

Semiconductor Materials Segment

Thin Film Materials Business

Employing world-class nonferrous metal manufacturing technologies, we are a supplier of a wide variety of sputtering targets including targets for semiconductor applications, compound semiconductor materials, high-purity metals, and surface treatments. These and many other materials and services, provided on a global scale, find use cases in end products such as advanced devices, leading-edge IT equipment, medical instruments, and electric vehicles.

Key Strategies

- Establish a dynamic supply system to meet demand
- Strengthen new products and new business development capabilities
- Promote digital transformation (DX) to achieve greater manufacturing efficiency

Review of FY2022

In the first half of fiscal 2022, semiconductor-related markets remained as robust as they had been in fiscal 2021, due to the continued strong demand for semiconductors driven by the growth in digital transformation (DX). However, in the second half of fiscal 2022, demand for consumer electronic devices in general, such as smartphones, tablets, and PCs, began to decline, which led to a marked adjustment of inventory across the supply chain.

Against this backdrop, and in anticipation of medium- to long-term market growth, we are taking steps to strengthen our supply system. These steps include starting construction of a new plant in the U.S. and the decision to increase our production capacity of sputtering targets for semiconductors in Taiwan by approximately 80% from the current level. In addition, while we continue to strengthen our ESG initiatives overall, Isohara Works can be singled out specifically for receiving a perfect 200-point score when audited under the Validated Assessment Program (VAP). This was an evaluation of the facility's compliance with the Responsible Business Alliance (RBA) Code of Conduct and further demonstrates our commitment to the ESGs.

Outlook for FY2023

The adjusting of inventory levels across the supply chain, which began in the second half of fiscal 2022, is expected to continue in fiscal 2023. Furthermore, although intensifying trade friction between the U.S. and China and prolonged Russian aggression in Ukraine, amongst other factors, are raising concerns about the current macroeconomic environment, market growth is still expected in various business areas. In the medium- to long-term, growth is anticipated particularly in semiconductor-related markets due to the full-scale rollout of 5th generation (5G) mobile communication systems, electrification of vehicles, and the acceleration of decarbonization. Consequently, the demand for the division's advanced materials is expected to further increase.

To meet this growing demand, we will make sound, intelligent capital investments, which will include the construction of new plant to raise production capacity and the creation of a flexible supply system. This in turn will earn us the trust of our customers. In addition to contributing to the achievement of the SDGs through our products, we also intend to meet society's expectations by keeping our attention on new development trends in response to various market changes and solving problems through internal and external collaboration.

TOPICS

Increased Production Capacity for Sputtering Targets for Semiconductors in Taiwan

At our Taiwan facility, production capacity of sputtering targets for semiconductors will be expanded, increasing capacity by approximately 80% from the current level. We will have the new line designed, built, and commissioned to begin operating in the second half of fiscal 2024 or later as needed.

Sputtering targets for semiconductors are a mainstay product of our Thin Film Materials Business. They are used in manufacturing various semiconductor devices, including leading-edge logic and memory products. Our decision to increase production capacity is in keeping with our long-term view that demand is expected to increase as the semiconductor industry expands in step with ongoing global digitalization. This expansion will lead to a supply system that can flexibly respond to customer demands and earn us their trust.



Taiwan facility earmarked for increased production capacity

Semiconductor Materials Segment

Tantalum and Niobium Business

Germany-based Group company TANIJOBIS GmbH (hereinafter "TANIJOBIS") is one of the world's leading manufacturers of tantalum and niobium materials, with manufacturing and sales locations all around the globe. The Group, TANIJOBIS, and Tokyo Denkai Co., Ltd., a refiner and processor of tantalum and niobium, work together to contribute to the development of IoT and AI in society by being reliable suppliers of high-quality materials such as metal powders used in capacitors and semiconductor materials, high-purity oxides for SAW devices and optical lenses, chlorides for semiconductors, and superalloy additives.

Key Strategies

- Create resilient supply chains in our existing businesses
- Leverage specific features and strengths of each site to increase productivity and improve quality
- Strengthen our customer-focused business model
- Make sound, intelligent capital investments
- Create and commercialize new products to expand our business base

Review of FY2022

In the strong market of the first half of fiscal 2022, our main existing business supplying high-purity tantalum powder used in capacitors and sputtering targets for semiconductors did well; however, we entered a period of adjustment in the second half due to the effects of a downturn in the electronics sector.

The market is expected to bottom out in 2023 and then recover. To meet the anticipated steady growth in demand that will follow, we have made the decision to expand production capacity at Tokyo Denkai Co., Ltd., a wholly owned subsidiary since April 2022. As an example of how we are creating a raw material procurement portfolio that is resilient to fluctuations in supply and demand, prices, and other risks, the decision was made to invest in the Mibra Mine in Brazil. This decision means that TANIJOBIS will now be able to purchase tantalum concentrates produced at the mine on a preferential basis. In addition to the activities described above, we took aim at expanding our global market share by promoting our Customer First Project, a project in which our people in sales, R&D, and manufacturing are working together to develop a customer-focused business model.

Outlook for FY2023

We expect the recession in the electronics sector to bottom out in 2023 and then recover, and we believe that demand for our mainstay product of high-purity tantalum powder used in capacitors and also in sputtering targets for semiconductors, will improve in the same manner. Given that demand is expected to grow, we will promote customer-oriented sales activities, in which sales and engineering are integrated to further expand our market share. At the same time, we will further strengthen our competitiveness by leveraging the specific features and strengths of each of our sites to optimize our product mix and reduce costs. We shall also ensure that our raw material procurement is resilient and implement approved investment projects, such as the expansion of our production facilities in Thailand.

In addition, there will be collaboration between TANIJOBIS, Tokyo Denkai Co., Ltd. and other Group companies to strengthen our new-business development system, not only in our tantalum and niobium business, but also across the entire range of minor metals. We shall also seek to quickly make new businesses profitable.

TOPICS

Tokyo Denkai Co., Ltd. Becomes Subsidiary

In April 2022, Tokyo Denkai Co., Ltd. became a wholly owned subsidiary, bringing to the Group its superior technology and production capacity in the smelting and refining of high-melting-point metals. The company manufactures ingots to be used for tantalum sputtering targets and has been an important partner in the sputtering target business of our Thin Film Materials Division. Along with TANIJOBIS business of powdered tantalum for sputtering targets, the addition of Tokyo Denkai will further strengthen our vertically integrated supply chain and can only improve the resilience of the supply system we have in place for these products. Furthermore, Tokyo Denkai and our Group will accelerate the creation of synergies across the entire range of minor metals, including the expansion of business related to niobium, a metal that has great potential in innovative technologies such as superconductive materials.



Completed ingots