



JX Nippon Mining & Metals Corporation  
President and Chief Executive Officer

**Murayama Seiichi**

Message From the President

**We Will Communicate our Vision of  
Becoming a Technology-Based Company to  
our Stakeholders More Clearly, Creating  
Sustainable Societies Together**

[Review of Fiscal 2021]  
**Significant increase in profit year on year:  
Focus Businesses were strong in response to  
higher demand in IT; Base Businesses benefited  
from high resource prices and weak yen**

The JX Nippon Mining & Metals Group posted a significant increase in consolidated operating profit, reaching 158.2 billion yen in fiscal 2021. This figure was almost double the 78.1 billion yen earned in the previous fiscal year. A more detailed look shows the significant impact of high prices for non-ferrous metals and the weak yen. Even excluding the tailwinds of the external environment, we see that performance outpaced prior-year levels. In particular, the Functional Materials Business, Thin Film Materials Business, and Tantalum and Niobium Business—three Group Focus Businesses—recorded a sharp increase in profits. This remains true, even when excluding external environmental factors. One could say this is the result of concerted Group efforts to increase production and sales of products that play to our strengths. This, amid continued market growth in highly functional IT fields such as smartphones and telecommunications infrastructure.

At the same time, Base Business also posted an increase in profits, as they benefited from rising market prices and a weaker yen. Let's look at our Mineral Resources Business. The Caserones Copper Mine, in which we acquired a 100% interest in February 2021, and the Escondida and Los Pelambres Mines (both in Chile), where we hold equity interests, were forced to operate under the COVID-19 pandemic. As a result, we were unable to secure sufficient staffing at these locations and failed to achieve full production throughout the year. While these were unavoidable developments, other issues remain unresolved as well. Our Metals & Recycling Business has been working to increase processing of recycled materials, optimize the composition of raw materials, and improve the operational efficiencies at manufacturing sites, operating under an integrated smelting and recycling system. And though we faced a number of unfavorable conditions, including COVID-19 and intensifying competition for recycled raw materials overseas, we have been seeing success in a series of initiatives.

[Growth Investment Targets]  
**Rapid facilities expansion in response to the  
quickly growing advanced materials market and  
large-scale investments for the future**

We announced several plans for large-scale capital investments in fiscal 2021 through early fiscal 2022. The JX Nippon Mining & Metals Group redefined our business based on the ideal of our Long-Term Vision 2040. And we declared our transformation

into a technology-based company. A technology-based company is a company that maintains a resilient portfolio of Base Businesses in society at all times, while contributing to the SDGs and sustainable societies through high-value-added and differentiated advanced materials. Market growth in these fields had already become clear in fiscal 2021. Our intention to expand facilities to seize these opportunities is a major topic in our current medium-term management plan.

In December 2021, we announced plans to increase production capacity for sputtering targets for semiconductors and treated rolled copper foil. The former and latter are slated for new plants in the northern part of Hitachi City and Hitachi Works, respectively. As we expand manufacturing capacity for both products, we also decided to make further investments to respond flexibly to the rapid growth in demand. We view these capital investments as a response to market growth during the next medium-term management plan, which begins in fiscal 2023. Here, we plan to invest approximately 30 billion yen. Looking ahead to the next medium-term management plan, we have decided to invest in the TANI OBIS Thailand plant run under the Tantalum and Niobium Business. We intend to increase production capacity of functional tantalum powder by about 30%. In addition, we made Tokyo Denkai Co., Ltd. a wholly owned subsidiary to strengthen the supply chain running from the Tantalum and Niobium Business to the Thin Film Materials Business. Tokyo Denkai is responsible for tantalum ingot manufacturing.

In March 2022, we announced the acquisition of a large site for the construction of a new plant in Hitachinaka City, Ibaraki Prefecture. The new plant will be a new major center for advanced materials with a view beyond the next medium-term management plan. We expect demand growth in the semiconductor and electronic device fields to continue over the long term. Therefore, we are looking to build an integrated plant, and relocate certain of our head office functions to Ibaraki Prefecture. While we are studying details of the total investment in the new plant, we expect this to be our largest-ever investment in a production facility.

We also acquired a large site in the U.S. state of Arizona. Arizona is a hub to the semiconductor industry, and we intend to expand production capacity for sputtering targets for semiconductors in a flexible manner in response to customer needs. Not only that, but we also intend to leverage this large, 260,000 square meter site to be our center for advanced materials in North America.

We understand the need to strengthen the competitive stance of the Base Business to fortify our foundation as an operation that supports Group growth. To evolve our Green Hybrid Smelting technology, we recently made several investments to strengthen our Metals & Recycling Division. These investments focused on the Saganoseki Smelter & Refinery

Reference ➡ Building a New Plant in Hitachinaka City ➡P72



owned by JX Metals Smelting Co., Ltd. As one example, we built a new logistics center in Oita City, upgrading the processing facilities for recycled materials at the smelter. In August 2022, we announced the acquisition of eCycle Solutions Inc. to bolster the collection of recycled materials. eCycle Solutions is an e-waste (discarded household appliances and electronic devices) collection and processing company with a strong collection network and the largest market share in Ontario, Canada. The company operates eight locations, including its main site in the province of Ontario. At the same time, we pursued selection and concentration to strengthen our businesses. To this end, we decided to sell our shares in P.T. Smelting (Indonesia) and LS-Nikko Copper (Korean smelting company). Meanwhile, as a measure to strengthen our supply chain, we acquired shares in Hokuho Unyu Corporation to reinforce our sulfuric acid transportation infrastructure.

[Progress in ESG Management]  
**A Partnership among industry, academia, and government for a Sustainable Copper Vision and LiB Closed Loop Recycling**

The JX Nippon Mining & Metals Group designated ESG as a materiality, and we have pledged to contribute to sustainable societies. Looking back over the past year, we have seen an acceleration in global trends toward the SDGs and ESG, including the decarbonization movement. Most of the strategic investments and measures we undertook in fiscal 2021 are also important from an ESG perspective.

Demand for copper and other non-ferrous metals will continue to increase. But we must also contribute to society by transforming ourselves into an entity offering higher-value-added advanced materials on proprietary technologies. The movement toward decarbonization is expanding with the spread of electric vehicles (EVs), as well as electrification and renewable energy more generally. Our businesses supply the non-ferrous metals and advanced materials indispensable for the technological innovations that will make these changes possible. And we are confident that these businesses contribute to the SDGs and ESG as we continue to grow. We also know we must consider raw materials procurement and production process related to nonferrous metals and advanced materials from an SDGs and ESG perspective.

Our Sustainable Copper Vision, published in August 2022, expresses the Group's beliefs in this area. Copper is a nonferrous metal that contributes to sustainable societies. Demand for this metal will only continue to grow. And we have defined it as a Group mission to ensure the stable supply of copper into the future, producing copper in a manner that considers ESG issues such as decarbonization and enabling a circular economy. Spe-

cifically, we will evolve sustainable production and supply practices through Green Hybrid Smelting, which uses a greater ratio of recycled raw materials in copper smelting than ever before. And we will communicate to the world that copper produced in this way is the optimal solution for resource savings, energy conservation and carbon savings. We hope to form a Green Enabling Partnership with companies and organizations that support our ideas, expanding the circle of support.

In terms of resource recycling and the circular economy, we are working on the development of closed-loop technology for lithium-ion batteries (LiB). After installing test equipment at the Hitachi Works Technology Development Center, we established JX Metals Circular Solutions in spring 2021 to develop mass production technology. Overseas, particularly in Europe, the demand for resource recycling is even stronger than in Japan. There, battery recycling general, including LiB recycling, became mandatory at the end of 2020. JX Metals Circular Solutions Europe GmbH and TANIOBIS GmbH (both Germany), together with our entire Group, are making concerted efforts in this area to build a competitive business model that complies with European regulations, which are leading the way in this field. As part of this effort, we decided to join HVBatCycle in June 2022. HVBatCycle is a new industry, government, and academic consortium formed around the Volkswagen Group. This group is engaged in joint research and development on the recovery and reuse of automotive-use LiB materials. Given the rapid spread of EVs worldwide, LiBs are expected to be disposed of in mass quantities in the year 2030 or so. Widespread use of EVs will also lead to a significant increase in demand for nickel, cobalt, and lithium, which are necessary for automotive batteries. Finding these resources solely from natural resources such as mines will be impossible. It is becoming a common understanding among our partners that closed-loop recycling of battery materials from EV to EV is one of the best solutions both socially and economically. We believe that our Group technology can play a role as part of a mechanism that contributes to the sustainable supply of these scarce resources.

[Materiality]  
**Communicating widely our mission to contribute to society as a technology-based company, co-creating the future together with our stakeholders**

In fiscal 2020, we have again identified materialities to prioritize as a group in light of the demands of society and changes in the industry. We have already discussed the materiality of providing advanced materials that support lives and lifestyles. In contributing to global environmental conservation, we declared we will advance our interim CO<sub>2</sub> emissions reduction

target by 10 years, based on our belief that we should more proactively reduce our own CO<sub>2</sub> emissions as part of our climate change strategy. This target is in addition to the aforementioned Sustainable Copper Vision and LiB Closed Loop initiative. Today, we pursue group-wide activities toward a major goal to reduce total in-house CO<sub>2</sub> emissions by 50% in fiscal 2030 versus fiscal 2018, achieve reach net zero by fiscal 2050. Our current medium-term management plan defines an ESG investment quota to encourage capital investment and technological development. We are pursuing the transition to CO<sub>2</sub>-free electricity at domestic and overseas business sites. In July 2022, we became the first company in the non-ferrous metals industry to establish a transition-linked loan framework (TLLF). We structured transition financing based on the use of the TLLF to cover the environmental costs of our sputtering target for semiconductor production site at the New Hitachi-kita Factory (tentative name). We are also working to quantify the Scope 3 equivalent of CO<sub>2</sub> emissions, and to further enhance information disclosure based on the TCFD, which synthesizes this information.

To achieve our long-term vision, we must transform ourselves into a corporate entity that generates new business continuously. Recognizing that creative, human resources capable of creating added value are indispensable for this, we strive to create attractive workplaces. In June 2020, we relocated our head office and adopted activity-based working (ABW), which has become a new work style for the group. Our main objective is to create a communication environment conducive to value-added creation, while respecting the diverse work styles and values of each individual. Telework has quickly become a favored work style, partly due to the spread of the COVID-19. But at the same time, I feel that emphasizing face-to-face communication is also essential for revitalizing an organization and creating innovation.

When I have the opportunity to meet with employees, I always talk about the importance of work-oriented communication, which is part of our groups DNA. I also talk about the significance of engaging in discussions with a wide variety of people as we tackle tasks and issues. We believe that technology-based companies must have a keen grasp of social change and demonstrate creativity. Companies that lack such capabilities will be weeded out eventually. Creativity cannot be born from a mindset that is content with the status quo. I believe we have a unique approach in that we engage actively in open innovation, seek and absorb diverse knowledge, and carry out in lively discussions to revitalize our internal organization.

We are fortunate to deal in materials for which society's needs will continue to grow in the future. But there is no guarantee that we will continue to grow in 10, 20, or 30 years at our current rate. Markets are changing faster and market requirements are becoming more sophisticated. One moment to the next may demand different characteristics, more advanced



performance, and higher quality. If we cannot respond through technology, our business will be in a serious predicament. We are accelerating our digital transformation (DX) strategy to establish a business foundation that offers a distinct advantage over other non-ferrous metals companies in the world, and we strive to become this type of technology-based company.

Increasing coexistence and coprosperity With Local Communities is a materiality and an important management issue for us. We will succeed by raising awareness of our businesses and initiatives not only among our employees, but also among society as a whole. We are always ready to work on co-creation with communities, universities, schools, and organizations that share the same destination and concept as our company. We welcome partnerships with companies ranging from start-ups to large corporations. Sticking to our own principles may not be the best course to reaching our long-term vision for the year 2040. We will work together with people in all fields achieve our ideal for society. To this end, we communicate actively to paint a clear picture of JX Nippon Mining & Metals Group vision. Our announcement of the Sustainable Copper Vision is a symbol of this commitment and a statement of our intention to accelerate our efforts. We will continue to foster circular economies through collaboration and cooperation (Green Enabling Partnership) with various partners across industries.