## Our Business Domains

# **Industrial Machinery Products Business**

Plastic Production and Processing Machinery
Molding Machines
Other Machinery



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



We manufacture and sell a variety of plastic production and processing machinery, which are highly regarded by users around the world, for a wide range of applications and purposes. Our product lineup in this field includes pelletizers that manufacture plastic pellets; twin-screw extruders for compounding, reactive processing, dewatering, and devolatilizing; film and sheet equipment; and spinning extruders for synthetic fibers. With bases in Japan, South Korea, China, Thailand, Singapore, Germany, and the United States, we have established a structure to support customers around the world with our technologies. To respond to a wide range of customer needs as a comprehensive manufacturer of plastic production and processing machinery, our lineup of extruders includes screws of 25 millimeters to 800 millimeters in diameter. By strengthening the planning function in the after-sales services business, we will promote the establishment of a structure oriented toward the "stock-type" business (recurring revenue business model) through concerted efforts between manufacturing and sales departments in the areas of product delivery and regular maintenance services.

### **Business Lines**

Production, sale, and maintenance of plastic production and processing machinery (including pelletizers, compound extruders, film and sheet equipment, etc.)

### **Molding Machines**



All of our standard plastic injection molding machines are provided as an electric type to improve the basic performance of the machines themselves, offer higher precision, and provide high productivity and energy saving. We also respond to diverse customer needs through proprietary technologies, including the new physical foam injection-molding technology called SOFIT, which ensures higher added value of molded products; the FliP series of sub injection units for multi-color injection; and J-WiSe IoT solutions.

In 2019, we started test operations of remote maintenance services. By remotely accessing the molding machines in customers' factories, we confirm the operational status and perform malfunction diagnosis to support a wide spectrum of maintenance activities spanning from failure restoration to pre-emptive maintenance.

### **Business Lines**

Production, sale, and maintenance of plastic injection molding machines, blow molders, magnesium thixomolding machines

### **Laser Application Products**



We have been designing and manufacturing excimer laser annealing (ELA) systems, which are used for mass production of high-quality liquid crystal displays (LCD), at the Yokohama Plant since 1995. We continuously develop and commercialize machines that accommodate larger and higher definition displays and deliver a number of products to leading display panel manufacturers around the world. In addition, our subsidiary JSW IT Service Co. is expanding its business operations to encompass repair, modification, parts sales, and maintenance services for ELA systems and providing support to ensure the high availability of delivered machines.

We also offer and market laser lift-off (LLO) systems for the production of flexible displays, which are anticipated as promising next-generation displays. Leveraging laser application technology as our core competence, we aim to expand into the fields of FPDs and semiconductors.

### **Business Lines**

Electronic components and displays (laser annealing systems, thin-film deposition systems, etc.)

### Performance in Fiscal 2019

**Orders Received** 

Millions of ver

180,000

120,000

60.000

Orders totaled ¥162,651 million (US\$1,495 million), down 7.5% from the previous fiscal year, due mainly to decreases in plastic production and processing machinery as well as molding machines.

Sales fell 1.3% to ¥171,416 million (US\$1,575 million). The contributing factor was decreases in sales of molding machines and FPD equipment, which offset increases in sales of plastic production and processing machinery.

Operating income declined 18.3% to  $\pm$ 19,272 million (US\$177 million) due mainly to a change in product sales composition.

Sales

180 000

120,000

60.000

Millions of yen

2016 2017 2018 **2019** (FY)

Polyolefin extruder/pelletizer

Large-size all-electric injection molding

# machine

Magnesium alloy injection molding machine

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Topic

### Absorption Merger of Meiki Co., Ltd.

2016 2017 2018 **2019** (FY)

As of April 1, 2020, we absorbed Meiki Co., Ltd., which joined the JSW Group in the previous fiscal year, and renamed it as the Meiki Plant. The plant mainly manufactures large injection molding machines for automobile parts. Through the merger, we intend to optimize our production structure for injection molding machines and improve Group-wide profitability.



Meiki Plant

# **Steel and Energy Products Business**

Steel Casting and Forgings
Clad Steel Products
Engineering Services



### **Electric and Nuclear Power Products**



In addition to being a leading global supplier of numerous extra-large cast and forged steel products, the Muroran Plant produces a wide range of high-quality small and medium-sized cast and forged steel products. Steel is manufactured in electric furnaces. In the process of forging ingots, which are the source for cast and forged steel products, we not only have one of the world's largest production capacities of 670 tons but also strive to improve quality by utilizing the vacuum ingot-making method, ladle refinement method, vacuum melting method, and electro slag remelting method, thereby responding to a trend toward high-value-added steel products. In the forging process, after forging steel into specified shapes using two 14,000-ton presses, a 3,000-ton press, and hammers, the products undergo heat treatment, machining, and finishing processes. In this way, we produce a diverse range of products corresponding to the individual and varying needs of customers.

We apply technological capabilities nurtured by meeting stringent specification requirements from customers in thermal, hydroelectric, and nuclear energy fields, and provide cast and forged steel products for a variety of applications not only in the existing energy fields but also in iron and steel, industrial machinery, and electronics industries while making proposals to customers as necessary.

### **Business Lines**

Production and sale of products for power generation; nuclear power-related equipment die materials; general cast and forged steel products such as rolled materials and dies; cast and forged steel materials such as functional materials; pressure vessels and related materials for oil refineries; and other areas

### **Clad Steel Plates and Pipes**



The Muroran Plant possesses Japan's largest quadruple reversible plate rolling machine and produces clad steel products, which are a metallurgically bonded composite material of various alloys.

We mainly produce high-quality clad steel plates and clad steel pipes using clad steel plates, and all of our products are used in a wide range of industrial applications in Japan and overseas, giving this business a unique profile.

### **Business Lines**

Production and sale of clad steel plates, clad steel pipes, etc.

### **Total Engineering Services**



This business provides comprehensive services ranging from civil engineering, construction, and greening works to maintenance of wind power generators in addition to design, production, installation, inspection, repair, and maintenance of steel structures such as pressure vessels as well as forging facilities. We also continuously provide materials for defense equipment, which has been one of JSW's founding businesses. Through these services, we seek to offer solutions to social issues and realize engineering works that create new value.

### **Performance in Fiscal 2019**

Orders totaled ¥44,991 million (US\$413 million), up 31.8% year on year, due mainly to increases in cast and forged steel products as well as clad steel plates and pipes.

Sales were on par with the previous fiscal year, increasing 0.4% to ¥41,418 million (US\$381 million) as cast and forged steel products as well as clad steel plates and pipes achieved almost the same level of sales compared with the previous fiscal year.

Operating income amounted to ¥2,484 million (US\$23 million), down 7.1%, due mainly to an increase in depreciation and amortization.

# Orders Received Millions of yen 60,000 — 40,000 — 40,000 — 2016 2017 2018 2019 (FY) 2016 2017 2018 2019 (FY) 2016 2017 2018 2019 (FY)



Buck-up Roll for Plate Mill



Clad steel plat

## Topic

60.000

40.000

20,000

### **Establishment of Japan Steel Works M&E, Inc.**

On April 1, 2020, we established Japan Steel Works M&E, Inc. as a core subsidiary of the Material and Engineering Business. The Steel Business Division and Muroran Plant, which were both spun off from JSW, were merged with subsidiaries engaging in the related business. The establishment of the new company is aimed at restructuring the Material and Engineering Business for higher profitability throughout the Group.



Japan Steel Works M&E, Inc.

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