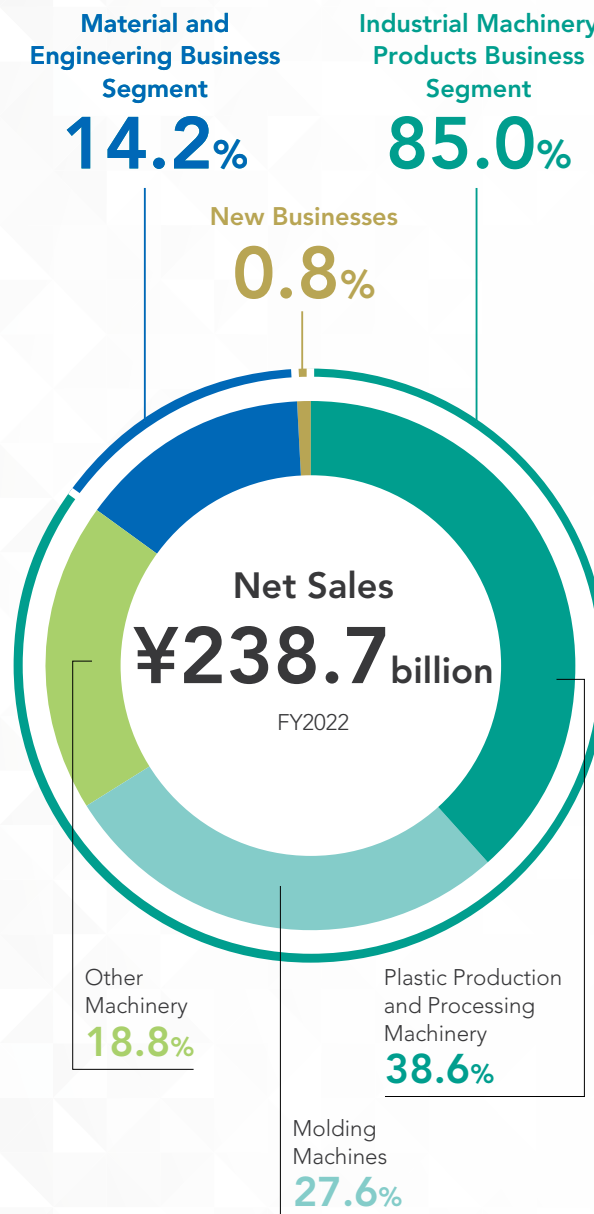


At a Glance



Industrial Machinery Products Business Segment

Our Industrial Machinery Products Business Segment comprises three sub-segments: (1) Plastic Production and Processing Machinery, (2) Molding Machines, and (3) Other Machinery, and operates from three bases: the Hiroshima Plant, the Yokohama Plant, and the Meiki Plant.

With a lineup of plastic production and processing machinery and plastic injection molding machines for a variety of applications, we offer many products that command a high market share worldwide, such as our separator film manufacturing equipment for lithium-ion batteries, an essential element for the shift to electric vehicles. In this segment, which accounts for 85% of JSW Group's net sales, we are working to further expand the scale of our business, especially in the mainstay plastic processing machinery market, in order to contribute to a decarbonized world through energy savings and lighter weight.

Business Segments

Production Bases

Hiroshima Plant



Yokohama Plant



Meiki Plant



Products

Plastic Production and Processing Machinery

- Pelletizers
- Film and sheet manufacturing equipment
- Twin-screw extruders
- After-sales services



Pelletizers



Twin-screw extruders

Vacuum laminators

Defense equipment

Other Machinery

- Excimer laser annealing systems
- Defense equipment
- Railway products
- Hot press devices
- Vacuum laminators
- Deposition systems
- After-sales services

Molding Machines

- Plastic injection molding machines
- Magnesium injection molding machines
- Blow molding machines
- After-sales services



Plastic injection molding machines



Magnesium injection molding machines



Excimer laser annealing systems

Material and Engineering Business Segment

Our Material and Engineering Business Segment comprises two sub-segments: (1) Steel Castings and Forgings and (2) Engineering Services, and is operated by Japan Steel Works M&E, Inc. (Muroan Plant), which was established as an operating subsidiary in April 2020.

In steel castings and forgings, we are either the world's only manufacturer or have a high market share for products such as large shaft materials for power plants, pressure vessel components for nuclear power plants, and large components for pile-driving machines used in the construction of offshore wind farms. With the shift toward decarbonization, we are working to strengthen our earnings base through business structure reform.

Japan Steel Works M&E, Inc. (Muroan Plant)



Steel Castings and Forgings

- Parts for reactors (shells, heads, etc.)
- Parts for steam generators
- Clad steel plates
- Rotor shafts
- Turbine casings
- Die steel
- Steel rolls for steel manufacturing



Shell flanges for pressure vessels



Integrated rotor shaft for power generation



Clad steel plates



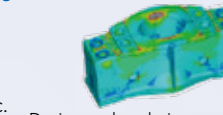
Steel rolls for steel manufacturing

Engineering and Other Services

- Design and analysis
- Welded structures
- Inspection and survey
- Hydrogen-related products, etc.



Welded structures



Design and analysis



Hydrogen pressure accumulator

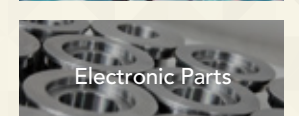
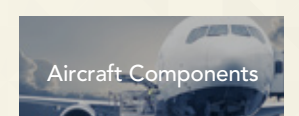
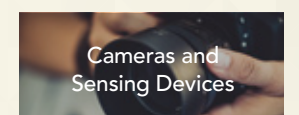
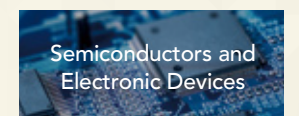
New Businesses

We have narrowed down our new businesses to the three fields of photonics, composite materials, and metallic materials.

We are working to achieve profitability in each field through the supply of products: in photonics, materials for semiconductors and optical devices such as synthetic quartz and gallium nitride (GaN); in composite materials, lightweight and high-strength materials for aircraft such as carbon fiber reinforced plastic (CFRP) products; and in metallic materials, materials for various electronic devices such as titanium copper.

New Businesses

- Photonics
- Composite materials
- Metallic materials



Markets

Plastics

Mobility

High-Performance Batteries

Electronic Devices

Defense

Power Generation Equipment

Renewable Energy

Infrastructure

New Businesses

Our History of Creating Value

1907 Founding (pre-war) 1945 Post-war recovery 1970s Rapid economic growth 2000s Preparation for a new era 2023

Social issues and needs

• Development of defense industry

• Transition to commercial business

• Increasing energy demand
• Accelerating adoption of electronics in industry

• Decarbonization-related demand (electric vehicles, use of hydrogen energy)
• Increasing LCD demand with the growing use of smartphones
• Problem of marine plastic pollution

Launch as a national project

Growth based on a portfolio of technologies

Becoming a comprehensive company in materials and mechatronics

Toward establishing a new future vision for JSW

Phases in our history

In 1907, The Japan Steel Works was established in Muroran, Hokkaido, as a joint venture between three companies: Hokkaido Colliery Steamship Company and two U.K. firms: Sir W.G. Armstrong, Whitworth & Co., Ltd., and Vickers, Sons & Maxim, Ltd. By manufacturing armaments as a national project, the Company contributed to the development of the defense industry. Purchasing Hiroshima Seisakusho Co., Ltd., in 1920, JSW established a Hiroshima factory (now known as the Hiroshima Plant) to expand the armaments business.

After the Second World War, the focus of our business underwent a major shift to commercial products. Utilizing the technology cultivated through the manufacture of armaments, we began in earnest to produce large steel castings and forgings, such as rotor shafts for power generation and pressure vessels for oil refineries, and plastic processing machinery, such as injection molding machines and plastic extruders.

We focused on creating new added value in response to market changes such as increasing energy demand and the accelerating adoption of electronics. Among the actions taken were the manufacture of ultra-large components (pressure vessels and rotor shafts) for nuclear power plants, a switch from hydraulic to electric injection molding machines, and the introduction of magnesium molding technology.

To contribute to a society that is demanding products that are friendly to the global environment, we manufacture and supply separator film manufacturing equipment for lithium-ion batteries, molding machines for large plastic parts for automobiles that excel in weight reduction, all manner of resin processing machines adapted to serving a plastic-resource-recycling society, and pressure vessels for hydrogen storage to support the hydrogen economy.

Meiki Co., Ltd.



Plastic injection molding machines

Expansion of materials

Magnesium injection molding machines

Mechatronics technology

Excimer laser annealing systems

Expansion of product range

Separator film manufacturing equipment for lithium-ion batteries



Expansion to secondary processing equipment

Film and sheet manufacturing equipment

Plastic extruders

Barrel processing technologies

Extruders for material and chemical recycling



Lineage of technologies and their provision to customers and markets

Artillery production technologies

Manufacturing technologies

Material manufacturing technologies

Rotor shafts for power generation



High-pressure cylinders, reaction towers (e.g., for fertilizer)

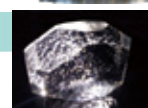
Pressure vessels for oil refining

Manufacturing technologies
Pressure vessel manufacturing and high-pressure technologies
Pressure vessel technologies

Pressure vessels for use in nuclear power generation



Artificial crystals



Pressure vessel manufacturing and high-pressure technologies

Gallium nitride (GaN) single-crystal substrates



Hydrogen handling technologies

Hydrogen pressure vessels



Research on hydrogen in steel

Hydrogen storage alloys

Special steel technologies

Material manufacturing technologies

Thick plate rolling

Clad steel plates and pipes



Net sales

Message from the President



**Fiscal 2023: A year for new beginnings
toward greater growth.
A year for continued transformation
and challenge.**

Toshio Matsuo

**Representative Director & President
The Japan Steel Works, Ltd.**

Striving Forward with a Single Vector under a Corporate Philosophy Starting with Purpose

Since our founding in 1907, The Japan Steel Works has contributed to advancement around the world through our development of various materials and their implementation in society. On our founding, we contributed to the manufacturing of the high-quality and cutting-edge steel required for Japan's modernization. After the Second World War, starting with the development of plastic extruders in 1950, we continued to develop technology and equipment for pelletizers and injection molding machines, supporting Japan's post-war reconstruction and rapid economic growth through the social implementation of plastics. In 1994, we became the first company in the world to commercialize an injection molding machine for magnesium, a lightweight and highly recyclable material. In 1995, we developed the world's first excimer laser annealing (ELA) system, which is essential for the manufacturing process of high-definition displays. Today, we are advancing the development of new materials such as gallium nitride (GaN), which significantly reduces the power consumption of semiconductors.

In this way, we have developed and manufactured a diverse range of products. In April 2022, when I took office as president, the thought occurred to me that we may be able to use a single key phrase, unique to The Japan Steel Works, to express all of these diverse businesses.

In November of the same year, we established our new corporate philosophy, starting with our Purpose defined as the Material Revolution™. By using the term Material Revolution™, I feel that all employees now share a common understanding that we have created value through the social implementation of new materials, such as high-quality steel and plastic, and that we can now work together along the same vector.

"Material Revolution™, making the world sustainable and prosperous." This is the Purpose that guides us in our research and development activities to create new business domains, enabling us to march forward with unerring direction. Going forward, we believe it is important to support the development of a resource-recycling and low-carbon society and contribute to the creation of a society that is not only sustainable but also prosperous. Plastic packaging, for example, preserves freshness and allows for long-term storage, which is essential for safe and secure food. In addition, the lighter weight of the packaging helps to reduce CO₂ emissions during distribution. In order to aid in the reduction of CO₂ emissions without compromising this kind of richness in lifestyles, we will work to develop devices and materials that excel in energy conservation and help solve the problem of waste plastics.

Record-high Net Sales and Orders in Fiscal 2022; Profit Improvement Remains an Issue to Tackle

In fiscal 2022, the second year of the medium-term management plan JGP2025 covering from fiscal 2021 to fiscal 2025, both consolidated net sales and orders received reached record highs, with the former increasing 11.7% year-on-year to ¥238.7 billion, mainly due to increased sales of plastic production and processing machinery, and the latter increasing 2.9% to ¥276 billion. In the past 15 years, our net sales and orders have remained steady around ¥200 billion. We consider it an epoch-making event to be able to break through this barrier with the expansion of sales in the Industrial Machinery Products Business to a scale exceeding ¥200 billion with this business alone. The fact that we are on track to achieve the final year net sales target of ¥270 billion under JGP2025 in fiscal 2023, two years ahead of schedule, demonstrates significant fruits from our labors to date.

As for profits, however, we revised our forecast downward in February 2023, and our operating income fell 10.4% to ¥13.8 billion and net profit attributable to shareholders of the parent company fell 14.1% to ¥11.9 billion. We see declines in profit margins as a major issue

to be addressed. There were two factors that contributed to the decrease in profit. One is the rise in variable expenses such as procurement and subcontracting costs, raw material costs, and fuel costs. Despite progress in negotiations with our customers regarding sales price improvement, these negotiations had not fully manifested results as of the end of fiscal 2022. As we enter fiscal 2023, we have gained further understanding from our customers and are making progress in improving profitability. The second factor hindering profit margins came from the impact of inappropriate conduct in manufacturing inspections, which resulted in an operating loss of ¥800 million (versus an operating income of ¥1.3 billion in the same period last year) in the Material and Engineering Business. In fiscal 2023, this business is expected to return to profitability as a result of growing sales thanks to greater customer understanding regarding measures to prevent recurrence of similar issues. Given considerations like these, we have already begun the process of formulating the new medium-term management plan JGP2028, to begin from fiscal 2024 despite JGP2025 still being in progress.

Ongoing Four-way Reform Efforts to Restore Trust

Four Perspectives on Measures to Prevent Recurrences

Quality assurance system reform	Established a new Quality Management Office at the Head Office to monitor and supervise quality assurance management at divisions and plants. Rectified overconcentrated authority at Japan Steel Works M&E's product division.
Corporate culture reform	In order to strengthen and improve awareness of quality compliance, messages from top management and executives and dialogues with employees have been held on several occasions. As a result, we have worked to continuously update our corporate culture to be one of openness and in which the act of taking on challenges is valued (employees can openly report failures after taking on challenges and overcome them to achieve further growth) and in which employees can call out things that do not make sense to them.
Process reform	We have been conducting reforms to make business processes less prone to inappropriate behavior. These include establishing a digitalized inspection operation system, including automatic measurement to prevent falsified or erroneous entries in product inspection records.
Governance reform	We have strengthened our internal audit function and whistleblowing system. In addition, to strengthen the effectiveness of the Board of Directors, we increased the number of outside directors from three to four to raise the percentage of outside directors and appointed female officers for the first time at JSW to ensure diversity.

In May 2022, we announced that our subsidiary, Japan Steel Works M&E, Inc. ("M&E"), had committed inappropriate acts such as falsification, fabrication, and misstatement of product inspection results. Subsequently, in sincere response to the findings and recommendations of the special investigation committee of outside attorneys, JSW announced in November 2022 that it would be taking initiatives to prevent recurrence of this issue. Since then, the Group as a whole has been engaged in reforms from four perspectives: quality assurance system reform, corporate culture reform, process reform, and governance reform. First, as immediate measures, we have used the past year to make steady reforms in the areas of quality assurance system reform and process reform, as well as to take some actions within governance reform.

As for corporate culture reform, we are working to reform awareness through video messages from management to all employees, implementation of our own educational curriculum and tests, establishment of Quality Compliance Month, and enhancement of education and

training related to quality compliance. The fact that this occurred at our Muroran Plant means that we must consider the possibility that problems like this may occur at other locations. By spreading the awareness change that is underway at M&E to other places of business and ensuring that all officers and employees maintain ownership of the issues involved, we will establish a corporate culture that will ensure that no further problems like these shall ever happen again.

To this end, we believe it is necessary for management to engage in two-way communication with as many employees as possible to instill an awareness of the issues and reform our corporate culture. I personally travel to several locations, including M&E, each month to hold town hall meetings with front-line foreman-level employees and lunch meetings to talk with section-manager-level employees. Since January 2023, these have been monthly activities. At town hall meetings, I exchange opinions with attendees on issues faced on-site, discuss their thoughts on improper conduct in manufacturing inspections, and tackle how we should address these issues in the future. I have heard M&E employees say that they are facing their work and interacting with customers with a renewed spirit, and I feel that awareness is changing dramatically.

In addition, we launched the Organizational Culture Reform Project Team in August 2023. This team brings together about 30 young employees from all locations and business domains via open recruitment, where they are tasked with expressing their opinions on what they think about the Group's culture and corporate culture, and what needs to be changed. Their opinions are taken seriously and used as drivers for further reform. This information is then double-checked through our employee engagement survey as we run our PDCA cycle.

The key to preventing recurrence of any given issue is to not allow the memory of that issue to fade away. There is an old proverb that says, "he who will travel a hundred miles is only halfway done at ninety." With this in mind, all of our officers and employees will work together to prevent recurrence of the issues we have faced by remaining vigilant toward reform.

Our Growth Strategy to Achieve Net Sales of ¥500 Billion in 10 Years

Our group's goal for fiscal 2033, 10 years from now, is to achieve net sales of ¥500 billion, approximately double the current level. We believe that this level must be achieved in order for our richly historic Group to continue to sustainably increase its corporate value. In basic approach toward this goal is to increase corporate value by expanding profits through sales growth. As for our strategies to achieve this sales growth, we will focus on increasing production capacity in growth areas, promoting global expansion, creating new business domains through innovation, and investing in human resources.

Increasing Production Capacity in Growth Areas

The areas that the Group considers particularly important for growth are those that contribute to the realization of a plastic-resource-recycling society and a low-carbon society.

Global plastic production has increased approximately 20-fold in the past 50 years and is currently at 400 million tons per year. Plastic offers superior functionality, including light weight and heat insulation, contributing to energy conservation. Furthermore, its gas barrier properties help solve social issues such as reducing food loss. For these reasons, plastic is considered one of the four major materials essential to modern society, along with cement, steel, and ammonia. Demand is expected to continue increasing for plastic, driven by economic and population growth. By 2040, the world is expected to require 800 million tons per year, and 1.2 billion tons per year by 2060. Under such circumstances, demand is expected to grow over the medium to long term for pelletizers and twin-screw extruders, necessary equipment the Group offers for mass production of various plastic materials, as well as for film and sheet manufacturing equipment, which form plastic materials into films and 3D shaped parts, and furthermore for plastic injection molding machines. We will strive to increase our production capacity to capture this demand.

Today's linear society based on mass production and mass consumption (disposal) is causing significant problems such as waste generation, resource depletion, and destruction of the ecosystem. It is now necessary to support the pivot to a circular economy, and as a manufacturer of comprehensive plastics processing machinery, we hope to contribute to the recycling of plastic resources to realize a sustainable society. Currently, we mainly provide equipment for production and molding of plastics, but in the future we will also focus on providing equipment for recycling. In addition to twin-screw extruders directly involved in recycling plastic raw materials, we will also expand our lineup of injection molding machines and film and sheet manufacturing equipment for molding recycled plastic raw materials.

Furthermore, we will focus on creating social value in the field of recycling to contribute to solving problems such as waste plastics, and to ensure the sustainable growth of the Company.

► For details, see p. 18-19.

Meanwhile, in order to realize a low-carbon society, we are working on products that contribute to the spread of electric vehicles (EVs), for example, as well as those that contribute to energy saving through weight reduction and insulation from use of plastics, which we see as offering great opportunity for growth. In particular, demand for separator film manufacturing equipment for lithium-ion batteries is expected to increase along with the medium-to long-term expansion of EVs, and we plan to increase sales by approximately 3.5 times here in fiscal 2025 compared to fiscal 2021. Upgrading our production lines is progressing as planned, and by March 31, 2024 we intend to have completed the construction of a system capable of handling 60 lines per year. Furthermore, we will advance R&D related to next-generation lithium-ion battery mass-production technology. In addition, the use of magnesium, which is lightweight, heat resistant, and has properties to prevent electromagnetic radiation, is increasing as a component used in EVs. As a result, orders for magnesium injection molding machines, an area dominated by our proprietary technology, reached a record high in fiscal 2022 and are expected to exceed this level in fiscal 2023.

To meet this growing demand for plastics, to contribute to the recycling of plastic resources, and to help realize a low-carbon society, we will increase the production capacity of the Hiroshima Plant. Specifically, its 9th assembly plant will begin operations in the second half of fiscal 2023, with the 10th assembly plant to go online in the second half of fiscal 2024. Furthermore, we plan to launch a new smart factory machine plant in fiscal 2024. Product lines from the Hiroshima Plant have a high in-house production rate, leading to a high profit margin. By increasing production capacity, we will respond to strong demand and improve variable expenses.

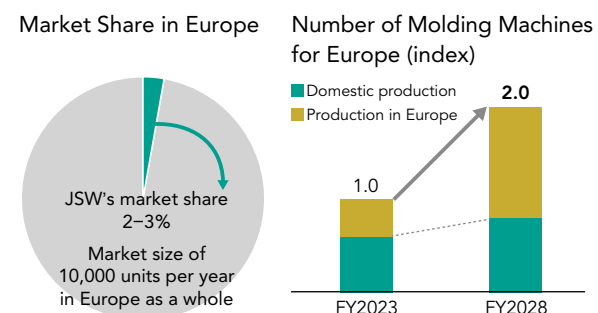
Our Products and Businesses	Contributions to a Low-Carbon Society
Separator film manufacturing equipment for lithium-ion batteries	Spread of EVs
Magnesium injection molding machines	
Replacement of hydraulic plastic injection molding machines with electric plastic injection molding machines	Reduction of power consumption and hydraulic oil use



Promoting Global Expansion

In the Injection Molding Machinery Business, we are promoting global expansion in parallel with increasing production capacity in Japan, where we have a large market share. In fact, we have already established local production systems in China and North America. As part of our efforts to expand market share in the European market, an area with enormous untapped potential, we completed construction of a new plant in Poland in fiscal 2022. Though hydraulic injection molding machines are widely used in the European market, demand is rising for their electric counterparts, which consume 60% less electricity (based on our calculations assuming large machines) and use significantly less hydraulic fluid. This has come amid moves toward decarbonization and soaring electricity prices, and companies are switching to electric injection molding machines as a result. Production at the new plant in Poland will enable us to shorten lead times, meet the diverse needs of our customers, and capitalize on growing demand.

In the Plastics Machinery Business, we will further expand the scale of our operations and strengthen our business not only in China but also in India. As part of this effort, we aim to strengthen our after-sales services and have established a maintenance system, including assignment of personnel to these countries. This will help us provide a stable supply of products to our customers around the world and a high-quality after-sales service that responds promptly to their needs.



Creating New Business Domains through Innovation

Along with strengthening and expanding existing businesses, it is also important to leverage the Group's core competencies to plant seeds for the creation of businesses in areas that offer the potential of both growth and addressing social issues going forward. Today, some of our core products, such as plastic extruders and injection molding machines, have found their prime after as long as 40 to 50 years from their initial stages. It is important to conduct R&D mindful of the future in a way that is

consistent with our Purpose based on our core competencies, without being obsessed with the need to immediately commercialize. To strengthen these efforts, we established the Innovation Management (IM) Headquarters in April 2023. In the past, research activities divided by plant tended to focus on innovation efforts that were an extension of existing businesses. However, in my conversations with Group employees, I have relayed to them that the primary mission of research at the IM Headquarters is to create new things with open thinking.

As an example, we are conducting research and development so that our manufacturing equipment can take advantage of our core competencies of melting, mixing, and solidifying and make contributions when next-generation batteries such as solid-state batteries reach the mass production stage. In addition, we are also working with the Mitsubishi Chemical Group to demonstrate crystal growth ahead of mass production of gallium nitride (GaN) substrates. We are aiming to increase productivity and reduce the cost of GaN substrates through new manufacturing technologies where we are leveraging our core competencies. GaN's qualities include low power loss and low heat generation compared to the current mainstream material of silicon. Furthermore, it offers higher-speed operation. These qualities are expected to be utilized in EV power converters, in-vehicle chargers, and 5th generation mobile communication systems (5G). These are all R&D efforts that will make the world more sustainable and prosperous by contributing to a low-carbon and super-smart society.

Looking further into the future, we are encouraging free research for young engineers who will be responsible for that future. Listening directly to them and their comments has generated many interesting ideas.

All technologies share common bonds, and research for the future can surely offer benefits in the evolution of current products. While we will of course practice research and development utilizing our current core technical competencies of melting, mixing, and solidifying technologies and machine element and precision control technologies, we will also generate new innovative technologies. Furthermore, we will develop elemental technologies that apply the aforementioned technologies, with the aim of creating new customers and business domains.

► For details, see p. 14-15.

Investing in Human Resources

In order to expand our scale to become a ¥500 billion company, it is essential that we strengthen our human capital in addition to our capital investment and R&D. In conjunction with the next medium-term management plan JGP2028, we will continue to develop a medium-term

plan for our human resources strategy as well. In addition, in order to move to the next stage as a company, it is important to become an organization that continuously generates innovation. To create a rewarding and attractive work environment and to attract and develop a diverse workforce and enable each individual to demonstrate their maximum potential, we will accelerate our investment in human resources in a range of areas. These include improvements to the working environment, including how it provides psychological safety, work style reforms, and improved compensation. In our factories, we are also working to achieve automation and aiming to make new plants smart factories that place even greater emphasis on ease of work.

Since we have a low percentage of female employees and, as a result, a low percentage of female managers, we believe that we need to work even harder than before to empower women. The percentage of women among new graduate hires, which had been around 10%, has increased to about 15% for new hires in fiscal 2023, but we recognize that this is still not enough. We will focus on recruiting female employees through active external communication of our ongoing efforts to improve environments so that women can play an active role in our organization.

With respect to our officers, in June 2023, the Company appointed its first female outside director and Audit & Supervisory Board member. In town hall meetings with female employees, we successfully stimulated greater motivation among them, and furthermore were able to identify and capture new issues during various exchanges. Going forward, we will continue to listen to our employees and place further efforts in improving working environments and systems.

In addition, within new business areas such as digital transformation (DX), intellectual property, and those related to electronic devices, we are actively recruiting non-Japanese



talent and experienced mid-career personnel. By utilizing their outside ways of thinking and approaches, they have brought us a great deal of new insights. I feel that we, as a corporate organization, are changing from this fusion of knowledge from a wide range of personnel and the creation of new ideas. Going forward, we will continue to encourage diversity in our human resources and make The Japan Steel Works a place where those who join us can realize their dreams and feel truly happy to have joined us.



Fiscal 2023: A Fresh Start, Continuing Transformation and Challenge to Become a Sustainable Company

I would like to take a moment to once again offer my sincere and heartfelt apologies to our customers and all other stakeholders for any inconvenience and concern we may have caused in fiscal 2022 as a result of our inappropriate actions regarding product inspections.

In fiscal 2023, under our new structure, we will continue our efforts to prevent recurrence of such issues and accelerate investment in facilities, R&D, and human resources to achieve further growth. I feel that I, as well as

my colleagues at the officer and employee levels of the Group, have a very strong desire to drive change. Looking ahead, we intend to sustain our efforts to transform and take on challenges in the interest of becoming a sustainable company that delivers both social and economic value.

As we take these steps forward, I ask you, our stakeholders, for your continued understanding and for your support as we transform and grow JSW Group.

JSW Group Value Creation Process

Purpose

Material Revolution™

Material Revolution™, making the world sustainable and prosperous.

Vision

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

Capital

As of March 31, 2023

Financial capital

- Shareholders' equity: ¥154,108 million
- R&I rating: A (stable)

Manufactured capital

- Capital investment: ¥7,346 million (FY2022)
- Plants: 3 locations
- Test centers: 3 plastic machine locations, 6 molding machine locations
- Sales locations and Group companies covering major market regions in Asia, North America and Europe

Human capital

- JSW Group employees: 4,966
- Non-consolidated JSW employees: 1,758
- Engineering career-track employees (non-consolidated): 817
- Training facilities for skills transfer: 2

Intellectual capital

- Research and development expenses: ¥5,020 million (FY2022)
- Patents held: 928 in Japan, 508 overseas

Social relationship capital

- Long-term and stable relationships with customers
- Good relationships with local communities around plants

Natural capital (FY2022)

- Energy consumption: 2,728 TJ
- Water intake: 16.16 million m³

Business Model



Materiality

Creating value and solving social issues through JSW Group's businesses

- Realization of a plastic-resource-recycling society
- Contribution to a low-carbon society
- Contribution to a super-smart society

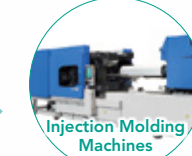
Bolstering JSW Group's management foundation for sustainable growth

- Human capital improvement and diversity and inclusion
- Investment in the future with innovation management
- Governance reinforcement of JSW Group

Outputs

Resolution of Social Issues

- Industrial Machinery
- New Materials



Outcomes



Sustainable society

(Particularly, realizing a plastic-resource-recycling society and controlling plastic pollution)



Prosperous society

(Resolution of social issues such as the health of people, medical care, food, and energy)



Mitigating climate change

Creation of social value



Sustainable enhancement of corporate value



The Environment in Which JSW Operates

The waste plastic problem

- Development of recycling and waste treatment businesses
- Reduction of fossil-fuel-derived plastics
- Conversion to biodegradable plastics
- Growing discussion about maintaining ecosystems and natural capital

Carbon neutrality by 2050

- Advancement of lithium-ion and other storage batteries
- Expansion of nature-derived energy
- Expansion of hydrogen and ammonia businesses
- Phase-out of fossil fuels
- Renewed popularity of nuclear power generation

Advancement toward digital transformation, AI, and IoT

- Transformation of our business models and work styles
- Full-scale investment in related infrastructure
- Economies emphasizing intangible assets and human capital

Low birthrates and aging populations in developed countries

- Shrinking domestic market, shrinking workforce

Global population growth

- Expansion and diversification of consumption, especially in emerging countries
- Food supply problems

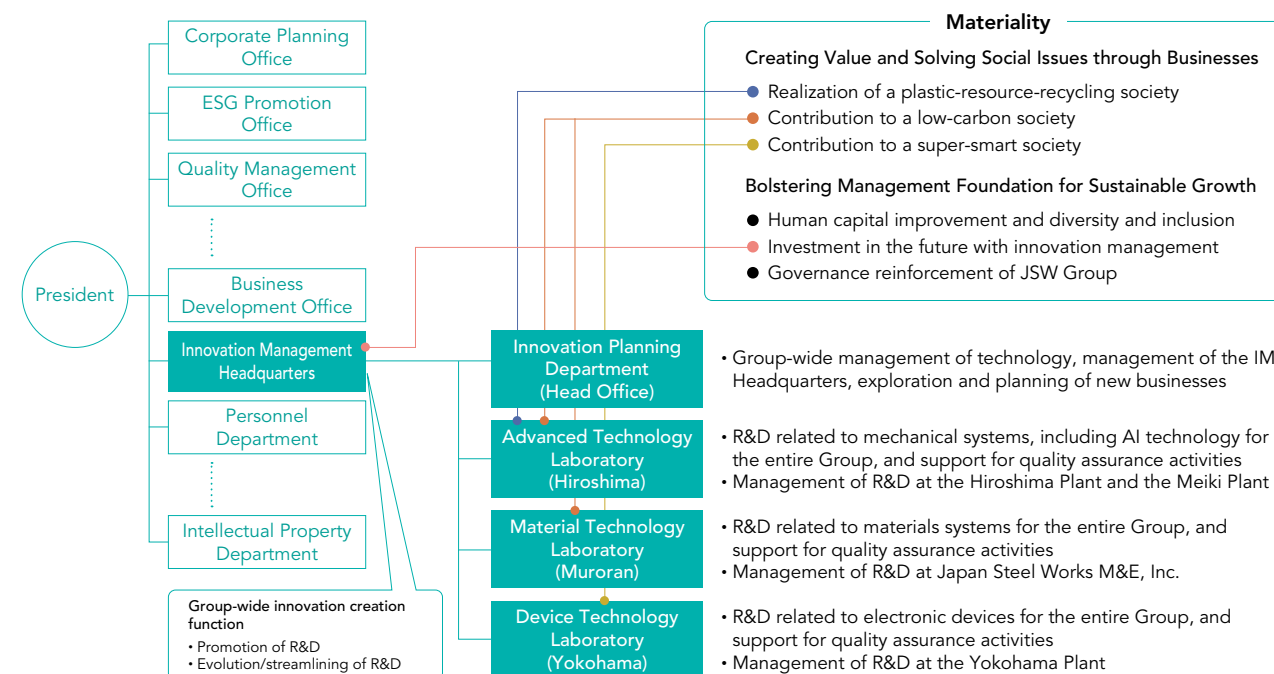
Special Feature: Innovation Strategy for Value Creation

JSW Group's vision for the next 10 years is to grow into a ¥500 billion business group through the resolution of social issues. To achieve this, it is essential not only to strengthen the competitiveness of existing products, but also to develop new markets and innovate technologies, capturing opportunities to help realize a plastic-resource-recycling society, a low-carbon society, and a super-smart society. Therefore, in April 2023, we established the Innovation Management (IM) Headquarters, an organization for creating group-wide innovations. This creation includes the discovery and planning of new themes as well as research and development of fundamental technologies in accordance with the corporate philosophy and Materiality of Japan Steel Works Group. In addition, the R&D organizations of the Company and Japan Steel Works M&E, Inc. were restructured, leading to the creation of the Advanced Technology Laboratory (Aki Ward, Hiroshima City), the Material Technology Laboratory (Muroran City, Hokkaido), and the Device Technology Laboratory (Kanazawa Ward, Yokohama City).



Shigeki Inoue
Director & Managing Executive Officer
CTO, in charge of Quality Management,
in charge of Intellectual Property
Department, in charge of New Business
Promotion Headquarters, General
Manager of Quality Management Office,
General Manager of Innovation
Management Headquarters

Organizational Structure and Main Duties



Category	Function	Details
Promotion of R&D	Basic technology research: Creating new technologies, products, and businesses (Medium- to long-term research)	<ul style="list-style-type: none"> R&D to create new technologies, products, and businesses based on core competencies (RC) R&D to create new technologies (innovative technologies) (RB)
	Elemental technology development: Strengthening competitiveness of existing products and businesses (Short- to medium-term development)	<ul style="list-style-type: none"> Elemental technology development through application of core competence (DC) Elemental technology development through application of newly created innovative technologies (DB)
Evolution and streamlining of R&D	Increasing R&D success rates	<ul style="list-style-type: none"> Formulation of strategies based on intellectual property (IP) analysis and market research Formulation and implementation of R&D plans in accordance with the relevant strategies
	Strengthening investment in research facility environments	<ul style="list-style-type: none"> Creation of diversity environments facilitating innovation
	Cultivating R&D engineers	<ul style="list-style-type: none"> Improvement of environments to evolve basic research (e.g., strengthening collaboration with academia in Japan and overseas) Systematic development of technical personnel (e.g., encouraging degree acquisition and inter-departmental job rotation)
	Improving technology presence	<ul style="list-style-type: none"> Enhancement and coordination of external activities, e.g., conference presentations, paper submissions, and publication of technical reports

Mechanisms for Creating and Cultivating New Businesses and Products

The IM Headquarters focuses on advancing research and development and evolving and streamlining R&D processes to create innovation. Research and development is divided into two major categories: basic technology research, which is conducted over the medium to long term with the main objective of creating new technologies, products, and businesses, and elemental technology development, which is conducted over the short to medium term to enhance the competitiveness of existing products and businesses.

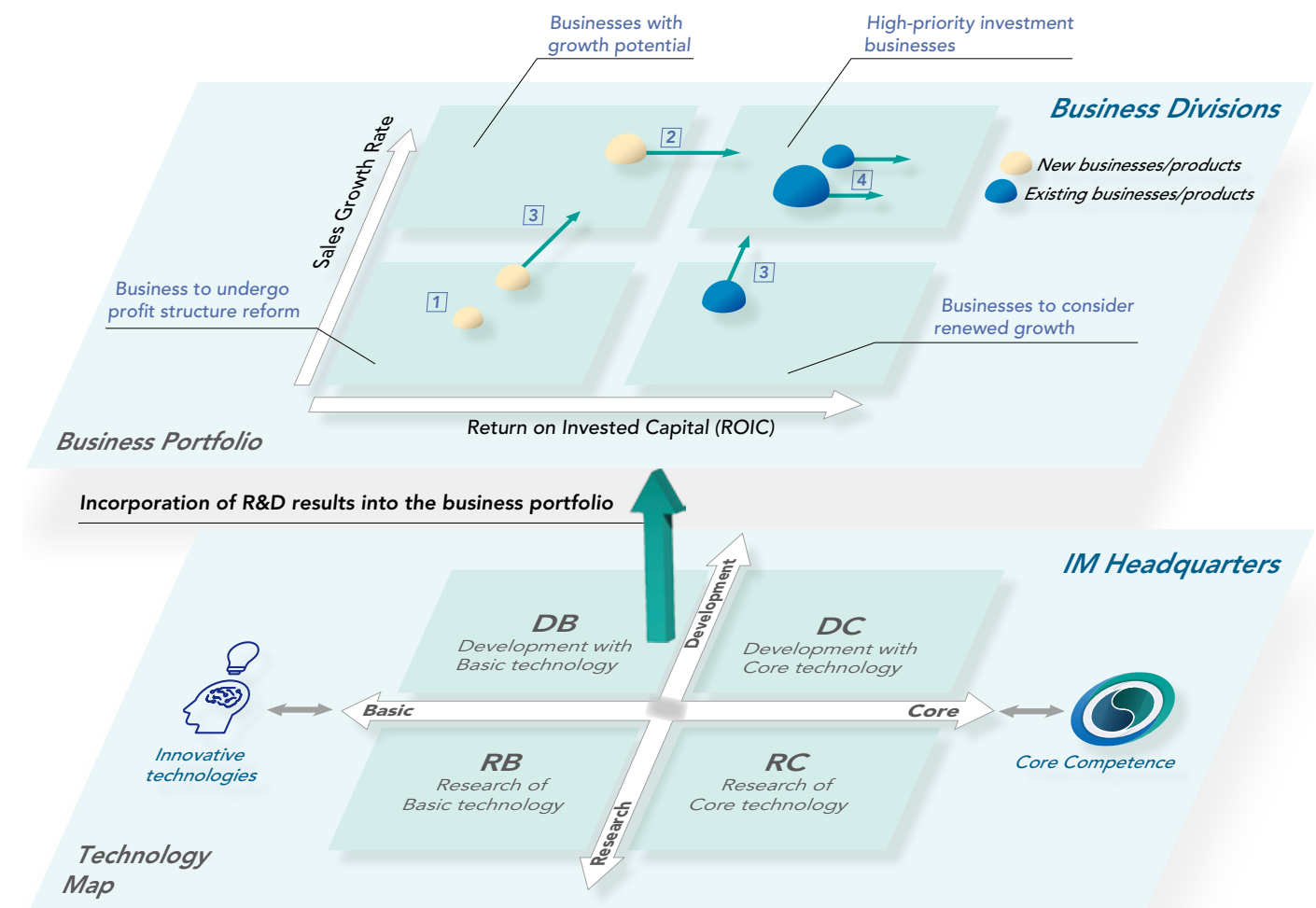
In particular, we recognize that basic technology research is essential for the continued growth of the Group and for our progress toward becoming a business group with net sales of ¥500 billion. While research and development for new products and businesses will mainly focus on our core competencies, we will also conduct basic technology research to create innovative technologies not bound by the scope of our existing core competencies. Specifically, we encourage and make use of exploratory research conducted with a more unrestricted mindset. Through these activities, we will create and nurture both hard aspects (device-related equipment, additive manufacturing, robotics, etc.) and soft aspects (AI, IoT, big data, design engineering, quality engineering [service platforms], etc.) that have the potential to solve issues posed in our Materiality and play a key role in the

future. In particular, we are working to foster young researchers and reform our culture to one that encourages them to take on new challenges.

The results of research and development will be used to create, nurture, and strengthen businesses and products in collaboration with the business divisions, with the following four main pillars for integration into the business portfolio.

- 1 Incorporation of R&D products as-is into the business portfolio, making them candidates for new businesses and products
- 2 Improvement of profitability by permeating new businesses and products in markets
- 3 Increasing sales growth potential by transforming existing or new products in line with market trends through performance improvements, new feature additions, etc.
- 4 Improvement of profitability by strengthening differentiating technologies in existing businesses, products, and services

Through these activities, this headquarters will, while embodying JSW Group's corporate philosophy, play a role in carrying out the Group's management strategies.



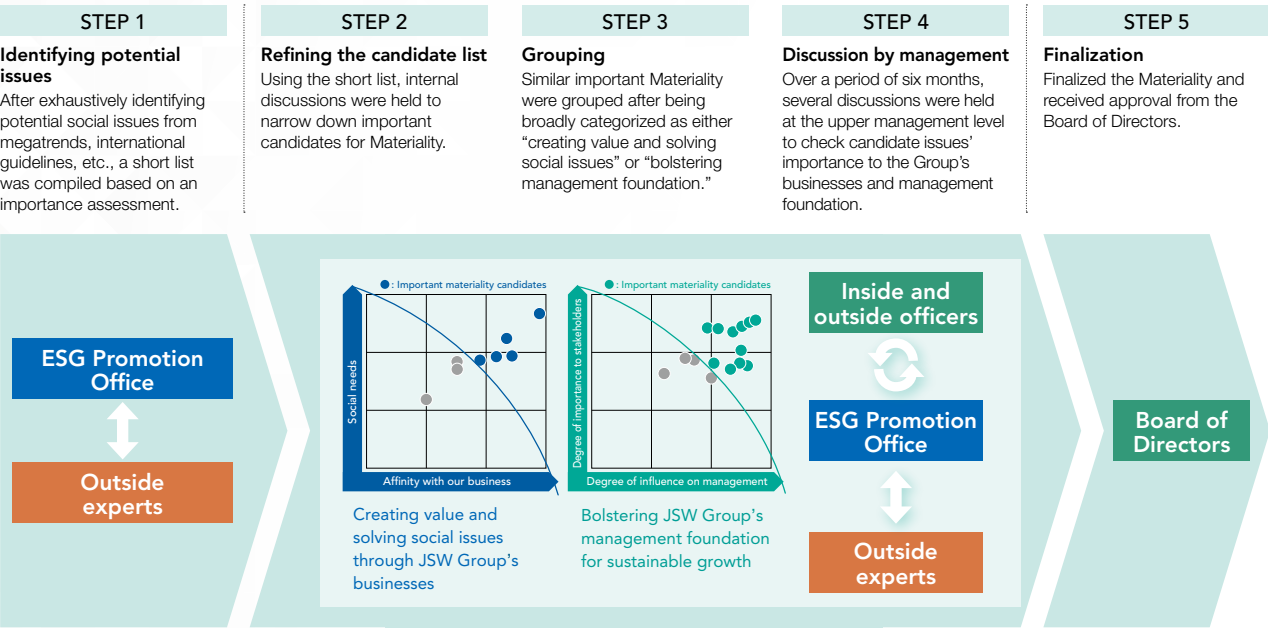
Materiality Management

In November 2022, the Company's Board of Directors, in order to make the world sustainable and prosperous, identified six key issues (Materiality) defining actions for us to take in order to achieve our Purpose. These were identified based on two priority themes: "Creating value and solving social issues through JSW Group's businesses" and "bolstering JSW Group's management foundation for sustainable growth."

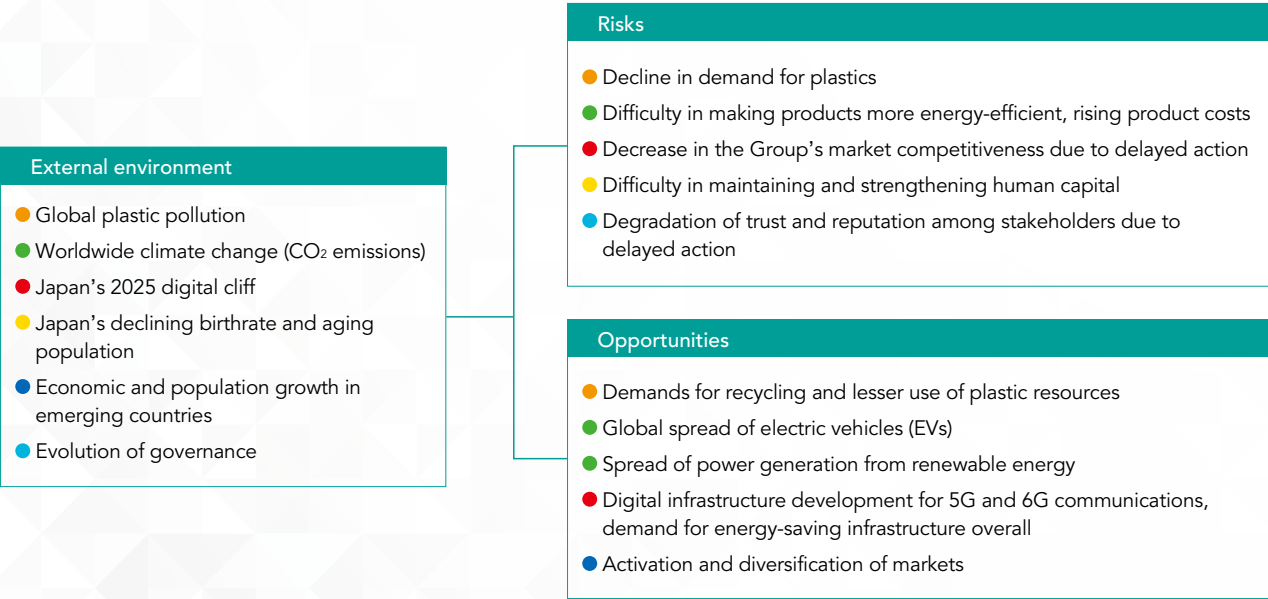
Recognizing the importance of the identified Materiality, JSW Group practices effective management and business activities in order to resolve the issues.

In conjunction with the next medium-term management plan (JGP2028), which we have begun formulating, we are also considering targets and indicators with respect to two areas: "creating value and solving social issues" with respect to our impact on both society and the environment and effects on long-term corporate value, and "bolstering management foundation" mindful of what capital we need to bolster to realize medium- to long-term growth.

Identification Process



Assumed External Environment and Related Risks and Opportunities



Materiality	Reasons why considered to be of high importance	Examples of initiatives	Related SDGs
Creating Value and Solving Social Issues through JSW Group's Businesses			
Realization of a Plastic Resource-Recycling Society	As JSW Group aims to be an unprecedented general manufacturer of plastic processing machinery in the world, it is extremely important to supply society with all manner of plastics processing machinery that not only makes plastics but also realizes 3Rs + Renewable, a goal which is indispensable for resource recycling. 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 also a high-priority business expansion opportunity for JSW Group.	Renewable <ul style="list-style-type: none">Contribution to the greater use of non-fossil-fuel-derived plastics<ul style="list-style-type: none">Twin-screw extruder (TEX)Reduce<ul style="list-style-type: none">Reduce the amount of plastic used<ul style="list-style-type: none">Plastics processing machinery for cellulose nanofiber reinforced plasticsInjection molding machinery for foamed plasticsContribution to the reduction of marine plastic waste<ul style="list-style-type: none">All manner of plastics processing machinery for biodegradable plasticsRecycle<ul style="list-style-type: none">Contribution to the spread of recycling as a practice<ul style="list-style-type: none">TEX for material and chemical recyclingInjection and blow molding machines for recycled plastics	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 12 RESPONSIBLE CONSUMPTION AND PRODUCTION, 14 LIFE BELOW WATER
Contribution to a Low-Carbon Society	The realization of a low-carbon society is one of the most important challenges faced worldwide. Products created by JSW Group's industrial machinery and products featuring its new materials have contributed to the reduction of CO ₂ emissions. Demand for such products is expected to increase in the future, which makes it a matter of high importance for the Group. In addition, responsibilities of the Group include the reduction of energy consumption of its industrial machinery products and the curbing of CO ₂ emissions from the operations of its manufacturing sites.	Zero CO₂ emissions <ul style="list-style-type: none">Contributions to the popularization of electric vehicles (EVs)<ul style="list-style-type: none">Film manufacturing equipment for use in lithium-ion battery separatorsLightweight on-vehicle parts (e.g., magnesium injection molding machines, etc.)Reduction of CO₂ emissions<ul style="list-style-type: none">Reduction of energy consumption by industrial machinery productsReduction of CO₂ emissions resulting from business activities	7 AFFORDABLE AND CLEAN ENERGY, 13 CLIMATE ACTION
Contribution to a Super-Smart Society	The super-smart society is expected to resolve social issues in all fields, including medical care, food, the environment, energy, and disaster preparedness. In order to realize a super-smart society, it will be essential to build a 5G/6G-compatible digital infrastructure capable of processing massive amounts of data at high speeds and with low energy consumption. The industrial machinery and new materials of JSW Group are incorporated into the key components of the devices 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.	Infrastructure equipment that is higher performance and more energy saving <ul style="list-style-type: none">Higher performance and more energy-saving of arithmetic and memory devices<ul style="list-style-type: none">Equipment involved in the manufacture of electronic devicesGallium nitride (GaN) substratesInput/output terminals that offer higher performance<ul style="list-style-type: none">Increased performance of smartphones, tablets, PCs, etc.Equipment involved in the manufacture of displays and electronic componentsSubstrates for SAW devices	11 SUSTAINABLE CITIES AND COMMUNITIES
Bolstering JSW Group's Management Foundation for Sustainable Growth			
Human Capital Improvement and Diversity and Inclusion	The diversification and expansion of our human capital, including the human resources capable of driving the Group's growth, generating innovation, and creating value, is a matter of the highest priority and importance for strengthening JSW Group's management foundation.	Promotion of the acquisition and development of diverse human resources Acquisition: <ul style="list-style-type: none">Proactive recruitment of core human resources, including executive-level personnelImprovement of compensation to acquire human resources with strong expertiseDevelopment:<ul style="list-style-type: none">Early identification and selection of young high-performers	5 GENDER EQUALITY, 8 DECENT WORK AND ECONOMIC GROWTH
Investment in the Future with Innovation Management	In order for JSW Group to continue contributing to society in the future, it is essential to maintain and strengthen its technological superiority by refining its core competence and expanding its business. Innovation is another 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.	<ul style="list-style-type: none">Strengthen core competence by boosting R&D systemsIncrease production capacity and expand business through M&ACompletion of goals of the digital transformation promotion plan	12 RESPONSIBLE CONSUMPTION AND PRODUCTION, 17 PARTNERSHIPS FOR THE GOALS
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 customers and investors as well as employees, business partners, and other stakeholders. In addition, supplying society with industrial machinery and new materials of high quality and superior reliability is the very foundation of JSW Group's business and important to the further strengthening of its quality assurance structure and system.	<ul style="list-style-type: none">Strengthening compliance<ul style="list-style-type: none">Expansion of compliance lines in Japan and overseasStrengthening of Group governance<ul style="list-style-type: none">Review of reporting linesPromotion of stakeholder engagementStrengthening of quality assurance structure and systems	10 REDUCED INEQUALITIES, 16 PEACE, JUSTICE AND STRONG INSTITUTIONS

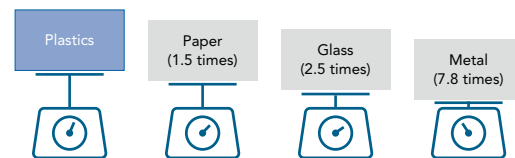
Realization of a Plastic-Resource-Recycling Society

Plastics Supporting an Energy-efficient Society and Contributing to CO₂ Emissions Reduction

Plastic is known as an indispensable material for modern society because of its usefulness in solving social and environmental problems, such as the reduction of CO₂ emissions when its qualities are properly utilized. The amount of plastic used in the world continues to increase and is forecast to reach 800 million tons by 2040, about double the current level, and then 1.2 billion tons by 2060.

Lightness

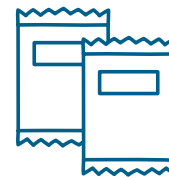
Plastic is a considerably lighter material than paper, glass, or metal. It contributes to lower fuel consumption of automobiles and reduces the weight of food packaging, and it takes up less space. It has been suggested that if logistics were to not use plastic packaging, its CO₂ emissions would be approximately 50% higher.



Gas barrier properties

Plastic food packaging shields food from air and water vapor. This maintains freshness, extends shelf life, and helps reduce food loss.

Reducing the amount of meat that is discarded also contributes to the reduction of CO₂ emissions during livestock production.



Moldable with low energy use

Plastic softens like syrup when heated. In this state, it can be pulled or poured into a metal mold, requiring little energy to mold it into a form. For example, estimates suggest that replacing plastic in the fields of automobiles, transportation, packaging, and construction with alternative materials to plastic would increase CO₂ emissions during the component manufacturing process by about 60%.



Thermal insulating properties

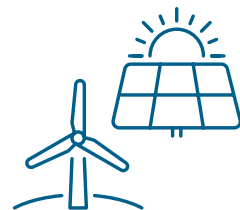
In our homes and buildings, plastics protect us from the heat and cold. For example, plastic window sashes are effective in reducing the amount of heat entering and exiting through windows, with thermal insulation performance about 2.6 times better than their aluminum counterparts.



Contribution to the spread of renewable energy

Photovoltaic panels and wind turbine blades cannot be made without plastic.

Thanks to an efficient production rate for these panels and blades, the benefits of renewable energy can be rapidly captured.



Insulation

Plastic acts as an electrical insulator. Plastic film several tens of micrometers thick is used in lithium-ion batteries to insulate the positive and negative electrodes. Plastics are also essential for batteries, which are the beating heart of EVs.



Social and Environmental Issues Posed by Plastic

Continued use of fossil-fuel-derived plastics in a linear economy based on mass production, mass consumption, and mass disposal presents a great deal of problems for our world. This process depletes natural resources (fossil fuels), consumes large amounts of energy (from distillation, cracking, polymerization, etc.) in producing these plastics from fossil fuels (resulting in CO₂ emissions), generates large amounts of CO₂ from incinerating used-up plastics, injures and kills marine animals when plastics are dumped into the ocean, infiltrates our bodies in the form of microplastics in the food chain, and causes many other problems.

The transition to a circular economy promises a solution to these issues. In a circular economy, the goal is to balance

the enrichment of people's lives (well-being) and reduction of environmental impact with economic growth by designing products and services that reduce waste generation and depletion of natural resources, and by designing products and services that reduce raw material usage, and by continuing to circulate raw materials and products in the market while maintaining their value at the highest possible level. Achieving this kind of economy would allow society to avoid the aforementioned depletion of natural resources and help reduce society's CO₂ emissions (decarbonization). It is also expected that as the circulation of marketed raw materials and products takes root, there will be a significant reduction in the amount of plastic dumped into the ocean.

Efforts to Realize a Plastic-Resource-Recycling Society

At JSW Group, we recognize that achieving a circular economy for plastic resources, that is, a society that recycles plastic resources, is both a responsibility and an opportunity for the Group, which aims to be an unprecedented general manufacturer of plastic processing machinery in the world.

In the cycle of plastic-resource recycling, JSW Group provides various types of plastic processing machinery at all stages, except for resource recovery.

In particular, we are going beyond simply manufacturing and commercializing virgin plastics derived from fossil fuels, working to realize a plastic-resource-recycling society by strengthening our product lines that can contribute to the recycling (especially chemical recycling) stage for plastics.

We believe that this action will contribute to maintaining high value for marketed raw materials and products, and to their ongoing circulation.

In addition, we offer products that contribute to reducing the amount of plastic used itself, such as mixing biomass filler with plastic, foaming, thinning material walls, and devising smart equipment to reduce the amount of waste plastic generated during plastic molding.

We are also working to provide products and services that reduce waste generation and the depletion of natural resources, such as the production of plastic materials derived from biomass and other non-fossil fuels, and including technologies and equipment that make previously unrecyclable films recyclable.

Maintaining high value of marketed raw materials and products and ensuring their ongoing circulation

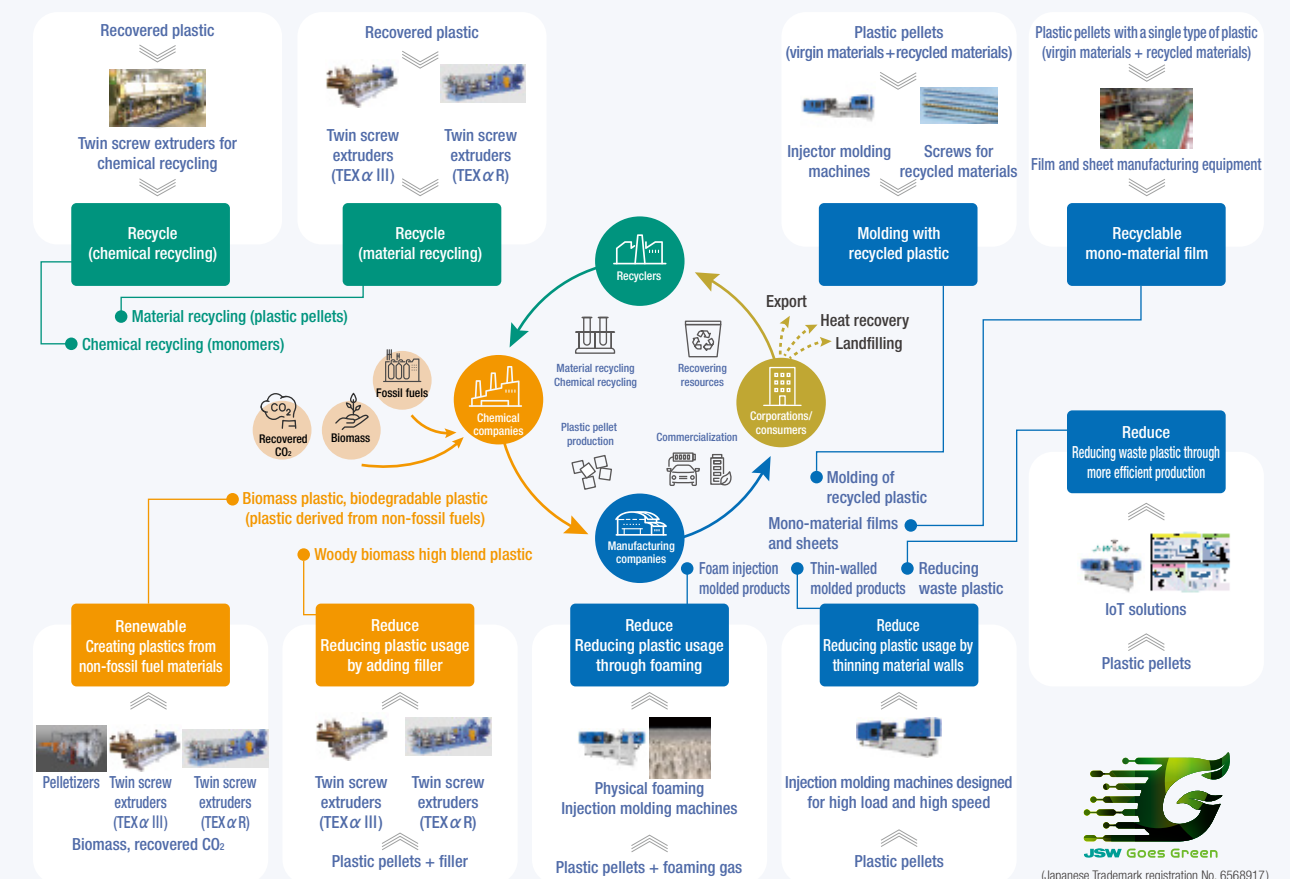
- Providing equipment that is capable of molding components utilizing recycled plastic raw materials
- Providing equipment for material recycling of used plastic components back into plastic pellets
- Providing equipment for chemical recycling of used plastic components back to the raw material level (monomers)

Reducing plastic usage

- Providing equipment for production of raw materials with reduced plastic usage by blending non-plastic fillers such as woody biomass
- Providing equipment capable of molding components with less plastic used through foaming
- Providing equipment capable of molding components with less plastic used by thinning material walls
- Providing equipment capable of reducing the amount of waste plastic generated during molding by devising smart equipment (IoT solutions)

Reducing waste generation and depletion of natural resources

- Providing equipment for production of plastic raw materials derived from non-fossil fuels such as biomass and CO₂ recovered from power plants, etc.
- Providing equipment for production of mono-material films laminated with a single type of plastic to enable recycling



Progress of the Medium-Term Management Plan JGP2025

With our current medium-term management plan JGP2025 as a period for laying the foundation for “growing to a business scale of ¥300 billion” from fiscal 2026 onward, we are promoting activities that move us “towards the unprecedented general manufacturer of plastic processing machinery in the world,” the first of our basic policies.

Fiscal 2022 was marked by a number of historic events, including Russia's invasion of Ukraine, accelerating inflation on a global scale, economic sanctions against Russia, and an economic downturn in China, all amid ongoing impact from the COVID-19 pandemic. On top of that, inappropriate conduct was discovered at our subsidiary, M&E. Despite a

rocky environment, our consolidated net sales for the fiscal year reached record highs, at ¥238.7 billion. In particular, sales growth was driven by manufacturing equipment for lithium-ion battery separator films and sheets thanks to progress in pivoting toward electric vehicles, as well as by large pelletizers, backed by growing demand for plastics in China and India. The most pressing market trends include growing demand for plastics in emerging countries and increasing demand for resin raw materials for protective films used in photovoltaic panels. By leveraging our core competencies, we are able to rapidly capture these demands and win orders for plastic processing machinery in

each of our business areas.

For fiscal 2023, we project that net sales will reach a level putting us on track to achieve our goal of ¥270 billion in the final year (fiscal 2025) of the current JGP2025 medium-term management plan. In addition, JGP2025 calls for ¥300 billion beyond fiscal 2025, and we are seeking to elevate our net sales even further to meet this aspiration.

In contrast, our profit levels are not in alignment with our plan, requiring reassessment of our strategies. It is in this context that we have begun formulating our next medium-term management plan, JGP2028.

JGP2017 From April 2015 to March 2018 Advancing toward top global & niche corporate group

Basic Policy/Achievements [○] and Issues [×]

Increase profitability of existing businesses

- Improved productivity and reduced cost of industrial machinery products through capital investment
- Advanced the Muroran Plant restructuring project

Foster new products and businesses and make them competitive as soon as possible

- Reorganized the Research and Development Headquarters
- × General delays in fostering new businesses

Reinforce Group management and promote alliances

- × Although progress made in small-scale business acquisitions, further need to strengthen alliances

JGP2020 From April 2018 to March 2021 Building foundations for the solid growth of JSW Group in the next ten years

Basic Policy/Achievements [○] and Issues [×]

Optimization of management resources and strengthening of alliances

- Expanded plastic processing machine complex (absorption type merger of Meiki Co., Ltd.; acquired GM Engineering Co., Ltd. as a subsidiary)
- Establishment of Japan Steel Works M&E, Inc. (spun off the Material and Engineering Business Division)
- Began collaboration with Tsukishima Kikai Co., Ltd. and established a joint venture with JX Nippon Mining & Metals Corporation

Strengthening of after-sales services (stock-based business)

- Establishment of parts centers in Japan and Europe, construction of dedicated service center
- Start operation of remote maintenance system

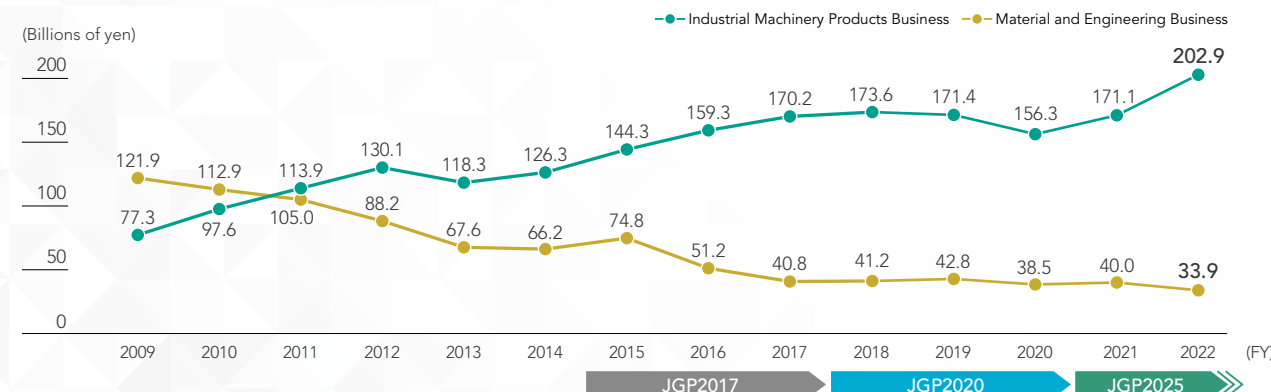
Acceleration in exploration and development of new businesses

- Commercialized hydrogen-related business and transferred to Japan Steel M&E, Inc.
- Promoted early commercialization of profitable businesses by focusing on photonics, composite materials, and metal materials
- × Yet to create new core businesses
- × Insufficient for further expansion of plastic processing machinery complex

	FY2015	FY2016	FY2017	JGP2017 Final year targets
Net sales (Billions of yen)	223.3	212.4	212.9	220.0
Operating income (Billions of yen)	14.4	12.3	21.3	13.0
Operating income ratio	6.5%	5.8%	10.0%	6.0%
ROE	-13.5%	-4.6%	9.6%	8.0%

	FY2018	FY2019	FY2020	JGP2020 Final year targets
Net sales (Billions of yen)	220.1	217.5	198.0	260.0
Operating income (Billions of yen)	24.2	18.7	10.2	30.0
Operating income ratio	11.0%	8.6%	5.2%	11.5%
ROE	16.3%	7.2%	5.1%	14.0%

Business Weighting (Net Sales by Segment)



JGP2025 From April 2021 to March 2026 Towards the unprecedented general manufacturer of plastic processing machinery in the world

Basic Policy/Status of Major Initiatives

Towards the unprecedented general manufacturer of plastic processing machinery in the world

- Continuing to expand production capacity (60 lines/year) of film and sheet production equipment for manufacturing separators for automotive batteries in accordance with the advance of electric vehicles (EVs)
- Expanding the target market for film and sheet production equipment for capacitors (electronic components) and other applications
- Opened the Recycling Technical Center at the Hiroshima Plant
- Developed a world-standard twin-screw extruder launched in Chinese and Southeast Asian markets
- Completed development of and launched large magnesium injection molding machines (clamping force of 3,000 tons), for which demand is expected to increase with rising demand for lighter weight automobiles
- Established a production and service base for injection molding machines in Europe

Make constant profit in Material and Engineering Business

- Reviewing product portfolio for high profitability in cast and forged steel products

Create new core businesses

- Further enhancing the product lineup in the electronic device-related equipment business by developing and launching products such as next-generation semiconductor-related equipment
- Began operation of large-scale demonstration equipment for the mass production of gallium nitride (GaN) substrates
- Completed and started operation of one of the world's most advanced copper alloy material production facilities (currently in stable operation)

Promotion of ESG management

- Announced endorsement of the TCFD (Task Force on Climate-related Financial Disclosures)
- Established the Human Rights Policy
- Expanded and revised the Basic Procurement Policy
- Established JSW Group corporate philosophy, starting with Purpose
- Identified Materiality
- Established the Basic Sustainability Policy
- Strengthening governance related to quality assurance (newly established the Quality Management Office at the Head Office)
- Stimulating exchange of opinions on the supervisory side, such as at meetings of the Board of Directors (introduction of the Liaison Council of Outside Officers)

	FY2022 Results	FY2025 Plan	Change from FY2019
Net sales (Billions of yen)	238.7	270.0	+24%
Operating income (Billions of yen)	13.8	27.0	+44%
Operating income ratio	5.8%	10.0%	+1.4PP
ROE	7.8%	10.0%	+2.8PP

Highlights

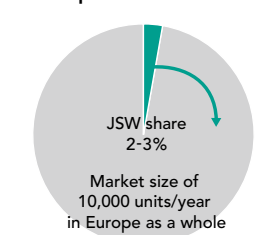
Completed a production facility for injection molding machines in Europe

In July 2022, we established JSW Plastics Machinery Europe Sp. z o.o. in Poland, completing this production facility in March 2023.

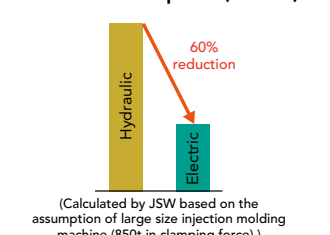


Demand is expected to grow for electric injection molding machines, which excel in energy efficiency, thanks to the shift toward a decarbonized and energy-efficient environment. Compared to their hydraulic counterparts, which are mainstream in Europe, electric injection molding machines offer significantly reduced power consumption. We intend to capture growing demand by shortening lead times through local production and responding to diverse needs.

European market share



Power consumption (kWh/h)

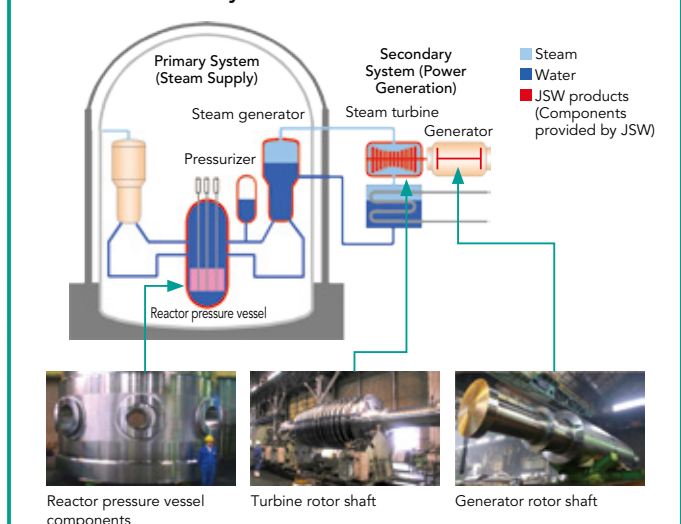


Expected growth in demand for large cast and forged steel components for electric power and nuclear power applications

Due to government policy changes toward energy security and decarbonization, we expect nuclear power capacity to increase in the medium to long term.

In response, we will provide large cast and forged steel components by leveraging our extensive development and manufacturing technologies for electric power and nuclear power applications and our knowledge of nuclear power standards in various countries. Quality assurance requirements for nuclear-power-related products have increased dramatically. To address these, we will further strengthen our quality assurance system and production management functions in contributing to the realization of a low-carbon society as a company that can provide a stable supply of safe and reliable products.

Power Generation System and JSW's Products



Plastics Machinery Business

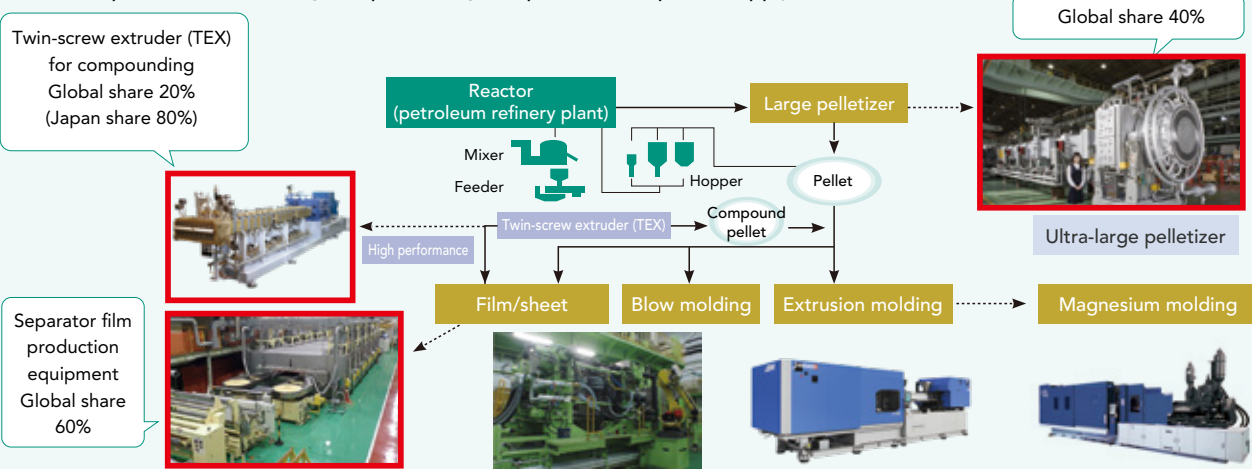
Business Overview

The Plastics Machinery Business Division manufactures, sells and provides maintenance services for an array of plastic production and processing machinery (pelletizers, twin-screw extruders, and film and sheet manufacturing equipment, spinning extruders, etc.) used in various upstream and downstream processes in the manufacture of plastic products. The plastic raw materials and film and sheet products produced by these machines are used in a variety of products supporting our daily lives: IT equipment including

smartphones, PCs, tablets, and keyboards; electronic materials such as capacitors and semiconductor products; home appliances; lithium-ion batteries; automotive parts; food packaging films and containers; and medical devices such as catheters; and more.

We aim to become the world's leading manufacturer of comprehensive plastics processing machinery, and our products account for a significant share of the global market.

Position of plastic manufacturing and processing equipment in the plastic supply chain



Message from the Head of the Division

Plastics possess many excellent functions and are indispensable materials for addressing a wide range of social issues, such as energy conservation (CO₂ emission reduction) thanks to its light weight. Moreover, we believe demand for plastics will continue to increase due to a variety of background factors, including global economic and population growth. The Plastics Machinery Business Division deploys a broad equipment lineup globally. In addition, several products, such as separator film production equipment, are in use by the world's top companies. As such, we are able to quickly identify market needs and collaborate with customers to develop products possessing enhanced functionality, productivity, and labor efficiency. Against this backdrop, in fiscal 2022, we received orders in excess of ¥100 billion, in line with the previous term, and expect even more orders in fiscal 2023. We are also conducting aggressive capital investment in anticipation of further future demand growth.

At the same time, we believe that the ongoing shift away from mass production, mass consumption, and mass disposal of plastics, represents both a responsibility and an opportunity for our company. The realization of a plastic-resource-recycling society is a priority Materiality. We have been working on this issue since the 1970s, earlier than our competitors, and have been developing chemical as well as material recycling process technologies for decades. In 2022, we opened the Recycling Technical Center (RTC) at our Hiroshima Plant, and continue to innovate our technology on a daily basis while conducting testing requested by a large number of customers.



Seiji Umamoto
Managing Executive Officer
Director of Plastics Machinery
Business Division

Sources of Our Strength

We are proud to possess the world's most advanced melting, mixing, and solidifying technologies for plastics. In addition, our lineup of machinery, with a global top market share in the plastics product value chain, allows us to meet the diverse needs of our customers and has earned their trust. By combining several of the products we offer, even higher-performance and higher-efficiency production lines are possible.

Through our relationships with the biggest customers in the industry, experts at our three technical centers around the world quickly pinpoint the latest needs in plastics processing, and strive to meet them through product development. We also maintain large processing facilities and specialized machining equipment, making us able to carry out integrated production of large equipment, which helps ensure quality

and reduce costs, among other benefits.

The ability to manufacture and process all main equipment components in-house is another of our strengths. In particular, we are working with Japan Steel Works M&E to develop metal materials with excellent wear and corrosion resistance to manufacture screws and cylinders, which are core equipment components. This advantage is what drives our high market share.

Furthermore, in addition to our world-first commercialization of machines equipped with plastics extrusion simulation technology, out production management, operations support, service and maintenance, and production automation systems, based on AI and IoT technologies, are making significant contributions to energy and labor saving as well as production efficiency.

Operating Environment

The accelerating shift to EVs, and the pursuit of the carbon-neutral society, are driving demand for lithium-ion batteries. This in turn is a tailwind for our separator film production equipment. We maintain the largest market share of such equipment in the world, and to expand that share even further, we are planning to boost production capacity. We are also enhancing the energy efficiency of our production facilities, to reduce CO₂ emissions generated during manufacturing.

At the same time, it is predicted that more plastics will be

needed due to rising living standards and population growth, especially in emerging nations. As such, promotion of a resource-recycling society is indispensable. In response, by leveraging the capabilities of our lineup, we will promote the application, as required, of both chemical and material recycling in the plastics recycling field. We believe that our core competence (melting, kneading, and molding control technology) can be applied to the realization of a plastic-resource-recycling society.

Strategy and Measures for Growth

In our medium-term management plan JGP2025, we have positioned the plastic machinery business as one that is creating profit and driving growth. Specifically, we will further strengthen the competitiveness of our equipment and expand our business through aggressive capital investment of approximately ¥10 billion, and collaborations and alliances. At present, we are also working to optimize sales prices.

To prepare for further demand growth, we are using our highly evaluated separator film production equipment in a key role and developing plastics processing equipment suitable for production of liquid crystal polymer (LCP) film, which is 5G/6G-compatible, and for increasingly mono-materialized packaging materials.

We are also working actively to reduce automobile weight with plastics, and on chemical recycling for plastics. Through

collaboration with customers, we will expand the value of our business by restricting waste plastic generated when equipment is started and stopped.

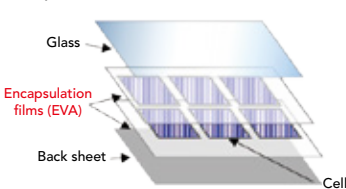
To cope with the increasing size machinery as well as rising demand, we are making major capital investments at our main Hiroshima Plant. We are also promoting a smart factory shift to further improve the efficiency of our production system.

Furthermore, to strengthen after-sales service following delivery, we have been increasing the number of service engineers in Europe and China since 2022. In 2022, we received an order for a twin-screw extruder for chemical recycling. Going forward, we will continue working to reduce our environmental impact and identify more business opportunities.

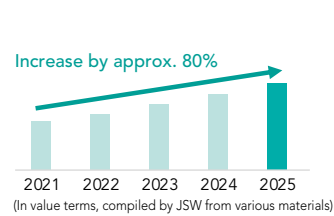
Highlights Contributions of single-screw extruder to solar power generation

Demand for EVA (ethylene-vinyl acetate copolymer), used as a cell protector for photovoltaic panels, is rising, and order volume is showing marked growth. Our single-screw extruders are used in EVA plants, and our share of the global market exceeds 70%.

Photovoltaic Panel Structure and Encapsulation Film



EVA Demand for Photovoltaic Panels



SWOT Analysis

Strengths

- Unique melting, kneading, and molding control technologies accumulated at domestic and overseas technical centers equipped with one of the world's largest testing facilities
- With a globally unmatched lineup of upstream (raw material production) to downstream (molding and processing) plastics equipment, we can meet any customer need
- The Group possesses technologies ranging from production of special metal materials to machining and assembly, and maintains production facilities equipped for integrated production of large machines

Weaknesses

- Long delivery times due to production of small-quantity orders with a high emphasis on large machines

Opportunities

- Sustained growth in plastics demand, driven by rising living standards and population growth, particularly in emerging nations
- Growing demand for EVs (lithium-ion batteries), plastics recycling, 5G/6G-compatible infrastructure
- After-sales service market based on long track record of deliveries

Threats

- Tighter global restrictions on plastics use
- Increasing use of solid-state and other new types of storage batteries that do not utilize separators
- Growing decoupling of geopolitical risk

Injection Molding Machinery Business

Business Overview

The Injection Molding Machinery Business Division manufactures, sells, and provides maintenance services for plastic injection molding machines, magnesium injection molding machines, and blow molding machines.

Our plastic injection molding machines cover most injection molding needs, and feature electrically powered machines with excellent environmental performance. We offer a wide range of machine sizes, from 30 to 3,000 tons of clamping force, and an extensive lineup to meet the diverse needs of our customers, which include vertical injection molding and special molding.

We are developing higher-power magnesium injection machines to perform integrated molding for larger magnesium parts, which are attracting attention for their effectiveness in reducing EV weight.

We boast the No. 1 spot in term of shipment amount of plastic injection molding machines in Japan and the third largest market share in terms of number of units. We are the top manufacturer with magnesium injection molding machines that are one of kind and blow molding machines that maintain an over 80% share of the direct blow molding machine market in Japan.

Message from the Head of the Division

In the march toward realizing our Purpose, we are prioritizing engagement in the Materiality of “realization of a plastic-resource-recycling society” and “contribution to a low-carbon society.” While we already provide electric injection molding machines with low power consumption and injection molding machines compatible with recycled and biodegradable plastics, we are expanding the scope of our contributions. In addition, by stepping up our global reach, we will make the world sustainable and prosperous.

In fiscal 2022, we established a domestic inventory facility for small machines and a European production facility for large machines, to shorten supply time. As for ultra-large machines, we expanded our product lineup and started sales of new products. In technology development, we are working to achieve Material Revolution™, our group Purpose, by commercializing the foam molding process on ultra-large machines and growing sales of large magnesium injection molding machines for large parts.

Going forward, we will maintain efforts to offer products in line with our Purpose. In a progressively maturing market, we will leverage our broad product lineup and in-house component production to deploy energy-efficient products globally. We will also leverage our environmentally friendly technologies, including weight and material reduction technologies. Our aim is to further grow net sales, to at least ¥100 billion within 10 years, and become one of the top five global companies in our industry.



Shoji Nunoshita
Managing Executive Officer
In charge of Meiki Plant
Director of Injection Molding
Machinery Business Division

Sources of Our Strength

Backed by the strength of our comprehensive product lineup, we also maintain a wide variety of equipment at our technical centers. Our system solves customer problems and promotes our technological development.

Our advantage in the equipment arena lies in our ability to develop, design, and manufacture key components, including wear- and corrosion-resistant metal materials, highly responsive control devices, servo amps critical to motor performance, and even special servomotors. This enhances the performance of the equipment while ensuring safe and reliable machines.

We assume customization from the basic design, which is a design advantage. We also have extensive expertise in medium and large machines for automotive manufacturers, and our flexibility is a strength.

In addition, through collaboration with the Hiroshima and Meiki plants and our overseas production locations, we have established a production system to provide molding machines that answer customer needs.

We were first in the world to commercialize American Thixomolding technology for magnesium alloys using magnesium injection molding machines. Then, to meet the demand for larger magnesium automotive parts, including for EVs, we were first to develop and commercialize a magnesium injection molding machine with a 3,000-ton mold clamping force.

Our products are offered through a well-developed, directly controlled sales network and through sales companies at 22 locations (10 in Japan, 12 overseas). After-sales service is provided through a global service network, ensuring responsiveness to customer needs.

Operating Environment

In the middle-high to high-end market for plastic injection molding machines, it is important to grasp market needs accurately, since investments are made for customers according to the components to be produced. Integration and scaling up of components, as typified by giga-press and mega-casting advocated by leading EV manufacturer Tesla, is a major trend. In response, we began selling our J-F series of ultra-large injection molding machines in 2021, and are developing other products, including larger opposed two-color molding machines. With respect to small machines, we have positioned electronic devices as a priority field to secure a rock-solid industry position in small injection molding

machines, since major demand for mass production is expected. We are working to enhance performance and reinforce supply capabilities to expand market share.

Large automotive components are increasingly made by magnesium injection molding machines. For this reason, we are working to expand our lineup of large machines.

We are also expanding our J-WiSe™ Al/IoT solution, to realize smart factories with the aim of improving the efficiency, not only of individual molding machines, but the entire molding factory.

(Japanese Trademark Registration Number 6311727)

Strategy and Measures for Growth

We aim to expand the scale of our plastic injection molding machine business by strengthening our lineup of small and ultra-large machines, based on our industry-leading medium and large machines. Following on our expansion of sales in China, we have increased our small machine inventory at our European bases, and established a structure for stable supply of injection molding machines globally. In the ultra-large machine category, we have expanded our lineup of space-saving two-platen machines by launching a well-received 2,500-ton model, following our popular 3,000-ton and 1,800-ton machines. In conjunction, we have begun to market such options as foam injection molding, to facilitate difficult molding tasks.

In the booming automotive field, demand is growing for larger components and the ultra-large injection molding machines required to make EVs. We will meet this demand with equipment that has a small environmental impact.

At the same time, the use of magnesium for automotive components is increasing, since it is highly suited for recycling. Thixomolding, which is appropriate for large, thin-walled casings when rigidity and light weight are required, and magnesium injection molding machines with low environmental impact relative to die casting methods, are attracting particular attention. The 1,300-ton and 3,000-ton machines we launched last year have been well received.

SWOT Analysis	<div>S</div> <div>Strengths</div> <ul style="list-style-type: none">• Production system with in-house development and manufacturing of numerous key components and materials• Ability to respond and offer recommendations with medium and large machines, backed by extensive experience, especially in the automotive field• Well-developed domestic and international sales and service network	<div>W</div> <div>Weaknesses</div> <ul style="list-style-type: none">• Limited sales track record for small precision molding and ultra-large machines
	<div>O</div> <div>Opportunities</div> <ul style="list-style-type: none">• Increase in new capital investment with the shift to electric vehicles• Rising demand for energy-saving equipment due to soaring global energy costs• Expansion of needs for eco-friendly technologies (bioplastics, plastic reduction, effective use of electric power)	<div>T</div> <div>Threats</div> <ul style="list-style-type: none">• Tightening global regulation of plastics use• Improving performance of Chinese manufacturers with high production capacity

Highlights Injection molding machine operation with renewable-power assist

This stabilizer stores power from natural sources and act as an assist in injection molding machine operation. It is useful for reducing CO₂ emissions. In addition, operation can be maintained temporarily in the event of a sudden power outage, allowing the system to transition safely to stop mode. Injection molding machines may require large, transient increases in the power supplied to the servo motors. The stabilizer batteries can also be used to offset peak requirements, reducing peak power demand at the plant.



Dedicated molding machine power stabilizer

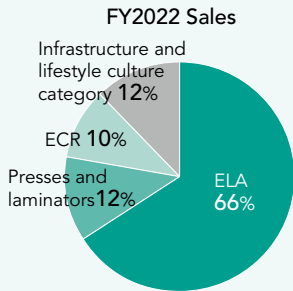
Industrial Machinery Business

Business Overview

The Industrial Machinery Business Division manufactures, sells, and provides maintenance services for industrial machines that address social challenges in the fields of electronic devices, and infrastructure and lifestyle culture.

The electronic devices category, which accounts for about 90% of sales, includes excimer laser annealing (ELA) systems, vacuum hot presses, vacuum laminators, and electron cyclotron resonance (ECR) deposition equipment, with demand driven by DX, AI, and EVs. Market demands change rapidly in this field. As required, we can translate customer ideas into equipment proposals quickly.

Industrial machinery in the infrastructure and lifestyle culture sector includes couplers and draft gear for passenger and freight rolling stock, racetrack starting gates, and food extruders that are also used in alternative meat production. Though not accounting for a large percentage of sales, many of our products are leaders in their respective niches. They are highly regarded by customers for quality, performance, and service, and have consistently produced stable earnings over many years.



Message from the Head of the Division

Electronic device manufacturing equipment is used to produce key components for infrastructure devices that contribute to realization of the super smart society, and business is projected to expand. With respect to ELA equipment for manufacturing high-definition displays, our principal product, we undertook to strengthen profitability by integrating equipment manufacture and sale with maintenance services. We are also expanding sales of new ELA models with new functions, with the aim of becoming the industry leader.

At the same time, our ELA core competence lies in the technology to use lasers to melt and solidify (from the amorphous to the crystalline state) the surface of display substrates; operational precision control technology; and machine element technology required to make the equipment possible. We will also expand our business by applying our ELA core competences to manufacturing other products, and by entering new markets through M&A.



Miki Sawai
Specialist Managing Senior Counselor
In charge of Yokohama Plant
Director of Industrial Machinery Business Division

SWOT Analysis (Electronic Devices)	S Strengths <ul style="list-style-type: none">Thanks to our track record of mass manufacturing, which has been proven at major manufacturers globally, and the reputation of our after-sales service, we maintain a high share in specific areas of electronic device manufacturing equipmentEquipment development and design capabilities to realize solutions to diverse customer needs through new equipmentCutting-edge test facilities and process engineers with a wealth of experience and expertise Support system based on the foregoing, and capacity to solve customer issues	W Weaknesses <ul style="list-style-type: none">Many niche-leading products, but proven markets are limited in size
	O Opportunities <ul style="list-style-type: none">Growth in demand for electronic device products to realize the super smart societyGrowth in demand for large, high-definition, lightweight displays	T Threats <ul style="list-style-type: none">Market entry barriers due to national industry protection policiesPrice competition

Operating Environment

Demand for electronic devices is growing as digital infrastructure development accelerates toward the super smart society.

Electronic device manufacturing equipment is expected to handle increasingly advanced manufacturing processes. Display manufacturing is driven by quality enhancement in tandem with reduced manufacturing costs, while in semiconductors, manufacturing is demanded for the package substrates that are indispensable for mounting high-end CPUs. In this environment, our development and design capabilities are an advantage.

Demand for electronic device manufacturing equipment has shifted from Japan to China and other East Asian countries. While the Chinese economic slowdown has had a negative influence in the short term, we expect long-term demand growth to be driven by DX, AI, and EVs. Investment in Southeast Asia and India is also projected to grow.

Strategy and Measures for Growth

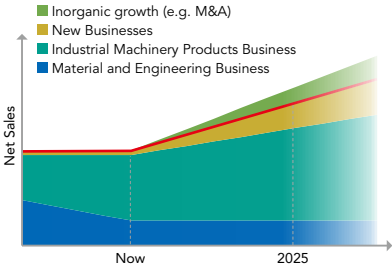
With respect to ELA equipment for high-definition display manufacturing, we will undertake to further expand our market share and bolster our maintenance services. We undertook to differentiate ourselves from the competition by introducing new ELA equipment and verifying its performance in mass production, simultaneously achieving higher productivity, yields, and energy efficiency. Going forward, we will pursue further development of larger machines. With respect to maintenance services, we will focus on China, where approximately 70% of ELA equipment is in operation, and enhance the capabilities of local service engineers. We will also pursue a customer retention strategy built around servicing and maintenance contracts.

New Businesses

Message from the Head of the Division

The New Business Promotion Headquarters will contribute to realizing a low-carbon, super smart society through early commercialization of three businesses: Photonics, whose core products are crystal growth and processing of synthetic quartz, gallium nitride, and lithium niobate; Composite Materials, which includes lightweight, high-strength, carbon fiber reinforced plastic (CFRP) products for aviation, defense, and space; and finally, Metallic Materials, which includes copper alloy materials for advanced copper foil used in connector and other components.

Growth Outlook for New Businesses



Takumi Hanamura
Specialist Managing Senior Counselor
Director of New Business Promotion Headquarters
General Manager, Photonics Office, New Business Promotion Headquarters (concurrently)

Photonics Business

Business Overview

Synthetic quartz and gallium nitride crystals are produced in the high-temperature, high-pressure environments created by our large pressure vessels (autoclaves), using melting and solidifying technologies. In addition to pressure vessel design technology we have accumulated over years, our autoclaves for gallium nitride crystal manufacturing utilize proprietary, Ni-Fe-based large-ingot superalloy manufacturing technology, which confers excellent high-temperature strength.

In addition to these single-crystal production technologies, we are engaged in manufacture and sale of optical application products and device materials, based on our strength in high-precision processing technologies that include cutting and polishing.

Operating Environment

With the further propagation of 5G/6G communications and IoT devices offering high speed and capacity, low latency, and multiple connections, there is a growing need for power-saving solutions in an expanding communications infrastructure. As such, the related-device market is expected to see annual growth of 10% or more. Applications for gallium nitride in particular are expected to be found in various fields, including high-brightness, high-power lasers for energy conservation, high-speed switching devices, and high-energy-efficiency power semiconductors.



Composite Materials Business

Business Overview

In the aircraft field, use of CFRP is increasingly preferred to reduce CO₂ emissions by reducing weight and boosting fuel efficiency. To service this trend, our Composite Materials Business is developing molding and processing technology for CFRP products, acquiring material design technology, and upgrading its systems including quality assurance.

Strategy and Measures for Realizing Profitability

Along with the capabilities relating to standards compliance and quality control that we have developed through the production defense and related equipment, we will leverage the expertise in manufacturing wind turbine blades, which are large composite products, that we have cultivated through our wind power generator business, in order to expand

our business as a supplier of composite structural parts for aircraft. Our aim is to make commercialization profitable while realizing a sustainable society by offering composite-material products that promote weight and energy efficiency for a range of mobility categories.



Metallic Materials Business

Business Overview

As communication speeds and capacities increase, there is a rising demand for titanium copper foils and other copper alloys used in various electronic devices to be thinner and more functional. In order to produce copper alloy slabs of unprecedented cleanliness and quality, JX Nippon Mining & Metals Corporation and JSW have jointly established Muroran Copper Alloy, Co., Ltd., and are engaged in business.

Strategy and Measures for Realizing Profitability

By applying our melting and solidifying technologies to copper alloy, we can produce extremely pure, high-performance metal that remains free of defects even when rolled as thin as copper foil. By manufacturing such

products as titanium copper foil of unsurpassed quality, we will contribute to realizing a super smart society in which high-speed, large-capacity communications will be indispensable, and create a profitable business.



Material and Engineering Business

Business Overview

In the material and engineering business, Japan Steel Works M&E focuses on—and is the world’s sole manufacturer of—large cast and forged steel products for power plants. The company also manufactures pressure vessels, thick plates, and clad steel plates for social infrastructure and a wide range of facilities.

In response to major shifts in our operating environment toward a low-carbon society, we are further expanding our lineup of products related to nuclear power and offshore wind power generation, and are exploring clad product applications.

Furthermore, we will continue to reform our product portfolio and offer a wide variety of materials, (M: materials) not only steel, but also non-ferrous metals and composite materials.

Based on our welding, non-destructive testing, hydrogen, and composite material product technologies, our engineering services business (E: engineering) will undertake to expand sales of hydrogen tanks for large-building construction and of other products.

Message from the Business Segment Head

As a principal means of realizing a low-carbon society, we will reinforce our materials business manufacturing (facilities and personnel) and quality assurance systems to respond to new nuclear power plant construction projects under way in Europe. We will also contribute to restarting Japan’s nuclear power plants by providing needed replacement components. In the renewable energy area, demand for offshore wind power is growing, with wind turbine size becoming increasingly large. In response to this trend, we will boost production capacity for large forgings, which is one of our strengths. This will include forgings for monopile pile driver equipment for wind turbine tower foundations, and we will explore additional applications.

In our engineering services business, we will develop a system to enable us to flexibly adapt to trends in demand for large hydrogen tanks utilizing hydrogen storage alloys, and for pressure vessels used in production of gallium nitride crystals, a next-generation semiconductor material.

To boost profitability, we are reviewing our product portfolio and restructuring our production system. Specifically, by redeploying management resources to the large forgings business and reorganizing our manufacturing system for enhanced efficiency, we will secure a profit structure under which we can continue to offer high-quality products.

We deeply regret the problems caused by inappropriate conduct in product quality inspections, disclosed in 2022, relating to product inspections. We are implementing measures to prevent recurrence, engaging in ongoing education and training, and creating a system to ensure that such conduct will not be repeated. All ISO and other certifications revoked in fiscal 2022 have been re-certified. We will strive to regain the trust of our customers in particular and all stakeholders in general.



Kengo Takeya
Specialist
Managing Senior Counselor
Representative Director and
President, Japan Steel Works
M&E, Inc.
General Plant Manager,
Muroran Plant (concurrently)

Sources of Our Strength

We combine core competences in melting, mixing, and solidifying technologies with facilities capable of producing steel ingots up to 670 tons in weight, which are the world’s largest. Ingots of the correct size for the product being produced are forged and heat-treated in a large, 14,000-ton press, and final-finished by ultra-large machine tools with a maximum processing weight of 400 tons.

In recent years, we have responded to demand for larger pile-driving equipment for offshore wind turbines by applying technology developed to satisfy the stringent standards of

Operating Environment

Global energy demand is projected to increase under all climate change scenarios anticipated by the International Energy Agency (IEA), including the Net Zero Emissions (NZE) scenario. However, energy generation from fossil fuels (coal, oil, and LNG) is projected to decrease, with increased reliance on renewable energy, such as wind power.

With respect to potential business impact, new construction projects for large-scale, coal-fired power plants will decrease. At the same time, we expect persistent demand growth for gas turbine and combined-cycle power generation, which is also effective in load leveling for renewable energy generation, as well as growth in replacement demand for services. In addition, we project that we will secure a steady level of operation and sales of power generation products amid the withdrawal of some competitors and a restructuring trend in the industry.

Fossil fuel power generation will decline as we approach NZE. At the same time, renewable and nuclear power generation will grow significantly. As such, markets for JSW Group products are projected to see continued growth under either scenario.

In our engineering services business, we are installing and renovating manufacturing equipment and renovating public infrastructure facilities. As part of our activities to achieve a

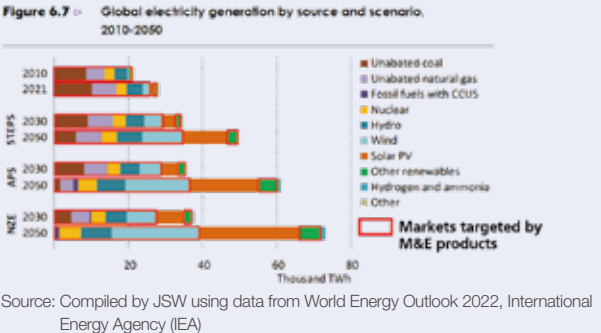
the thermal and nuclear power generation industries.

Furthermore, technology cultivated over many years through design, manufacturing, construction, and inspection services for pressure vessels such as oil refinery reaction towers, is serving as a foundation for new product creation. Examples include hydrogen-related businesses with excellent growth potential, and pressure vessels to manufacture gallium nitride crystals, a next-generation semiconductor material.

hydrogen economy toward becoming carbon neutral, we expect sales growth in products utilizing our hydrogen storage technology.

Changing nuclear energy policy in Europe can be regarded as one of the most pressing shifts in our business environment. A production system is required that can meet the demand for primary components in new nuclear power plants.

With material and energy costs remaining high since 2022, we are continuing efforts to optimize selling prices and boost productivity to realize a stable profit structure.



Strategy and Measures for Growth

We project strong demand for large components where production involves ultra-large steel ingots, one of our areas of strength. Such components include those for nuclear power generation, offshore wind power-related components, and back up rolls for heavy plate mills. In response, we will work to strengthen our production system.

Furthermore, we will expand niche product areas by responding actively to market needs where our core

competencies can be leveraged, without being limited by existing materials or the size of existing products.

In our engineering services business, we will undertake to strengthen our infrastructure-related product lineup for hydrogen, a promising next-generation energy source. We will also work with The Japan Steel Works to reinforce our defense-related production capabilities.

SWOT Analysis

S

Strengths

- Facilities and technology to manufacture large steel castings, forgings, and thick-plate products
- High quality and safety honed in electric power and nuclear power products
- Development technology for high temperature-, high pressure-, and hydrogen-embrittlement-resistant materials

W

Weaknesses

- Fluctuations in facility operation and operational changeovers (difficult to level) caused by our individual-order production system
- Capacity to accommodate new demand for small and medium-sized products and small lot production

O

Opportunities

- Expand the hydrogen economy as well as the renewable energy power generation market in the direction of carbon neutrality
- Changes in the external environment relating to nuclear power generation
- Withdrawal/downsizing of competitors, industry reorganization trend

T

Threats

- Securing personnel (especially at Muroran Plant) due to decrease in the local population and falling birthrate
- Shrinking market for oil- and gas-related products (rapid shift to renewable energy generation)

Highlights

Nuclear product demand outlook

Changing energy security policies in Europe have stimulated planning and new construction of nuclear power plants in EU nations. Customers expect us to provide principal components for nuclear power plants in conformance with agreed-upon delivery schedules, and we are playing an important role in realizing the timelines for new power plant construction.

To ensure we succeed, we will boost production capacity and reinforce our quality assurance and production control systems.

EU Nuclear Energy Policy Trends

Country	Policy, new plant construction
UK	<ul style="list-style-type: none">Construction of up to eight large reactors planned.Two European Pressurized Reactors (EPRs) under construction.Construction of two additional reactors planned.
France	<ul style="list-style-type: none">One EPR under construction.Construction of six EPR2 (improved EPR) reactors received government approval.Eight additional reactors under consideration.
Poland	<ul style="list-style-type: none">Government approved construction of three AP1000 reactors, an advanced pressurized water design.The reactors are on course to enter service in 2030s.
Netherlands	<ul style="list-style-type: none">Government plans two large reactors.
Czech Republic	<ul style="list-style-type: none">Up to four large reactors are planned.

(Source: internal company research)

Financial and Capital Strategy: Message from the CFO

We will increase our corporate value through investment carried out with an eye to portfolio management and the cost of capital



Hiroki Kikuchi
Director & Managing Executive Officer
CFO, in charge of Finance & Accounting Department,
General Manager of Corporate Planning Office,
General Manager of Business Development Office

Perception of Business Environment

In fiscal 2022, the Company reported higher sales and lower profits. Net sales amounted to ¥238.7 billion, up ¥25.0 billion year-on-year. Operating income was ¥13.8 billion, down ¥1.6 billion year-on-year. Net profit attributable to shareholders of the parent company was ¥11.9 billion, down ¥2.0 billion year-on-year.

The Industrial Machinery Products Business Segment posted higher sales and profit, mostly due to sales growth of film and sheet equipment for separators. At the same time, the Material and Engineering Business Segment reported lower sales and profit, largely due to product inspection delays stemming from inappropriate actions.

In fiscal 2022, the Company achieved record high net sales. At the same time, the year-on-year decrease in profit translated into an ROE of 7.8%, below the minimum 8% expected by shareholders. This raised the challenge of closing the operating income ratio gap through optimized selling prices and other measures.

In fiscal 2023, we anticipate an increase in sales and profit over the preceding term. Net sales are projected at ¥280 billion, up ¥41.3 billion year-on-year; operating income is projected at ¥18.5 billion, up ¥4.7 billion year-on-year; and net profit attributable to shareholders of the parent company is expected to be ¥14 billion, up ¥2.1 billion year-on-year. We also anticipate an ROE of 8.5%.

We expect an increase in sales and profits in the Industrial Machinery Products Business Segment due to expanding sales in each product lineup. In the Material and Engineering Business Segment, we expect sales and profits to rise due to higher sales of nuclear power products, etc., once we have established a thoroughly revamped product inspection system.

With respect to progress toward the goals of the JGP2025 medium-term management plan, we first of all expect to reach our fiscal 2025 net sales target of ¥270 billion two years ahead of schedule, in fiscal 2023. However, our same-year operating income forecast is ¥18.5 billion, which represents a significant difference from the fiscal 2025 target, which is ¥27 billion.

JGP2025 was established with the long-term goal of growing sales to ¥300 billion. However, we currently expect

orders of ¥338 billion in fiscal 2023. We anticipate reaching our long-term goal of ¥300 billion in sales in fiscal 2024.

As noted, while we are on track to achieve not only our final-year sales goal of JGP2025, but also our long-term goal for net sales, projected profit nevertheless remains far from the JGP2025 target. We therefore believe it is appropriate to review our corporate value enhancement strategy from top to bottom. We are currently drawing up the next medium-term management plan JGP2028 (fiscal 2024–2028) while JGP2025 is still in effect. In formulating JGP2028, we will set a net sales target of ¥500 billion in fiscal 2033, which will be the final year of the medium-term management plan that comes after JGP2028. We will also clarify specific details during the formulation process, including efforts to address Materiality and enhance business value sustainably through fiscal 2028.

Basic Financial Policy

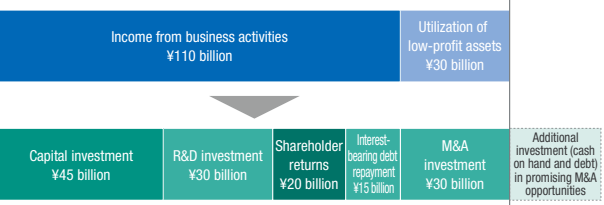
JSW Group's basic stance to enhancing corporate value is to do so by increasing profits through sales growth. Sales expansion involves aggressive investment, including the capital investment required to increase production capacity. However, we believe that in making such investments, it is incumbent upon us to direct careful attention to the cost of capital and our financial soundness. For this reason, JSW Group's basic financial policy is "based on the premise of ensuring sound finances, to proactively invest for sustainable growth to realize the enhancement of corporate value while always maintaining an awareness of the cost of capital."

Based on this policy, our group uses sales, operating income, and ROE as KPIs, and we strive to manage our business not only for quantitative expansion, but also with an eye to the cost of capital. In addition, to ensure our financial soundness, we have set an equity ratio target of 40% or more to maintain our current creditor rating (R&I) of A or higher.

To continue creating social value and enhance corporate value sustainably to realize our Purpose and Vision, it is important to sustain the smooth functioning of the Value Creation Process. Enhancement of various categories of capital is indispensable for this goal, and efforts to this end are progressing in general in accordance with the cash allocation plan. To cite an example, with regard to

manufactured capital, JGP2025 plans capital investment of ¥45 billion, of which a cumulative total of ¥27.8 billion (62% of the total investment target) is planned to be carried out through fiscal 2023. With respect to R&D investment, we plan to invest ¥30 billion under JGP2025, with a cumulative total of ¥16.7 billion through fiscal 2023 (56% of target). In April 2023, we undertook to strengthen our R&D structure by establishing a new Innovation Management Headquarters. Going forward, we plan to further increase our overall R&D investment.

M&A remains a challenge, and though we have set an investment target of ¥30 billion, we have yet to make any use of these funds. We continuously seek opportunities to acquire companies and businesses that can drive further growth by utilizing our core competence of melting, mixing, and solidifying technologies combined with machine element and precision control technologies.



Mechanisms to Realize the Basic Financial Policy

Business portfolio management

The Board of Directors has reviewed and approved basic policies relating to the business portfolio on an annual basis since fiscal 2021.

After ascertaining the state of each business by plotting it on a four-quadrant matrix encompassing return on invested capital (ROIC-WACC spread) and sales growth rate, the market potential and competitive advantage of each business are factored in to bring its respective ten-year vision, as well as the basic policies required to realize the vision, into focus. In addition, beginning in fiscal 2022, we are deepening our grasp of the current situation by formulating a risk-appropriate WACC for each business.

Regarding businesses with large net sales, we are positioning plastic production and processing machinery as well as injection molding machinery as high-priority investment businesses. Their markets are expected to grow, and we should be able to secure competitive advantage. As such, we will invest aggressively to maintain or increase the sales growth rate and return on invested capital.

We are currently positioning the material business as a profit structure reform business. However, because we maintain competitive advantages backed by a strong technological foundation—for example because demand for electric power is projected to have limited downside due to a global shortage of electric power, and because there are numerous products that only our group is capable of manufacturing, among other factors—we are reviewing our product portfolio and optimizing selling prices to enhance our return on invested capital.

Investment adoption criteria formulated with awareness of the cost of capital

The Group is making capital investments aggressively to expand sales. To consider carefully whether or not our investments truly contribute to enhancing shareholder value, we use the NPV method* to verify the true benefit of such investments. The WACC specific to each business is also

used as the discount rate when using the NPV method. Our business portfolio management and investment adoption criteria function in tandem. We aim to improve the equity spread of the entire group by enhancing the return on invested capital in each of our businesses.

* NPV (Net Present Value) method: an indicator for showing how much value can be derived from a given investment.

Optimal level cash and deposits

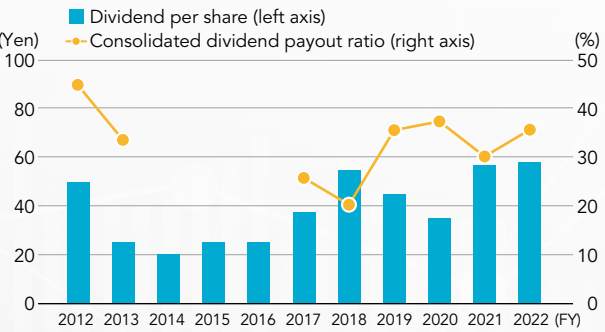
To maintain financial soundness while engaged in aggressive investment, the Group maintains a floor of cash and deposits. Specifically, the level of cash and deposits will be maintained at ¥60 billion, equivalent to two months of sales plus additional funds to cover short-term peaks in capital demand.

Shareholder Return Policy

Our basic policy regarding the return of profits to shareholders is to pay stable and continuous dividends and to improve the dividend payout ratio. In addition, in order to increase both corporate value and shareholder value, we will continue to ensure the stable profitability of our current businesses while promoting capital investment and R&D investment for the growth of new businesses and products, while also striving to improve the financial basics of the Company.

Under JGP2025, we will aim for a consolidated dividend payout ratio of 30% or more and to pay consolidated dividends based on a dividend on equity (DOE) ratio of 2% or higher. In fiscal 2022, we paid an annual dividend of ¥58 per share, and the dividend planned for fiscal 2023 is also ¥58.

In formulating JGP2028, we will ensure financial soundness as we consider the optimal balance between investments for growth on the one hand and shareholder returns on the other, from the perspective of whether it may be possible to boost shareholder returns without impacting corporate growth.



To Our Shareholders

The Group aims to realize its Purpose and Vision by continuing to create value for society and enhance sustainable corporate value. To gain the understanding and support of shareholders and investors with respect to our diverse efforts to achieve these goals, it is essential that we provide information in a timely and appropriate manner, and that we apply the input we receive through active dialogue to our management. We also believe that our active efforts to disclose information and engage in dialogue with shareholders and investors will reduce our cost of capital and contribute to enhancing corporate value.

We will continue striving to realize our Purpose and Vision by undertaking to enhance the capital sources that permit the Value Creation Process to function smoothly at all times under our basic financial policy. As such, we look forward to the continued support of our shareholders.

DX Strategy

As Is vs. To Be

Based on its corporate philosophy—which includes our Vision and the Value Creation Process that starts with our Purpose—JSW Group recognizes that to become a business group with net sales in the ¥500 billion range, we must boost operational efficiency and develop a system environment that enables speedy, data-driven decision making. First, we must promote digitization and digitalization while resolving the maintenance

and management challenges of increasingly complex and aging business support systems, and tie this to DX (Digital Transformation) to bring about continuous business process reform and to transform products, services, and business models. To achieve this, the Digital Transformation Promotion Project (D-Pro) is promoting a wide range of measures to realize the To-Be State.

To Be	
• Restructure information network into data lake, realize data-driven management	• Hire a fully sufficient number of DX personnel and enhanced IT literacy
• Encourage maintenance cost reduction and value-added investment through core system integration and renewal	• Promote DX to help lay the foundation for a business group with net sales in the ¥500 billion range, through corporate culture renewal, business process reform, and business model evolution
• Enhance operational efficiency of routine work through digitization, paperless work, and remote work	

Roadmap and Promotion Structure for Digital Transformation Promotion Project (D-Pro)

To structure the overall D-Pro vision, we collaborated with third-party consultants to characterize the As Is, formulate the To Be, and create a promotion policy and roadmap to realize it. First, in Phase 1: One JSW, we are undertaking to move from discrete optimization to overall optimization. We are aiming to strengthen individual businesses in Phase 2: Value Added JSW. Furthermore, in Phase 3: New JSW Model, we will coordinate to strengthen synergies between businesses (All JSW structure).

To promote D-Pro, the Office of Digital Transformation (diagram on the right) was launched in July 2022 as a dedicated organization to manage collaboration between all corporate divisions. Further, a D-Pro Plenum was launched to confirm and promote the implementation of each project based on a roadmap. The plenum established committees and subcommittees for each project. Members of business divisions benefitting from system implementation were encouraged to participate as 'committee owners and in other capacities, to achieve a promotion system that can achieve highly effective results.

D-Pro/Promotion Structure



D-Pro/Roadmap

	FY2022	FY2025	FY2028
	Phase 1 One JSW (Digitization)	Phase 2 Value Added JSW (Digitalization)	Phase 3 New JSW Model (Digital Transformation)
	Partial digitalization of operational flow → Enhanced value chain value-added	Overall digitalization of specific business processes → New value creation	Digitalize the Company's overall business → Transform business model and corporate culture itself
Concept	From discrete optimization to overall optimization	Strengthen individual businesses	Strengthen inter-business synergy (All JSW structure)
To-Be state	• Appreciation of IT-ification merits by all employees ⇒ DX buy-in ⇒ Strength promotion structure, accelerate promotion	• "Information-ize" existing products and services ⇒ Strengthen profitability of products and services • Realize data-driven management	• Establish new business model ⇒ Jump to manufacturer-based service business
Specific measure example	• System consolidation and reform ⇒ Standardization • Visualization ⇒ Share value and challenges • IT education and awareness raising ⇒ Enhance employee productivity	• Adopt global web catalog • Adopt e-commerce system • Adopt digital marketing • Deploy services utilizing IoT/AI	• Strengthen smart factory capabilities • Expand business through digital marketing • Develop new services that use IoT/AI • Deploy global DX

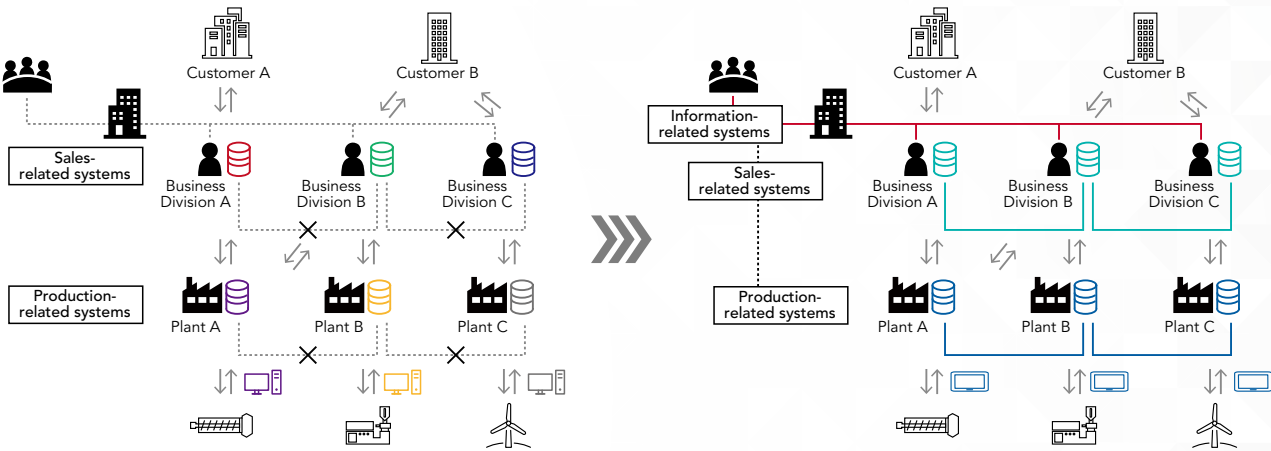
D-Pro Implementation Plan

We are launching projects according to the roadmap, with activities according to the implementation plan for each project. The PDCA cycle is applied to each activity through the D-Pro Plenum.

The framework of implementation plans can be broken down broadly in (1) sales-related systems, (2) production-related systems, and (3) information-related systems.

Consolidation and renewal of legacy systems in sales- and production-related systems to lower operating costs and promote data collaboration. Eliminating the time and effort required for data conversion will greatly enhance reporting speed. Furthermore, strengthen such sales-related systems functions as customer, competitor, and market information management, and market forecasting. We will strengthen the

cost and production control as well as quality assurance functions of production-related systems, and promote standardization of products and manufacturing. To manage risk, we will launch these systems on a small scale in selected business divisions, then roll out successful models to the Company as a whole. We will promote the structuring of a foundation for data-driven management by processing the data produced by these systems to make possible its use in management decision making, and presenting it through information-related systems. To advance this action plan on a steady basis, we will maximize effective use of internal resources. Where resources are insufficient, we will collaborate with third parties to strengthen inter-business synergies and realize an All JSW structure.



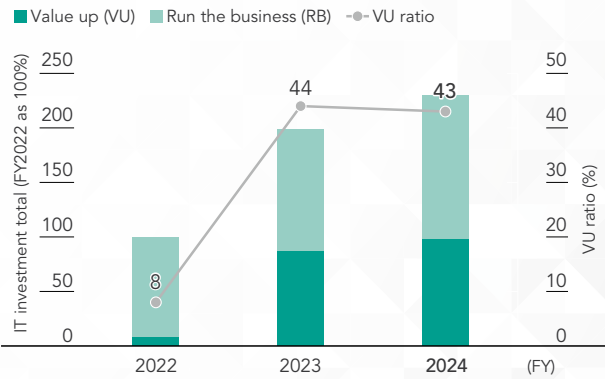
Information System, Investment Plan and Personnel Plan

By promoting D-Pro, we aim to boost the ratio of Value Up (VU; value-added creation in the business) relative to Run the Business (RB; the investment in facilities required to maintain and manage existing data systems). In fiscal 2023-2024, we plan to boost the ratio of VU information system investment to at least 43%, which exceeds the minimum ratio of 40% recommended by the Ministry of Economy, Trade and Industry. We are also planning to expand investment in information systems to 0.8% of net sales.

Improving IT literacy for all employees is another important D-Pro theme. We will conduct basic IT education to boost the level of IT literacy systematically. We are also providing special reskilling training to employees who are interested in, or otherwise have high potential to learn digital technology, to expand the number of those using and spreading the technology.

We must also expand the number of system developers and security management engineers in the Information Technology Division, and project managers in the Office of Digital Transformation, through education and hiring. We will shift our emphasis from RB to VU personnel through various types of training, internal recruitment, rotation, and invitations to external collaborators.

Information Systems Investment Plan



D-Pro Progress Evaluation

Using the DX promotion index recommended by the Ministry of Economy, Trade and Industry, we will periodically and quantitatively evaluate DX progress in comparison with global trends. As necessary, we will make corrections to appropriate activities to promote the improvement of the DX level efficiently.