Metals & Mineral Resources Division

We will optimize our asset portfolio to provide stable earnings resilient to market fluctuations by strengthening existing businesses and developing new ventures.

Masaaki Bito
Executive Officer, COO,
Metals & Mineral Resources Division

Business Models Supporting Value Creation

Strengths

<table>
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<th>Strengths</th>
<th>Business Models Supporting Value Creation</th>
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<tr>
<td>Sole general trading company with coal mine operations know-how</td>
<td>Building on our accumulated expertise as owner-operator of an Australian coal mine by developing other Sojitz-owned mines and venturing into the contract mining business</td>
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<td>One of the leading importers of rare metals to Japan</td>
<td>Maintaining our large market share through a combination of trading and upstream investments in various rare metals—niobium, chromium and nickel amongst others</td>
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<td>Stable earnings from businesses such as Metal One, one of the world’s largest steel-based general trading companies</td>
<td>Increasing our stable earnings by expanding our business in growing markets and capturing new demand</td>
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External Environment

Opportunities

- Increase in demand for mineral resources, steel, and industrial materials in emerging countries
- Demand for new products arising from strengthened and revised environmental regulations
- Increased demand for innovations and new materials which contribute to the development of a sustainable society
- Increased demand for environmentally-friendly businesses, such as recycling and by-product management

Risks

- Fluctuations in market prices and exchange rates resulting in falling revenues
- Arising geopolitical risks, such as resource nationalism and trade friction between the U.S. and China
- China’s economic slowdown resulting in metal resources and products price slump
- Substitute products and strengthened regulations resulting in lower product competitiveness
- The global trend towards stringent environmental regulations, such as a carbon tax

Businesses

Upstream interests businesses

Building on our expertise in management and technical know-how as owner-operator of the Minerva Mine in Australia, we make investments in Australian and Indonesian coal mines. Our Brazilian niobium interest is the feature of our diverse rare metals portfolio, and as with our Worsley Project in Australia, we have established an integrated production system of non-ferrous metals, such as alumina, covering the entire process from mining to smelting.

- Coal (thermal coal, coking coal)
- Rare metals (niobium, chromium, nickel)
- Non-ferrous metals (copper, alumina)

Trading businesses

As the exclusive distributor of various world-leading suppliers, we have accumulated a vast client network over decades of experience in the resources industry. We offer long-term, stable supply of metal resources and industrial materials mainly to the Japanese and Asian steel industry.

- Ferrous materials (coking coal, iron ore, ferroalloys, etc.)
- Thermal coal
- Non-ferrous and precious metals
- Industrial minerals and steel production materials (electrodes, needle coke)

Midstream and downstream businesses

Through Metal One, one of the world's largest steel trading companies, we have global reach in sales, processing and distribution of steel products. Sojitz JECT supplies carbon products to the steel industry. JAMPT Corporation deals in 3D metal printing technology, which has the potential to revolutionize the manufacturing and distributing business.

- Sales, processing and distribution of steel products (Metal One)
- Trade and sales of carbon products (Sojitz JECT)
- 3D metal printing (JAMPT)
- Manufacture and sales of exfoliated vermiculite (Vermitech)
Growth Strategy

The main themes of MTP 2020 are establishing a stable source of earnings resistant to market volatility, and contributing to a low-carbon society, as called for by the international community. Propelling us towards these goals are our three growth strategies.

First, we will strengthen our trading business by offering new services. In order to maintain and increase our market share in Japan, as well as extending our reach into emerging markets, we aim to strengthen our relationships with clients, and cater to their diverse demands by expanding our lineup of environmentally friendly products.

Second, we will optimize our upstream interests. By reducing costs in our existing projects and replacing them with more profitable investments, we aim to build an asset portfolio that will generate profit even amidst a market downturn.

Third, we will develop new midstream and downstream businesses, venturing into new business areas in response to social demand and environmental changes.

Acquiring high-quality coking coal and developing a contract mining business

In order to achieve sustainable growth and address the growing global environmental awareness, we took steps to rebalance our coal portfolio by replacing thermal coal interests with high-quality coking coal, as with our acquisition of the Gregory Crinum coal mine in Australia. Making use of the mine’s existing infrastructure, and our accumulated expertise as the sole general trading company to operate its own mine, we will venture into contract mining in surrounding mines, a new business model that will be resilient to market fluctuations.

Developing new applications for niobium

There is increasing demand for high-value-added steel products that are light and strong, driven by the advent of the electric vehicle coupled with carbon emission regulations. As the exclusive distributor to Japan of niobium, an auxiliary material indispensable to steel production, for decades Sojitz has ensured stable supply of the rare metal to Japan. In order to contribute to a greener society not just within the steelmaking industry, we are also developing new applications for niobium. In June 2018, we signed an agreement with CBMM (Companhia Brasileira de Metalurgia e Mineração) and Toshiba Infrastructure Systems & Solutions to jointly develop anode material using niobium titanium oxide, for use in lithium-ion batteries of electric vehicles.

Increasing stable earnings through Metal One and other mid-downstream ventures

Our division owns a 40% stake in one of the world’s largest general steel trading companies, Metal One, which we founded together with Mitsubishi Corporation. Through close collaboration and providing support, we strive to create synergy between Metal One and Sojitz in the metal products business. We have also founded JAMPT Corporation as part of our strategy to augment our stable earnings with new downstream businesses, which is more resistant to market fluctuations compared to upstream investments. Commencing operations in October 2018, JAMPT is Japan’s first 3D metal printing business which covers the entire process from manufacturing metal powders to assimilating metal products. The potential of the 3D metal printing technology is driven by increasing demand for high-precision products, such as aerospace engine components and medical implants.