



## Company Profile

- Address: 217-9 Shimokawabata, Furumichi, Iijima, Akita City, 011-8555
- Tel: 018-846-1121 Fax: 018-845-9051
- Capital: 5 billion yen
- Established: February 1971
- Employees: Approx. 400 (as of April 2025)
- Industry / Nonferrous metal manufacturing
- ISO9001 ISO14001 ISO45001

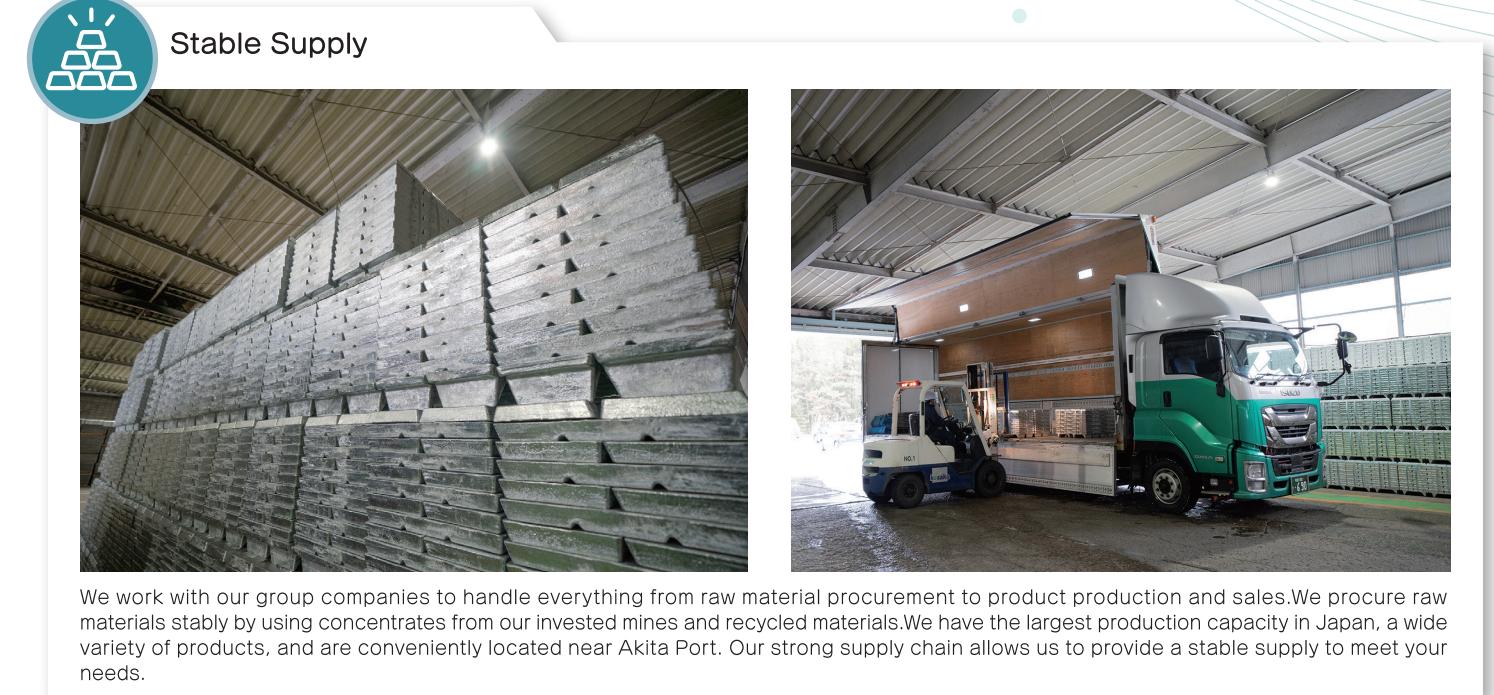


**Transportation**  
By JR  
30 min. by taxi from Akita Station (Akita Shinkansen)  
15 min. by taxi from Tsuchizaki Station (JR Ou Line)

By Airplane  
50 min. by taxi from Akita Airport

By Car  
20 min. from Akita-kita IC on Akita Expressway

Towards an Ever-Bright Future



## Recycling-Oriented Business Model Centered on Metals

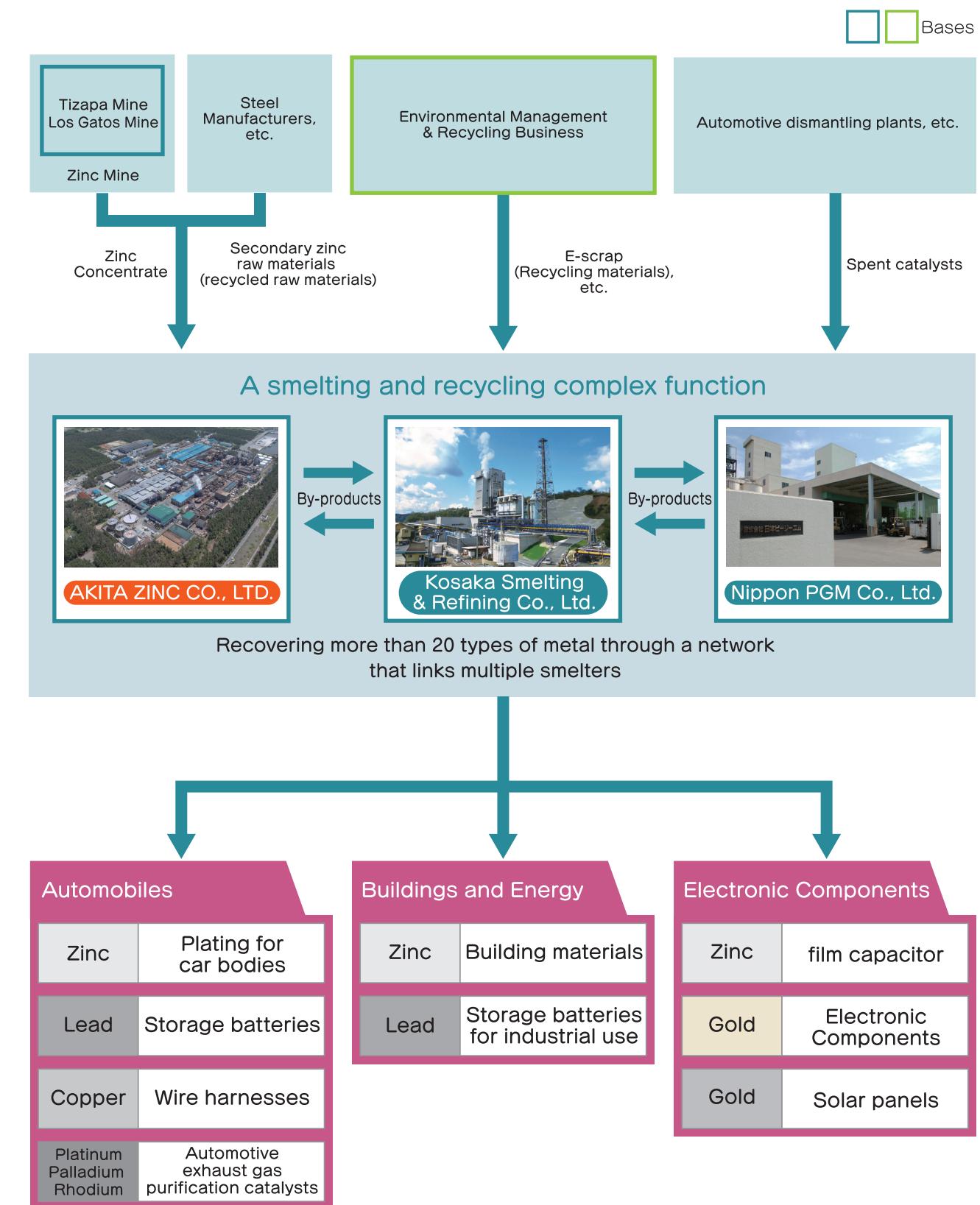
Our Group has built a recycling-oriented business model that realizes a cycle from the collection of recycled raw materials to the efficient production of metals and the enhancement of their value.

In the Environmental Management & Recycling Business, we detoxify waste and recycle metals from used products, utilizing the recycled metals as raw materials for smelting. The Nonferrous Metals Business produces recycled metals from a variety of recyclable materials, in addition to ores, which are natural resources. These metals undergo various processes such as purification, plating and surface treatment in the Electronic Materials Business, Metal Processing Business, and Heat Treatment Business, gaining added functional value before being incorporated into automobiles and electronic devices. Products, once they pass from manufacturers to consumers and eventually reach the end of their use, are collected again as recycled raw materials by the Environmental Management & Recycling Business, creating a resource recycling network.



## Resource Network Producing Around 20 Metals

By building a resource network with DOWA Group companies across Akita Prefecture, including Kosaka Smelting & Refining Co., we've made it possible to efficiently process a wide variety of raw materials and recover around 20 different types of metals. The raw materials used at Akita Zinc contain more than just zinc—they also include trace amounts of valuable metals such as gold, silver, copper, lead, and tin. These are also fully recovered by leveraging our resource network, ensuring nothing goes to waste.



**Point** Waste heat is recovered as steam and used as an energy source for our smelter.

Zinc concentrate is roasted for oxidation. The high temperature of the roaster is maintained by that reaction heat without fossil fuels.

**Point** The basic aluminum sulfate process, which is our unique technologies, reduces SO<sub>2</sub> gas concentration to well below the emission standard.

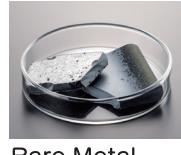
Sulfuric acid is produced using SO<sub>2</sub> (sulfur dioxide) gas generated in the combustion



Zinc Concentrate



Zinc Recycled Material



Rare Metal Recycled Material



Roasting Process



Sulfuric Acid Process



Conc. Sulfuric Acid

**Point** Impurities specific to recycled materials are removed using solvent extraction.

Our recycled materials are mainly produced from processing steel dust.

The calcine is leached with spent electrolyte, which is an acidic solution.

Impurities are removed for high grade quality and energy conservation.

Zinc is deposited on the cathode by electrolysis.



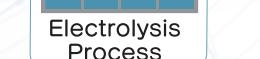
Recycling Process



Leaching Process



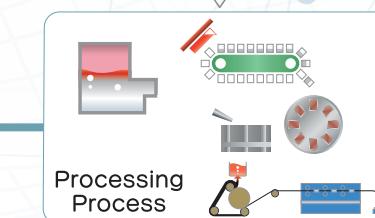
Purification Process



Electrolysis Process

**Point** Our advanced technology allows us to produce many unique products.

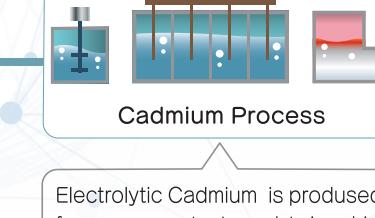
The composition and the shape are tailored to customer needs



Processing Process



Electrolytic Cadmium

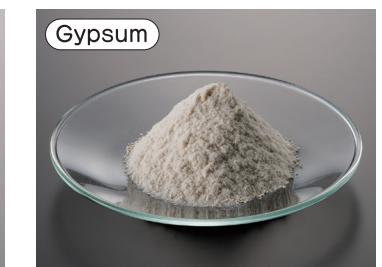


Cadmium Process

Electrolytic Cadmium is produced from concentrates obtained in the purification process.



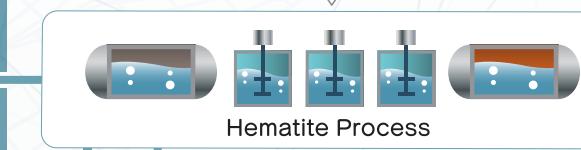
Hematite



Gypsum

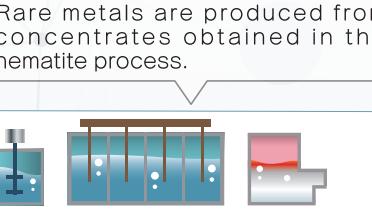
**Point** The world's only technology

The residue in the leaching process is treated in multiple stages using autoclaves, etc., allowing for recovery of valuable metals with high efficiency.



Hematite Process

**Point** Trace elements contained in zinc concentrate are also recovered.



Rare Metal Process

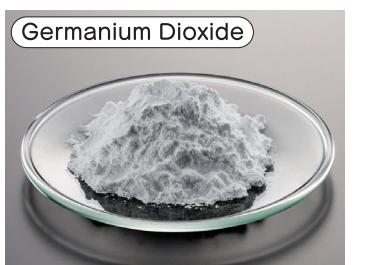
Rare metals are produced from concentrates obtained in the hematite process.



Indium



Gallium



Germanium Dioxide

Valuable Metal concentrate



<Group Company>  
Kosaka Smelting & Refining Co.,Ltd

Gold (Au), Silver (Ag), Copper (Cu), Lead (Pb), Tin (Sn), Bismuth (Bi), Antimony (Sb), etc.

