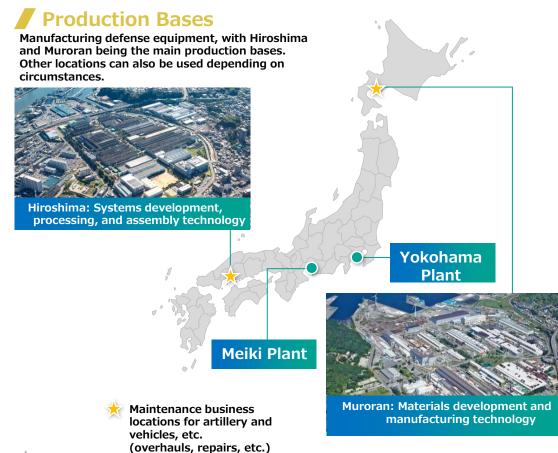
(Source: Excerpts from CM Group presentation materials)

## **Defense equipment**

# Steadily improve the production system to meet the growing demand in accordance with the national security strategy.

#### **Key Measures**

- Work to address defense priority areas as defined by the government
- (1) Conventional products (e.g., artillery)
  - Expand the supply capacity by developing and expanding production bases.
- (2) Next generation wheeled armored vehicles
  - Steadily build a production system for mass production.
- Work for research and prototyping of future devices
- Strengthen the railgun development system and ensure that research and prototyping is carried out for future equipment.

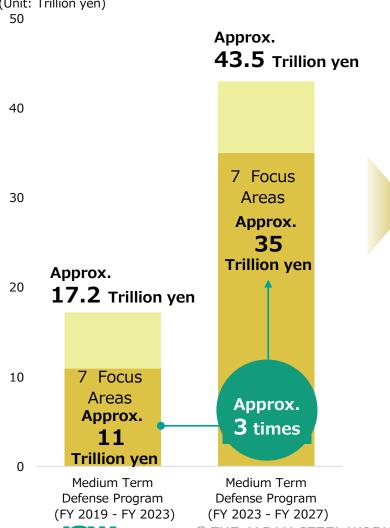




### **Defense equipment**

**Expansion of the Mid-term Defense Program** (material expenses)

(Unit: Trillion yen)



- As the only manufacturer of artillery in Japan, manufacture various types of artillery, missile canisters, etc.
- Develop and supply advanced defense equipment by utilizing our Muroran Plant's material development and manufacturing technologies, with Hiroshima Plant as the final assembly plant.
- The scale of the business is expected to more than triple compared to FY2023 due to the expansion of the defense buildup program.
- Steadily build a production system and strengthen the supply chain to meet increasing demand.



Major defense equipment for the Ministry of Defense (including overhaul and repair services)



**Type 19** 155 mm Wheeled SPH



105 mm Tank Gun (Type 16 MCV)



120 mm Tank Gun (Type 10 MBT)





62 caliber 5-inch naval Gun (Source: JMSDF)



**Missile Canisters** (Photo: Type 12 SSM) (Source: JGSDF website)

Nextgeneration products

Establish a production system at the Muroran Plant for mass production and supply.



Image of nextgeneration APC (Source: Japan Ministry of Defense website)



Aim to equip next-generation products through proposalbased development.



Prototype railgun (Source: Photo from Acquisition, Technology, and Logistics Agency website)



#### **Electron devices**

Expand and stabilize our business scale by expanding our product portfolio through the launch of developed products.

#### **Key Measures**

## 1. ELA equipment for displays (conventional products)

- Launch the world's first 8th generation (G8) substratecompatible equipment and increase our market share with high quality and high productivity.
- **★**Development of laser application equipment



- Develop equipment for power semiconductor manufacturing.
- Fully enter the growing power semiconductor market.

## 2. Press machines for printed circuit boards

• Expand overseas where future demand is expected to grow (focus areas: Asia, Southeast Asia, India).



New 3-stage vacuum laminator

- 3. Laminators for semiconductor package substrates
- Launch new laminators to increase market share in the expanding data center market.

Resolution of Materiality

Contributing to a Low-Carbon Society

3

Contributing to a Super- Smart Society



- Contributing to the realization of power semiconductor devices that improve the cruising range of EVs
- Contributing to the production of automated automobile driving and next-generation display products



## **Electron devices: Laser application equipment**

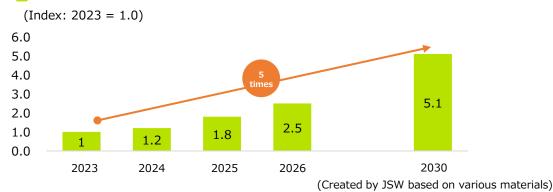
ELA equipment for displays is moving to the 8th generation with higher performance and productivity. Demand for next-generation power semiconductors is growing as automobiles become more electrified and automated.

Demand for laser annealing equipment for semiconductor manufacturing is expected to grow over the long term.

#### **Sales trends and forecast for laser application equipment**



#### Market scale forecast for next-generation power semiconductors (SiC)



#### Expanding semiconductor equipment based on display equipment

- We delivered the world's first laser annealing equipment (F-ELA) that applies a float-type transfer system to a panel
  manufacturer in China in 2023. Its productivity was highly valued and we received orders for multiple units to support 8th
  generation substrates in 2024. Demand is expected to continue in the future.
- Leveraging our technical expertise in laser annealing, develop and launch equipment for the heat treatment process of SiC substrates, the next generation of power semiconductors, to meet growing demand armed with our productivity that is more than twice that of conventional equipment.
- Expand our service business by introducing new products and utilize the service system established for ELA to keep pace with market expansion.



Laser annealing equipment for semiconductors



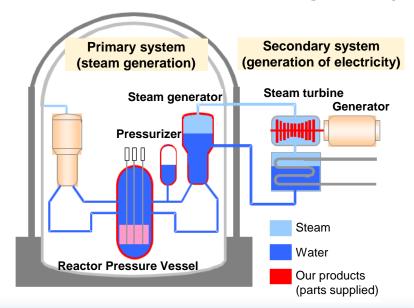
## **Material and Engineering Business**

# Invest in the renewal of aging equipment to meet market demands and further improve profitability.

#### **Key Measures**

- Capture demand for forged steel products related to power generation equipment
- Securely capture demand for ultra-large forged steel products for nuclear power generation, offshore wind power generation, and other applications that help reduce CO<sub>2</sub> emissions.
- Respond to robust demand for forged steel products for highefficiency thermal power generation.
- 2. Investment in the renewal of aging core production facilities
- Aim to maintain manufacturing capabilities, improve efficiency, and increase profitability by investing on the aging production facilities.

Power generation mechanisms and JSW's forged steel products



Resolution of Materiality Contributing to a Low-Carbon Society



 Contributing to a stable supply of electricity and other resources in the energy sector and reducing CO<sub>2</sub> emissions

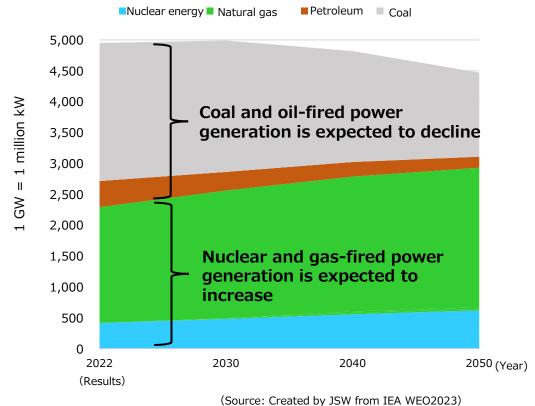


## Material products: Electric power & nuclear products

The increasing trend in demand for nuclear power generation will continue to be driven from the perspective of decarbonization and energy security.

In addition to nuclear power, demand for high-efficiency thermal power generation will continue over the long term.

#### Outlook for installed power generation capacity by energy (Stated policies scenario)



Ensuring nuclear power generation-related demand is captured

Meet growing demand by leveraging our extensive track record of manufacturing and knowledge in a wide variety of furnace types in countries and regions around the world.



Reactor pressure vessel components



Component for casks (for spent fuel transportation/storage)

Ensuring demand related to high-efficiency power generation using natural gas is captured

- Utilize our manufacturing capabilities for large heat-resistant materials, respond to demand for GTCC\* and other highefficiency thermal power generation.
- \* GTCC: Gas turbine combined cycle



High heat-resistant steel rotor shaft for high-efficiency power generation

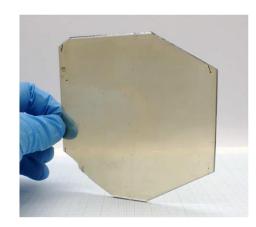
## Photonics (GaN, LN, Synthetic quartz)

# Put the business on track as a new business and make it a core business for the future.

#### **Key Measures**

## Next generation high-speed, high-capacity communication

- Gallium nitride (GaN) crystal material
- Application is assumed to be mainly for laser diodes (LD: for special high-intensity lighting, such as high-intensity projectors) and highfrequency devices.
- Collaboration with Mitsubishi Chemical Corporation to build a
  production system for crystal growth, crystal mass production, and
  wafer processing (business development based on the synergy effects
  of JSW M&E's strengths in manufacturing technology for highly heatresistant and highly corrosion-resistant metal materials, autoclave
  design and manufacturing technology, and crystal growth technology).



GaN 4-inch crystal

- Crystal materials for various substrates: Lithium niobate (LN) Synthetic quartz
- Substrates for optical communication and optical modulators used in telecommunications infrastructure
- Development of materials for various types of bonded wafer, establishment of production systems, and mass production

Resolution of Materiality

Contributing to a Low-Carbon Society

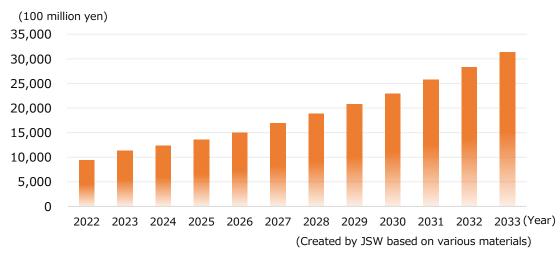
Contributing to a Super-Smart Society



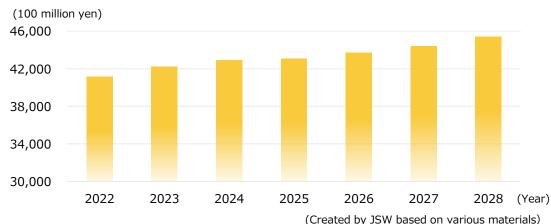
- Reducing CO<sub>2</sub> emissions by improving the efficiency of various equipment
- Contributing to the realization of an ultra-smart society by creating highly functional devices

### Photonics (GaN, LN, Synthetic quartz)

#### Laser diode market forecast



#### Telecommunications equipment market forecast



#### **Commercialization of GaN substrates**

- Establish mass-production technology for large-size, low-defect GaN crystals by the ammonothermal method, making social implementation a reality.
- Demonstrate strength in high-power LDs, where demand is growing.
- Realize compact, high-efficiency devices that outperform SiC, which has begun to be fully adopted for high-frequency devices and power devices.
- Evaluation of device characterization of sample shipments in progress (favorable rating)

#### **Development of various substrates**

- Develop materials for various substrates for surface acoustic wave (SAW) devices and for optical communications and optical modulators.
- Contribute to the realization of an ultra-smart society by supporting the social implementation of various elements that are suitable for high-speed, large-capacity communication and offer superior energy-saving performance through the mass production of LNs and other devices.





## **Reference Materials**



## **Trends in Net Sales, Operating Income and Profit**



(Unit: Billion Yen)

							(Offic. Billion feri
		FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
Net Sales		220.1	217.5	198.0	213.7	238.7	252.5
Industrial Machinery Products Business		173.6	171.4	156.3	171.1	202.9	208.3
	Plastic production and processing machinery	52.5	61.3	58.8	62.1	92.2	102.7
	Molding machines	72.7	65.3	54.5	65.3	65.8	58.7
	Defense equipment	-	-	-	-	23.8	24.1
	Others	20.4	44.8	43.0	43.7	21.1	22.8
	FPD equipment	16.4	-	-	-	-	-
	Consolidated subsidiaries, etc.	11.6	-	-	-	-	-
Material and Engineering Business		41.2	42.8	38.5	40.0	33.9	41.9
	Steel Forgings and plates	-	19.6	19.9	25.4	24.9	33.0
	Electric and nuclear power	12.5	-	-	-	-	-
	Clad steel plates and pipes	13.0	12.8	10.5	6.0	-	-
	Engineering, etc.	-	10.4	8.1	8.6	9.0	8.9
	Others	9.5	-	-	-	-	-
	Consolidated subsidiaries, etc.	6.2	-	-	-	ı	ı
Other Businesses		5.2	3.2	3.1	2.6	1.8	2.2
Operating Income		24.2	18.7	10.2	15.4	13.8	18.0
Industrial Machinery Products Business		23.5	19.2	13.9	17.7	18.9	20.4
Mat	terial and Engineering Business	2.6	2.7	1.8	1.3	(8)	3.2
Other Businesses		0.3	(0.4)	0.0	0.0	(4)	0.0
Profit		19.9	9.3	6.8	13.9	11.9	14.2

<sup>\*</sup>Sub-segment changed in FY2020; Figures from FY2019 have been restated to reflect this change.



<sup>•</sup> Three companies (GM Engineering Co., Ltd., Nichiyu Machinery Co., Ltd and SM Platek Co., Ltd.), which had been treated as consolidate subsidiaries, were reclassified as the Plastic production and processing machinery in the Industrial Machinery Products Business.
• FPD equipment, Other products and Consolidated subsidiaries, etc. were reclassified as Other products in the Industrial Machinery Products Business.
• Pressure vessels for oil refineries out of steel castings and forgings in the Material and Engineering Business and wind power maintenance services out of the Other Business were reclassified as Engineering, etc. in the Material and Engineering Business.

### **Trends in Main Assets and Cash Flows**



(Unit: Billion Yen)

					(Offic. Billion Fell)	
	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
Total Assets	305.5	297.1	316.2	339.7	348.3	366.7
Net Assets	129.8	132.4	141.9	151.0	160.6	178.6
Net Assets per Share (yen)	1,746.91	1,778.94	1,908.76	2,031.29	2,162.18	2,404.83
Equity Ratio (%)	42.0	44.0	44.4	44.0	45.7	48.3
Return on Equity (%)	16.3	7.2	5.1	9.6	7.8	8.5
Operating Cash Flow	1.1	18.9	14.7	22.3	(0.9)	21.7
Investing Cash Flow	(1.3)	(13.1)	(3.2)	(2.9)	0.9	(6.8)
Financing Cash Flow	(3.7)	(6.1)	2.7	(2.8)	(20.1)	(4.8)
Cash and Cash Equivalents at End of the Period	73.8	74.4	88.7	105.7	86.4	96.9

## Prioritized Material issues (Materiality) in order to realize our Purpose



#### **Creating Value and Solving Social Issues through JSW Group's Businesses**

Materiality	,
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#### Reasons why considered to be of high importance

#### Related **SDGs**

#### Reasons why considered to be of high importance

**Bolstering JSW Group's Management Foundation for** 

**Sustainable Growth** 

#### Related **SDGs**

**Realization of** a Plastic Resource-Recycling Society

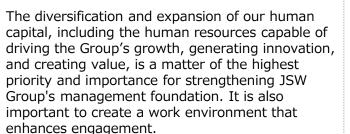


It is extremely important to supply society with all manner of plastics processing machinery that realizes 3Rs + Renewable. Since JSW Group can leverage its core competence to the maximum, it can demonstrate its strengths in the development and creation of plastic processing machinery that meets the demand of society. This is a high-priority business expansion opportunity.





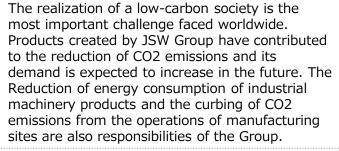








**Contribution to** a Low-Carbon Society







**Investment** in the Future with Innovation Management

Materiality

**Human Capital** 

**Improvement** 

and

DEI&B



In order for JSW Group to continue contributing to society, it is essential to maintain and strengthen its technological superiority by refining its core competence and expanding its business.



Innovation is essential factor for sustainable growth. It is important to promote digital transformation which supports data-based, rapid decision-making, business model innovation, and the creation of new value.

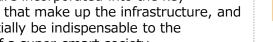


**Contribution to** a Super-Smart Society



It is essential to build a 5G/6G-compatible digital infrastructure toward the super-smart society.

The industrial machinery and new materials of JSW Group are incorporated into the key components that make up the infrastructure, and could potentially be indispensable to the realization of a super-smart society.



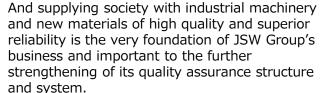
This is also considered to be a highly important business expansion opportunity for the Group.



Governance Reinforcement of JSW Group



For the sustained growth of JSW Group, it is important not only to further strengthen compliance and governance, but also to engage in dialogue with stakeholders.











## Dividend policy in the period of JGP2028

#### **JGP2025**

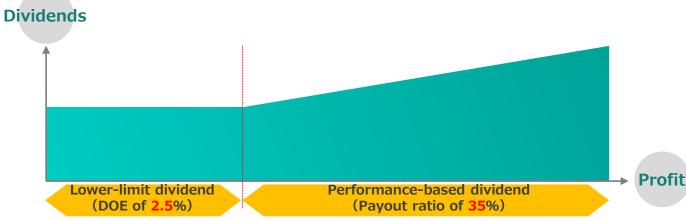
Paying dividends at a level that ensures dividend on equity (DOE) is  $\frac{2\%}{100}$  or higher while aiming for a consolidated dividend payout ratio of  $\frac{30\%}{1000}$  or more.



#### **JGP2028**

Paying dividends at a level that ensures dividend on equity (DOE) is <u>2.5%</u> or higher while aiming for a consolidated dividend payout ratio of <u>35%</u> or more.

#### ■ Schematic of dividend policy



Results and forcast: Year-end dividend for FY2023 is increased by 1 yen to 30 yen (annual dividend of 59 yen) Annual dividend for FY2024 is expected to be 74 yen.

	FY2021	FY2022	FY2023	Forecast for FY2024
Annual dividends per share (Yen)	57.0	58.0	59.0	74.0
Dividends payout ratio (Consolidated)	30.1%	35.6%	30.4%	35.1%



