

## Our Business Domains

### Industrial Machinery Products Business

- Plastics Machinery Sector
- Other Machinery Sector



#### 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. 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.

To respond to diverse market needs, we have established an integrated development structure for products spanning from plastic manufacturing machines to processing machines that address customers' various issues and respond to market changes.

##### 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 promoted the development of a proprietary molding machine and process that utilize the thixomolding method (semi-solid injection molding technology). Currently, JSW is the only manufacturer of magnesium thixomolding machines in the world.

We have also supplied a diverse range of blow molders, which produce various tanks and bottles for automotive gas tanks, thereby receiving high praise.

##### Business Lines

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

#### Flat Panel Display Devices



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 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 2018

Orders totaled ¥175,757 million (US\$1,585 million), down 5.6% from the previous fiscal year, due mainly to decreases in plastic production and processing machinery as well as FPD equipment.

Sales rose 2.8%, to ¥173,648 million (US\$1,565 million), attributable primarily to increases in sales of plastic production and processing machinery as well as molding machines.

Operating income was on par with the previous fiscal year, decreasing 0.4% to ¥23,599 million (US\$213 million). The slight decline resulted from a change in product sales composition offsetting an increase in sales.



Polyolefin extruder/pelletizer



Large-size all-electric injection molding machine



Magnesium alloy injection molding machine

#### Topic



Service and parts center for molding machines (Hiroshima Plant)

##### Strengthening After-Sales Services

We also provide a broad range of services such as equipment maintenance and parts supply through our extensive global network.

In the field of plastic production and processing machinery, we have enhanced customer support bases overseas. In the field of molding machines, we have expanded the service and parts center within the premises of the Hiroshima Plant while newly establishing a service and parts center in the Czech Republic.

Going forward, we will secure stable profits and further raise customer satisfaction by reinforcing the foundation for our service structure.

## Steel and Energy Products Business

Steel Products Sector  
Steel Plates and Structures Sector



### Clad Steel Plates and Pipes



The Muroran Plant possesses Japan's largest quadruple reversible plate rolling machine, which enables rolling of ultra-thick, wide and long steel plates of up to 350 millimeters thick, 4.8 meters wide, and 20 meters long. Using advanced manufacturing technology, we now mainly produce high-quality clad steel plates and clad steel pipes using clad steel plates. 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.

### Cast and Forged Steel 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 ingots for forgings, 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. 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.

In addition, the Muroran Plant integrates the various forged steel products it manufactures and leverages the Company's state-of-the-art welding technologies and facilities to produce very large welded structures, such as pressure vessels for oil refineries and petrochemical plants, in an integrated process extending from raw materials to finished products. Through after-sales services support, we are meeting demand both in Japan and overseas.

#### 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

### Performance in Fiscal 2018

Orders totaled ¥34,123 million (US\$307 million), down 20.7% year on year, due mainly to a decrease in products for electronic devices and nuclear power plants.

Sales were up 13.7%, to ¥41,251 million (US\$372 million). Despite a decrease in sales of products for electronic devices and nuclear power plants, sales rose thanks to an increase in clad steel plates and pipes.

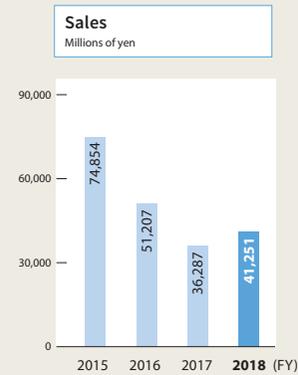
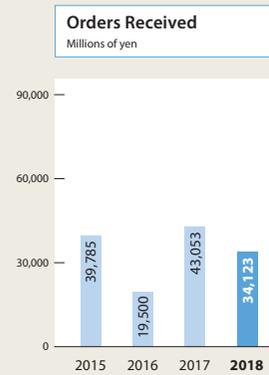
Operating income amounted to ¥2,676 million (US\$24 million), compared with an operating loss of ¥1,019 million in the previous fiscal year, due mainly to an increase in sales and a reduction in fixed costs.



Back-up Roll for Plate Mill



Clad steel plate



### Topic



Muroran Plant

#### Rebuilding of Steel and Energy Products Business

Under the assumption that the current market environment will persist for a long period of time, the JSW Group's Steel and Energy Products Business is under consideration for establishing a new company centered around the Muroran Plant in April 2020. The move is aimed at securing profitability at the current business composition and scale while accelerating the profit structure reform and promoting efficiencies by eliminating redundant functions through a merger with an affiliated company.

Note: At the meeting of the Board of Directors held on April 24, 2019, the JSW Group resolved to withdraw from the manufacture and sales of wind power generators, which were included in the Other Business. However, we will continue providing maintenance services for wind power generators.