

# ASX Announcement

13 June 2025

## Market Presentation - African Mining Professionals Association of Australia Inc

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Attached is a copy of the Market Presentation that will be discussed at the event in Perth on 14 June 2025 hosted by African Mining Professionals Association of Australia Inc.

### Authorisation for Release

This announcement has been authorised for release by the Company's Chief Financial Officer, Charles Altshuler.

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# **Globe**

**Metals & Mining**

**Global Market Study on Niobium and  
Tantalum Oxides- Compiled by Mordor  
Intelligence- a top tier independent  
intelligence consultancy.**

**Globe Metals & Mining Limited (ASX:GBE, G4U:FWB)**  
June 2025



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Such factors include, but are not limited to, general economic, market and business conditions, market prices for niobium and tantalum, demand for niobium and tantalum, niobium and tantalum supply, obtaining additional debt and equity funding (as required), concluding of off-take agreements, obtaining of all necessary permits for development and production as and when required, estimation of resources and reserves, development and production costs, processing recoveries transportation delays and costs, risks and uncertainties related to construction and commissioning, delays in construction of the mining and processing operations, accidents, equipment breakdowns, title matters, labour disputes, environmental issues and local community issues involving relocation of project affected people or other unanticipated difficulties with, or interruptions in, development or production, exchange rate fluctuations, and risks and uncertainties associated with doing business in Africa.

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# As Part of the BFS, Globe Engaged Independent Market Intelligence firm: Mordor Intelligence for Detailed Global Market Study on Niobium and Tantalum Oxides

The study provides:

- Country-level forecasts, segmentation, and demand analysis across key applications.
- Assessment of macroeconomic, political, and demographic factors impacting demand.
- Identification of market drivers, trends, and opportunities for both oxides.
- Tracking of growth in electronics, semiconductors, energy storage, and defense sectors.
- Market sizing, growth projections, and profiling of major global players.
- Evaluation of pricing dynamics including purity premiums, supply chain risks, and inflationary pressures.
- Analysis excludes ferroniobium, with focus on high-purity oxide markets relevant to advanced technologies.
- This research supports Globe's strategy to position its Kanyika Project as a secure, high-purity source of niobium and tantalum for global technology markets.



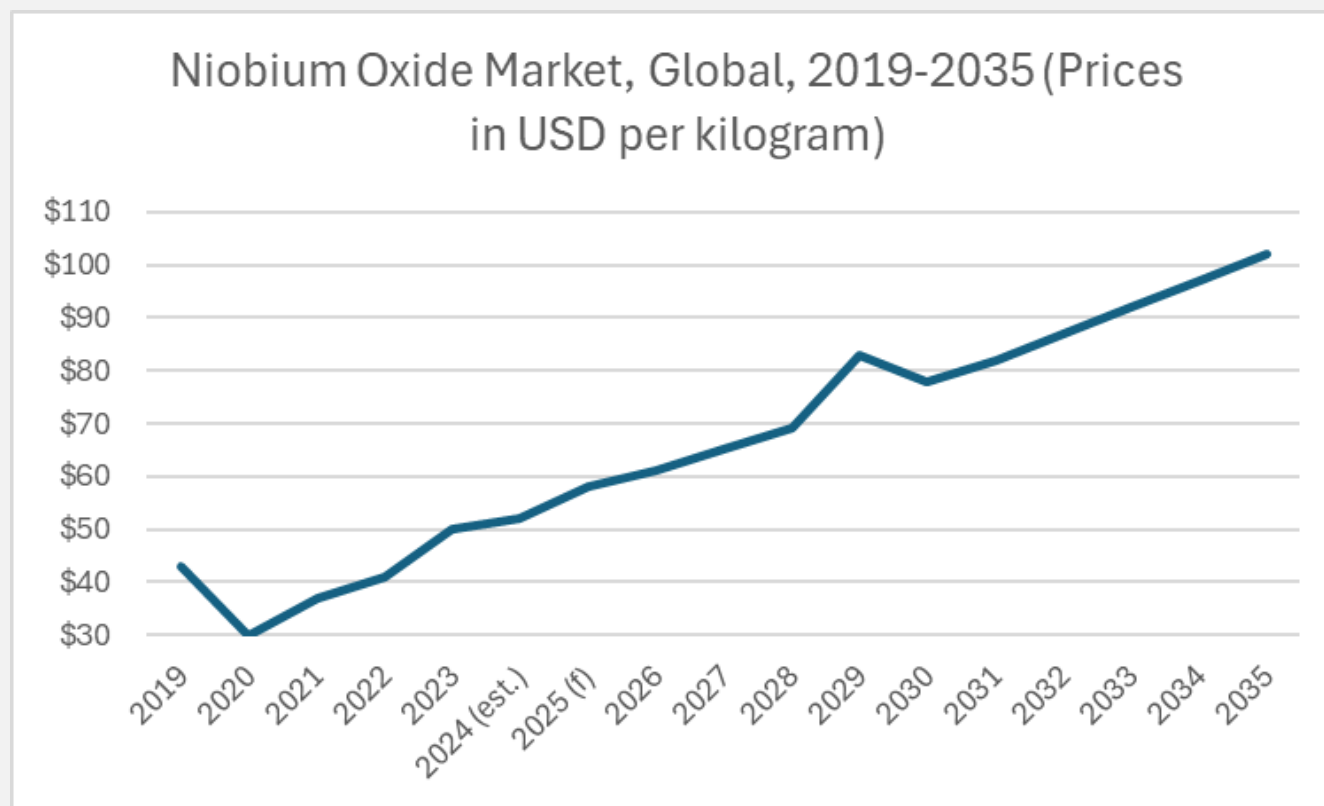
# Game-Changing Highlights – Niobium & Tantalum Market Outlook

- **Demand to Quadruple by 2035:**  
Global demand for high-purity niobium pentoxide ( $\text{Nb}_2\text{O}_5$ ) is forecast to quadruple to ~30,000 tons by 2035, driven by EV batteries, AI chips, aerospace, and advanced optics.
- **Price Surge Imminent:**  
Niobium pentoxide prices are projected to rise from \$43/kg (2019) to \$102/kg (2035) due to supply concentration in Brazil/Canada, limited new mines, and growing tech-sector needs.
- **Strategic Geographic Growth:**  
Countries like China, the U.S., Japan, India, and South Korea are aggressively increasing niobium oxide consumption across semiconductors, defense, and optics.
- **Superalloy & Energy Storage Explosion:**  
Niobium demand in superalloys (52%), optics (17%), and capacitors (16%) is surging—fuelled by aerospace, smart devices, AR/VR, and green energy tech.
- **Tantalum Supply Chain in Crisis:**  
High-purity tantalum prices are soaring (to \$340/kg by 2035), but the market faces a chronic supply gap due to instability in the DRC and Rwanda.

# Niobium Price Momentum and Strategic Market Dynamics

## Why Niobium Pentoxide Prices Are Climbing: Supply Limits, Tech Demand & Cost Pressures

- Prices for 99.99% purity  $\text{Nb}_2\text{O}_5$  expected to grow from USD 43/kg (2019) to USD 102/kg (2035).
- With over 90% of supply concentrated in Brazil and Canada, niobium pentoxide faces chronic supply vulnerability. Export restrictions, limited new mines, and processing bottlenecks heighten price sensitivity to disruptions.
- Growing use in EV batteries, semiconductors, 360° cameras, aerospace, and military tech is pushing up demand—especially for ultra-pure 99.99% grades essential to advanced electronics and energy systems.
- Environmental regulations, high energy and transport costs, and reliance on critical reagents like hydrofluoric acid increase production expenses—exacerbated by inflation and currency volatility in key exporting nations.



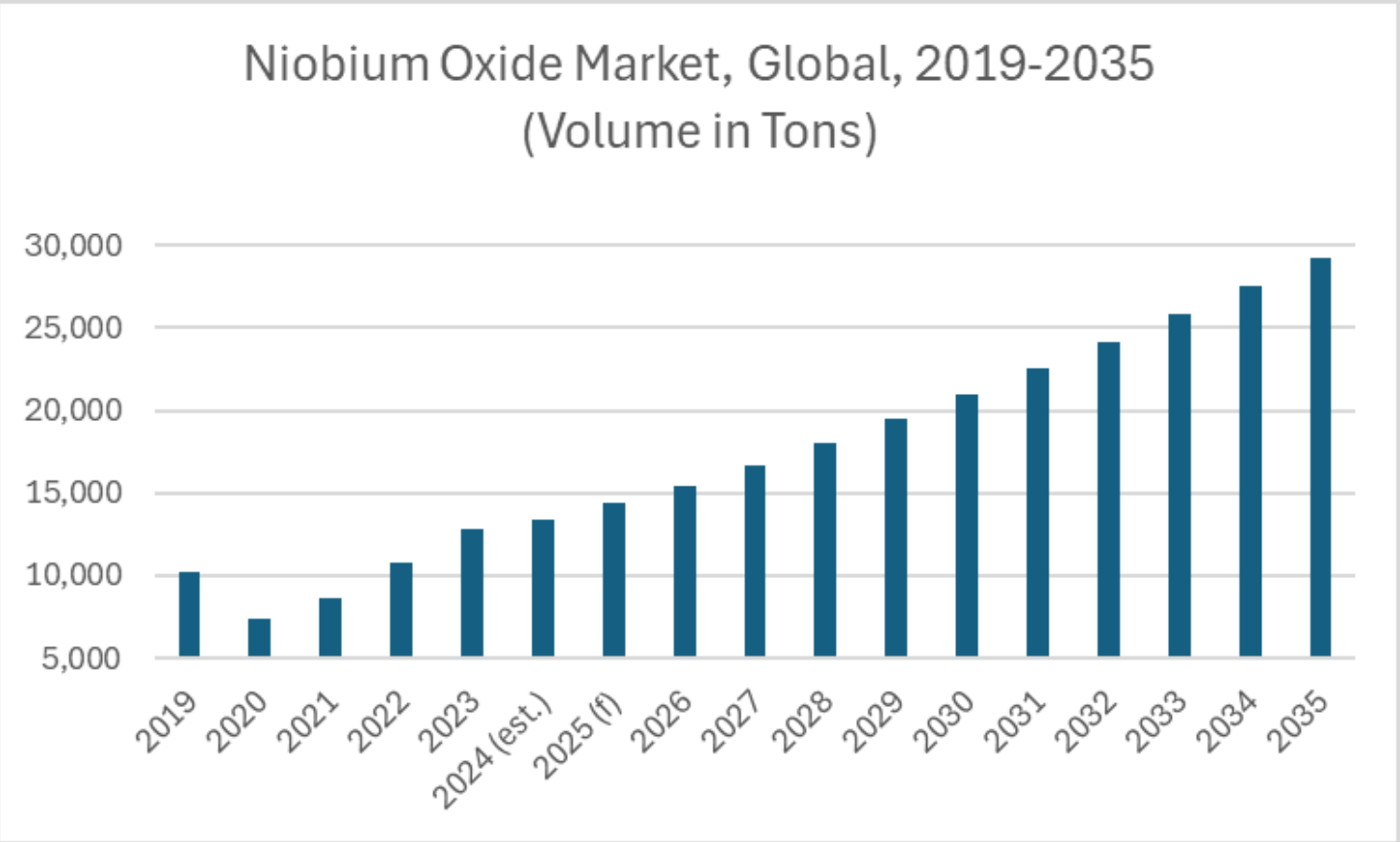
Source: Mordor Intelligence



# Niobium Market Overview – Supply, Demand & Price (2025–2035)

Explosive Growth in Niobium Pentoxide Demand Driven by Strategic Tech Applications

- Global demand for high-purity (99.9%) niobium pentoxide is projected to quadruple by 2035, reaching ~30,000 tons, driven by its critical role in high-growth technologies.
- Nb<sub>2</sub>O<sub>5</sub>-based anodes enhance charging speed and thermal stability in EV and grid-scale batteries.
- Used as a solid acid catalyst in refining, biomass, and hydrogen, improving efficiency in industrial reactions.
- Enables MLCCs for compact electronics; essential in 360° cameras, autonomous vehicle sensors, and medical imaging.
- Key in high-index lenses and laser systems, supporting aerospace, defense, and automotive display tech.

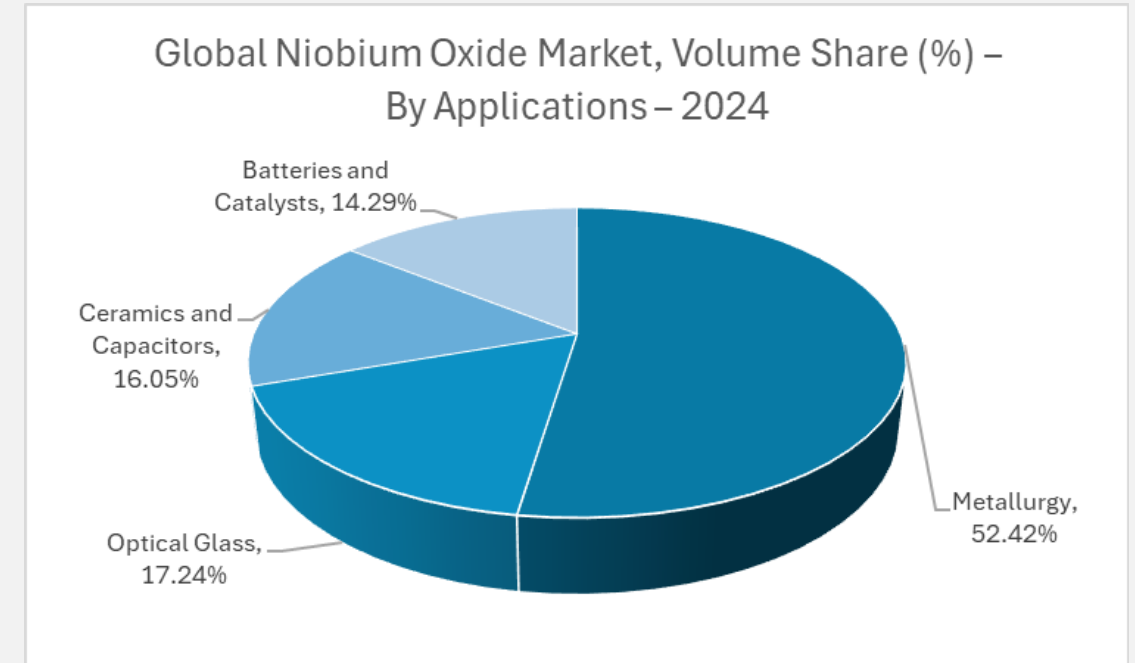


Source: Mordor Intelligence

# Global Niobium Oxide Market, Volume Share (%) – By Applications – 2024

High-Purity Niobium: Application-Driven Demand Growth

- Metallurgy (~52%) : The largest segment, driven by demand for niobium-based superalloys used in jet engines, gas turbines, spacecraft, and military-grade materials. Growth is sustained by global aerospace expansion, defense modernization, and nuclear power developments.
- Optical Glass (~17%): Used in high-refractive index lenses for smartphones, surveillance systems, automotive sensors, and medical imaging. Growth is supported by smart city infrastructure, AR/VR, and next-gen optics.
- Ceramics & Capacitors (~16%): Niobium pentoxide is critical in MLCCs and dielectric ceramics for electronics, EVs, and telecommunications. Demand rises with miniaturized devices, 5G rollouts, and automotive electrification.
- Other Applications (~14%): Includes batteries, catalysts, and coatings. Niobium-based anodes are gaining traction in solid-state and lithium-ion batteries. Also used in fuel cells, green hydrogen, and advanced surface treatments for high-performance industries.



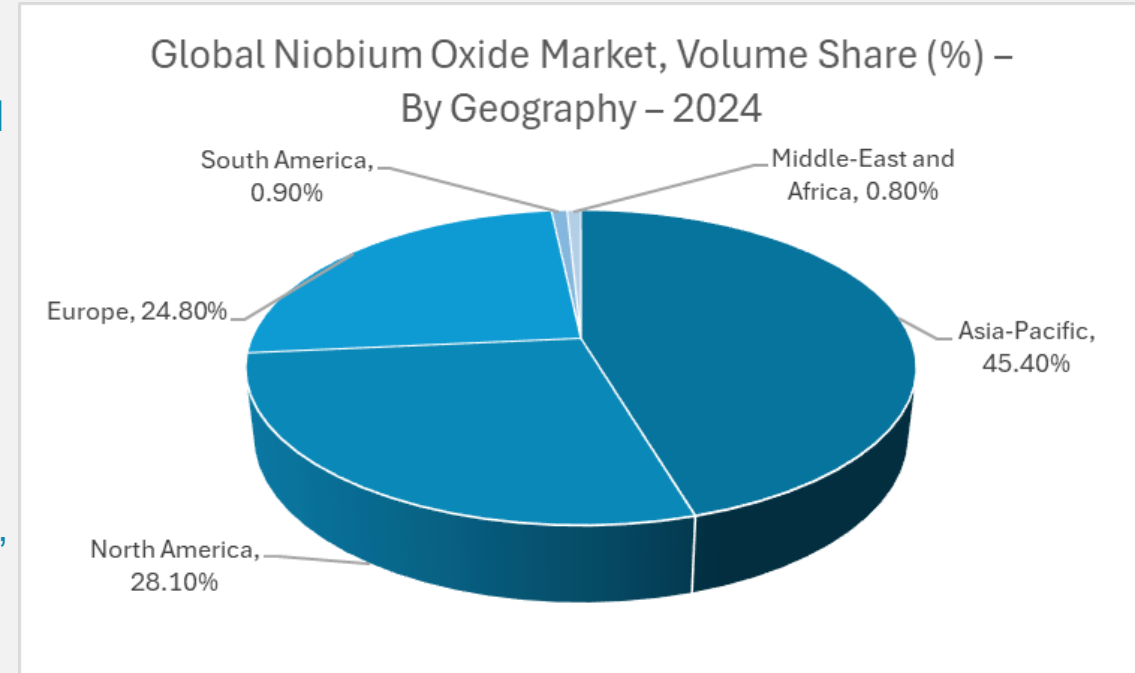
Source: Mordor Intelligence



# Global Niobium Oxide Market, Volume Share (%) – By Geography – 2024

How Leading Economies Are Powering Niobium Demand: Asian urbanization, especially in China and India, will drive consumption growth with expanding middle classes.

- China: Largest global consumer, driven by electronics, aerospace, and metallurgy growth.
- Japan: Strong in optical glass and capacitors, with heavy industrial and R&D use.
- South Korea: Demand from semiconductors, defense, and advanced electronics.
- India: Rising demand across defense, optics, and capacitors; new mining initiatives.
- United States: Largest share in NA, supported by aerospace, defense, and chip manufacturing.
- Mexico: Growth in electronics, medical devices, and aerospace assembly hubs.
- Canada: Supply base and demand from aerospace, semiconductors, and medical sectors.
- Germany: Photonics and semiconductor investments lead growth.
- United Kingdom: Moderate demand from electronics, medical, and R&D sectors.
- France: Aerospace and defense growth supports steady demand.
- Italy: Optics and industrial electronics as key drivers.

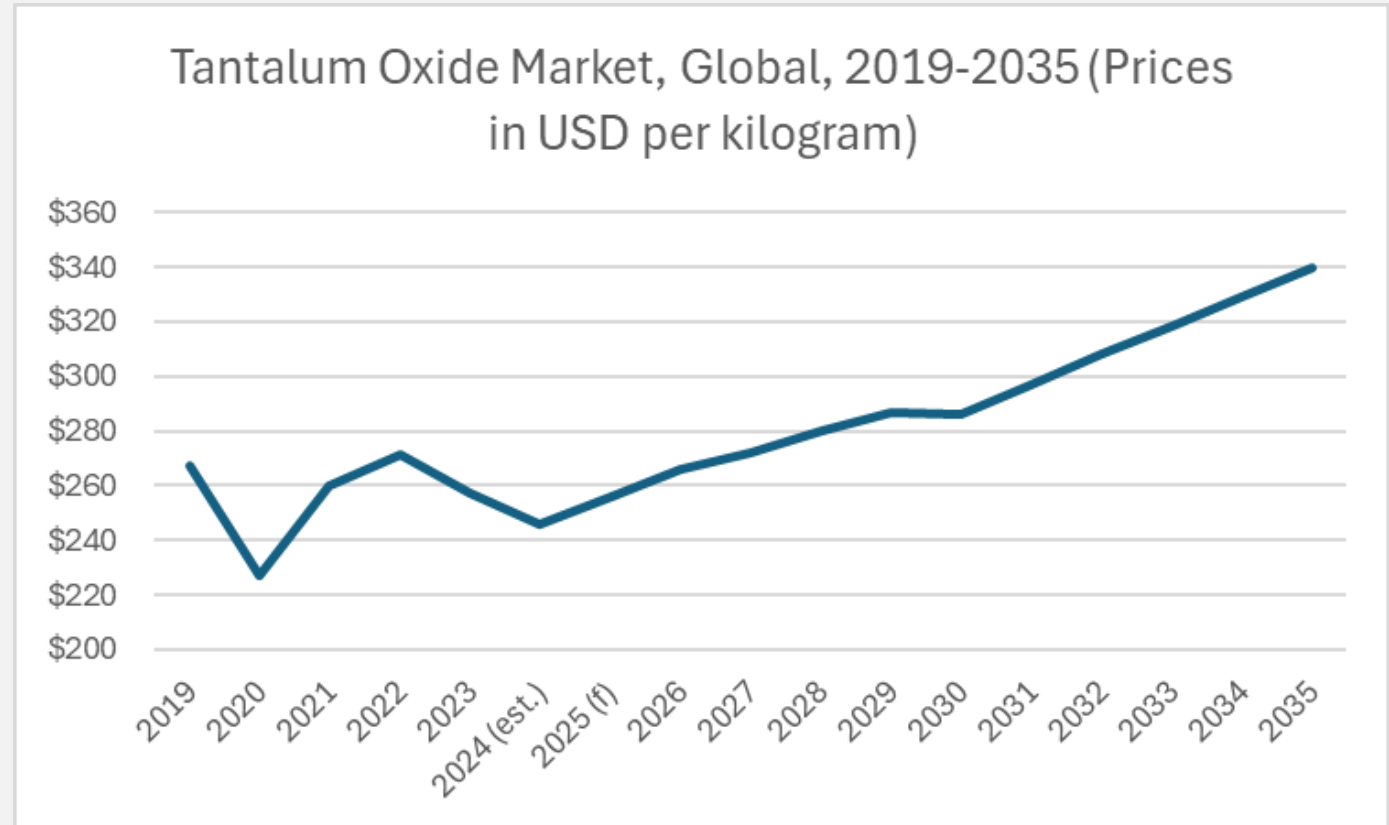


Source: Mordor Intelligence

# Tantalum Price Momentum and Strategic Market Dynamics

Premium Tantalum Prices Driven by Purity, Provenance, and Supply Security

- Prices for 99.99% purity Ta<sub>2</sub>O<sub>5</sub> expected to grow from USD 267/kg (2019) to USD 340/kg (2035).
- Lack of diversified supply sources makes the market vulnerable to disruptions.
- Supply chain ethics and traceability are becoming top priorities for buyers.
- Projects offering reliable, clean, and high-purity supply are positioned to command premiums.

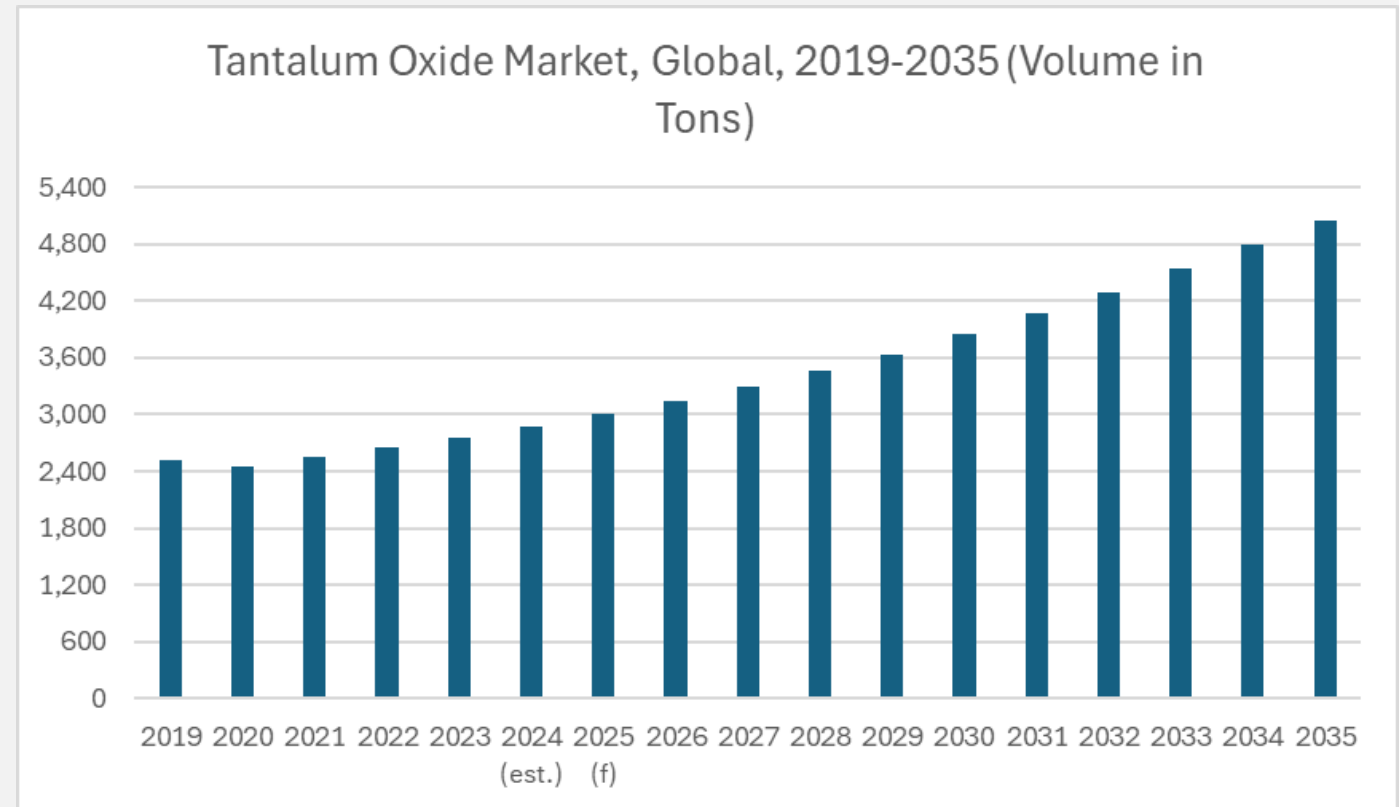


Source: Mordor Intelligence

# Tantalum Market Overview – Supply, Demand & Price (2025–2035)

## Tantalum Market to Remain Tight as Demand Outpaces Fragile Supply Chain

- Global demand for tantalum is projected to grow steadily due to electronics, EVs, aerospace, and defense.
- Supply remains constrained by political instability in key mining regions (especially the DRC and Rwanda), slow project development, and regulatory bottlenecks.
- New supply from projects like Kanyika is critical but not enough to fully close the gap.
- The market is expected to remain tight through 2035.

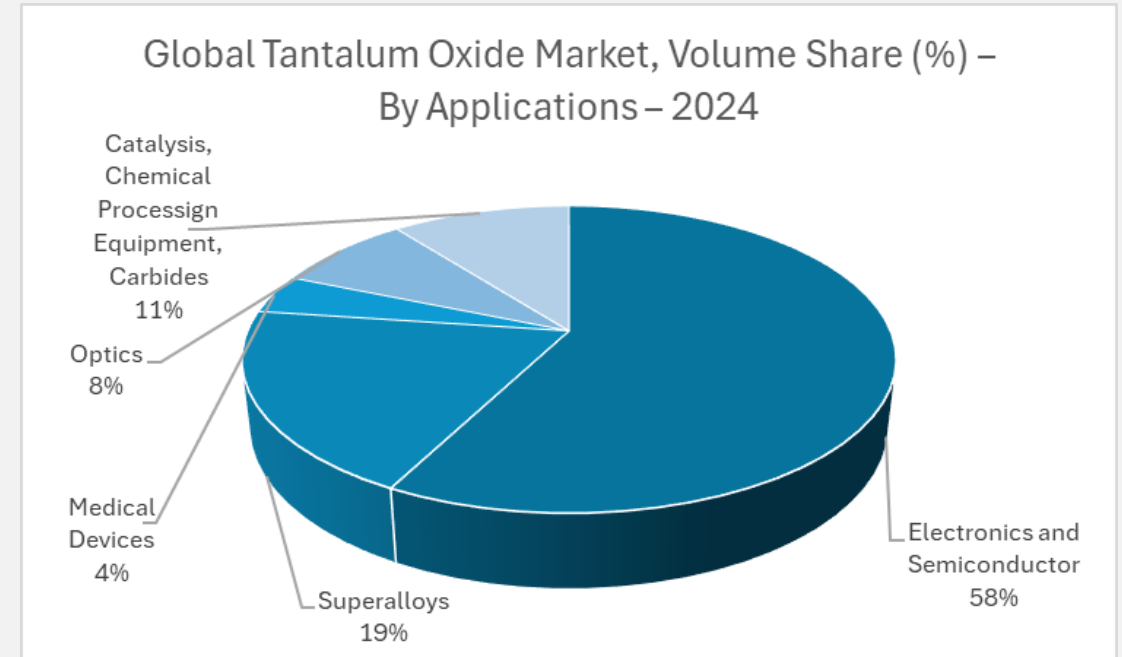


Source: Mordor Intelligence

# Global Tantalum Oxide Market, Volume Share (%) – By Applications – 2024

## High-Purity Tantalum: Application-Driven Demand Growth

- Electronics & Semiconductors (~58%) Dominates global demand, driven by high-reliability capacitors used in smartphones, laptops, medical devices, and telecom infrastructure. Growth is fueled by 5G, AI, and automotive electronics.
- Superalloys (~19%): Used in aerospace turbines, jet engines, and nuclear components for extreme temperature and corrosion resistance. Demand is rising with new aircraft builds, defense modernization, and space programs.
- Optics (~8%): Enables high-refractive index glass for cameras, AR/VR, laser optics, and night vision systems. Strong demand from defense, imaging, and next-gen meta-optic applications.
- Other Industrial Applications (~10%): Includes catalysts, additive manufacturing, chemical equipment, and ballistic armor. Tantalum's hardness, conductivity, and stability make it valuable in hydrogen production and advanced coatings.
- Medical Devices (~4%): Highly valued for biocompatibility in implants such as pacemakers, orthopedic components, and cranial plates. Growth is supported by aging populations and surgical innovation.

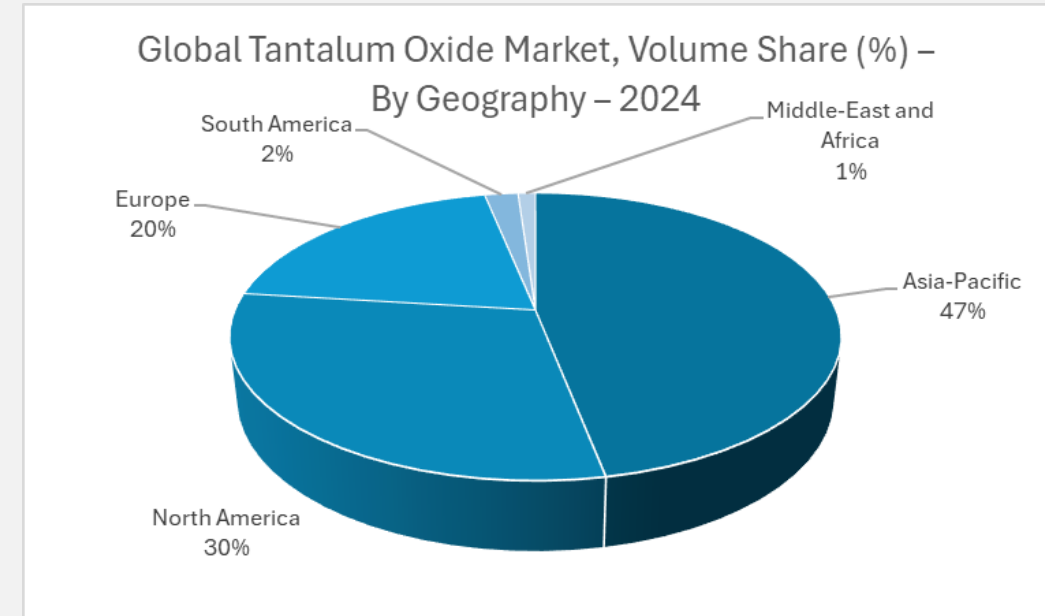


Source: Mordor Intelligence

# Global Tantalum Oxide Market, Volume Share (%) – By Geography – 2024

How Leading Economies Are Powering Tantalum Demand

- China: Dominates global tantalum capacitor production; electronics, defense, and optical advancements.
- India: Electronics manufacturing boom, medical device incentives, and new tantalum deposits are fueling strong growth.
- Japan: Home to top capacitor makers and medical tech leaders; rising demand from optics and aerospace boosts the market.
- South Korea: 5G, aerospace, and medical innovations are increasing tantalum demand across semiconductors and superalloys.
- United States: Growth driven by investments in semiconductors, defense, and medical tech; strong domestic demand expected.
- Mexico: Electronics, medical devices, and fiber optics sectors are accelerating tantalum demand, especially in northern clusters.
- Germany: Aiming to become a semiconductor hub; strong growth in photonics and medical sectors drive tantalum demand.
- United Kingdom: A mature market supported by electronics and R&D; moderate but steady growth expected.
- Italy: Optics and industrial electronics are key drivers; growing demand in medical and defense applications.
- France: Expanding aerospace and healthcare sectors contribute to rising tantalum oxide demand.



Source: Mordor Intelligence



# Globe

## Metals & Mining

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Market presentation - June 2025

ABN 33 114 400 609

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