

Annual Report

GLOBAL STRUGGLE WITH CHINA'S MARKET POWER

What key events influenced the prices and availability of technology metals, rare earths, and precious metals in 2024? Which raw materials emerged as safe havens, and how do our experts assess the year's trends and developments? Discover the insights in our comprehensive year-in-review.



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Economic and political developments often directly impact the prices and availability of raw materials—a trend that was clearly visible over the past year. But which specific events shaped the markets for technology metals, rare earths, and precious metals? Which raw materials stood out as safe havens during times of crisis, and how do our experts assess these trends? Discover the answers in our in-depth annual report.

Geopolitical tensions intensified significantly over the past year, particularly in the relationship between China and the United States. The two countries have been locked in a trade dispute since early 2018, which began with tariffs on Chinese goods like solar panels and household appliances and has since expanded to encompass computer chips and raw material supplies. The most recent development is China's export ban on gallium, germanium, and antimony, explicitly targeting the U.S. This move has also starkly underscored the global reliance on China for mining and processing many critical resources, highlighting the urgent need for secure and diversified supply chains.

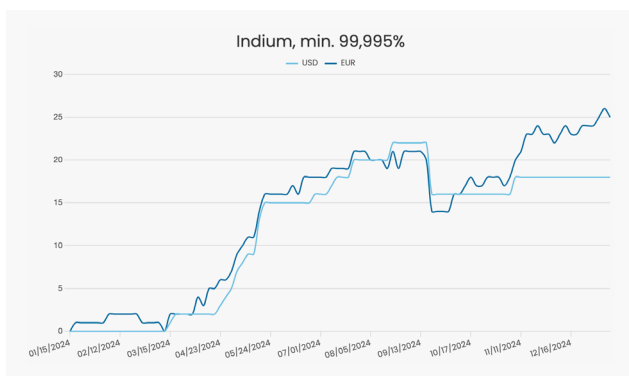
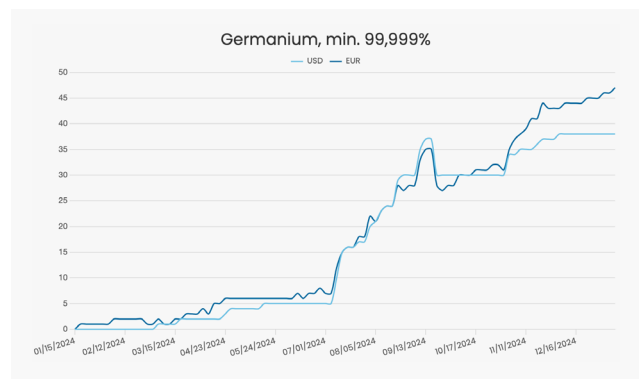
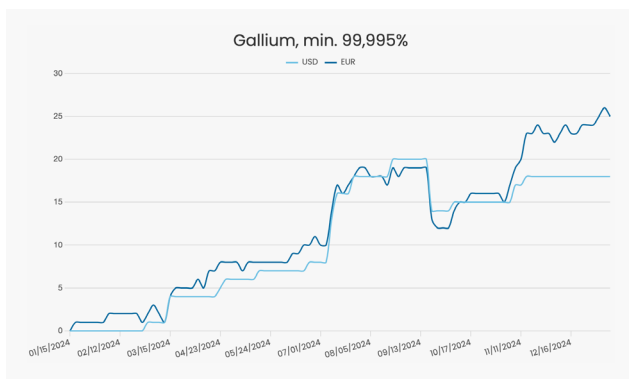
In Europe, the reliability of raw material supplies has become a central political focus. This spring, the EU introduced the Critical Raw Materials Act, a landmark initiative to bolster domestic mining and establish independent value chains for dozens of vital resources deemed essential.

Efforts to diversify supply chains have also gained momentum in other parts of the world. Emerging mining and production hubs in Asia and Latin America are seeking to establish themselves, while high-tech industries are forging strategic partnerships with resource-rich nations. Nevertheless, the production of many critical resources essential to modern industries remains highly concentrated, leaving supply chains vulnerable.

Discover how technology metals, rare earths, and precious metals have performed this year, and explore our experts' insights into these key developments in our comprehensive annual report.

Technology Metals: Gallium and Germanium in Focus

Among technology metals, gallium and germanium once again drew considerable attention. This summer marked the anniversary of the export restrictions imposed by China, the leading producer. While exports initially came to a standstill, they have largely recovered since then. However, exports of germanium have not yet reached pre-restriction levels. Likely driven by reduced market availability combined with increasing demand, germanium prices have surged significantly since the summer.



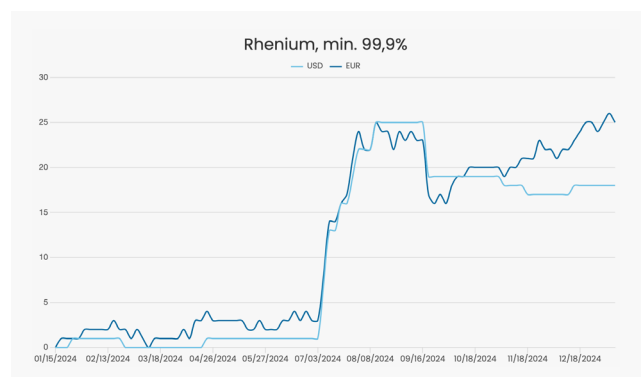
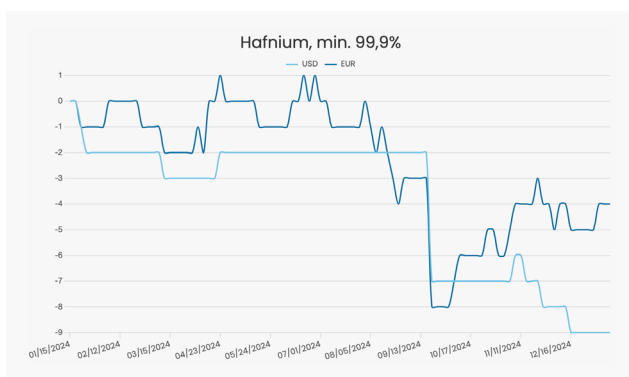
„Export restrictions on Chinese gallium and germanium have been in place for over a year, requiring companies to obtain export licenses. The impact of these measures continued to be felt in 2024, as buyers could no longer count on a consistent and reliable supply of raw materials, creating significant uncertainty in the markets. There are no indications that these conditions will ease in 2025.“



Matthias R uth,
Founder and Managing Director of TRADIUM

In early December, China once again made headlines with new export restrictions. The ban on gallium, germanium, and antimony exports to the U.S. marks the latest escalation in the ongoing trade conflict between the two nations. These restrictions also extend to shipments through third-party countries, which will likely tighten supply chains further.

The year was equally significant for other technology metals. For instance, rhenium hit an eight-year high in the summer, while hafnium prices remained strong in 2024 after reaching record levels two years ago. Both metals are prized for their heat- and corrosion-resistance, making them essential materials in the aerospace industry, where they are used in turbine engine alloys. Demand in this sector has grown in 2024, with projections for further increases. Aircraft manufacturers Airbus and Boeing expect air traffic and the number of aircraft to double over the next 20 years.



„Hafnium continued to be in high demand in 2024 due to its limited availability, particularly in the semiconductor and aerospace industries. As a result, prices remained elevated throughout the year. Regarding rhenium, the market saw significant movement in the summer due to large-scale stockpiling by the industry. While supply and demand have now stabilized, prices remain substantially higher than at the start of the year.“



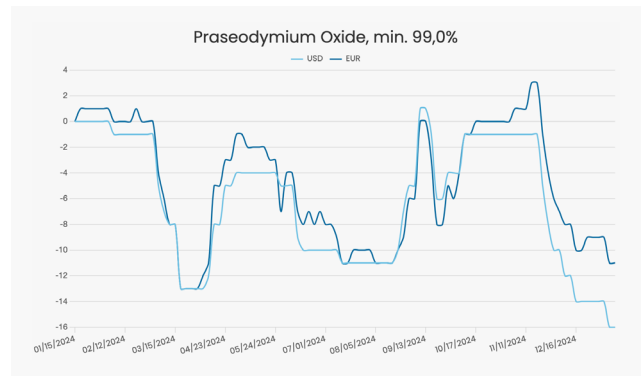
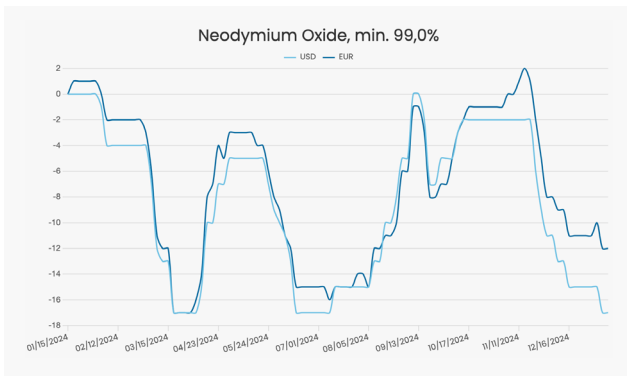
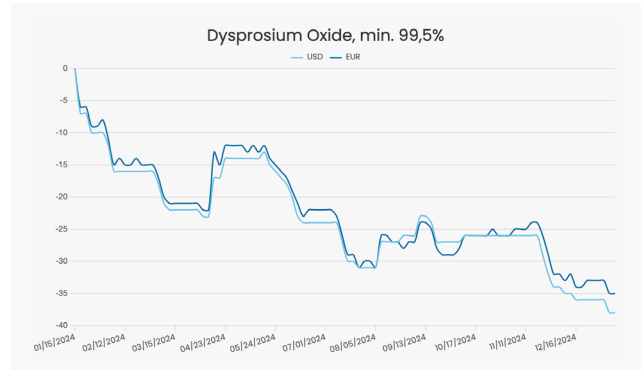
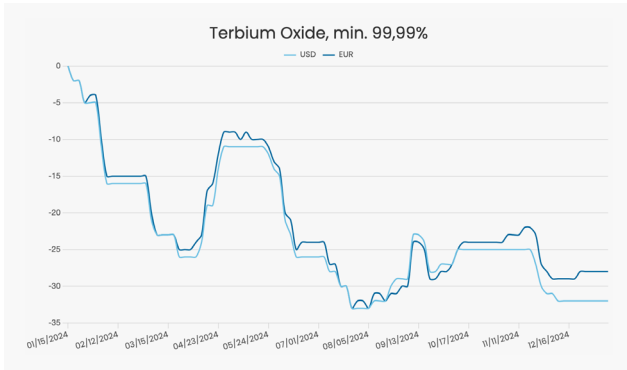
Frank Meier,
Senior Manager Minor Metals and REE

Rare Earths: China's Market Dominance Remains Unchallenged

According to a 2022 forecast by the European Commission, rare earths will soon surpass oil and gas in importance. This assessment remains largely unchanged, as these materials are crucial for both wind energy and electric mobility. While the adoption of zero-emission vehicles has fallen short of expectations in many countries (including Germany), renewable energy expansion is driven by wind power and photovoltaics. Offshore wind farms, in particular, are expected to significantly increase demand for rare earth magnets, as projections by the International Energy Agency (IEA) indicate. In the coming years, robotics could further fuel this demand as manufacturing processes become increasingly automated.

As the demand for rare earths is set to rise, China's near-monopoly on these resources is becoming more intense, prompting calls from both industry and governments for supply chain diversification. However, only two companies in the Western hemisphere—MP Materials in the U.S. and Lynas in Australia—specialize in rare earth mining. However, neither of these companies can cover all stages of the complex value chain, from mining to producing finished magnets. For the foreseeable future, China remains the dominant player in this market, with its share of global permanent magnet production capacity estimated to be over 90 percent. This past October, China reaffirmed that its wealth of resources and expertise is under state control.

Despite its vast resource base, Beijing faces challenges, as it imports certain rare earths, such as dysprosium and terbium, for domestic refining. About half of these and other heavy rare earths are sourced from neighboring Myanmar, a country embroiled in civil conflict that could disrupt exports with far-reaching global implications. As a result, China is increasingly focusing on diversifying its supply of critical resources. Investment in mining and infrastructure projects worldwide has been rising steadily in recent years.



„In 2024, rare earth prices continued to fall, with some estimates indicating they were even below production costs. This was largely due to an oversupply from China, as global demand for these resources lagged behind expectations. Despite this, rare earths remain crucial for technologies like electric mobility and renewable energy. In the coming year, the ongoing U.S.-China conflict could play a key role in shaping both prices and supply security.“



Jan Giese,
Senior Manager Minor Metals and Rare Earth Elements

Precious Metals: Gold Maintains Record-Breaking Streak

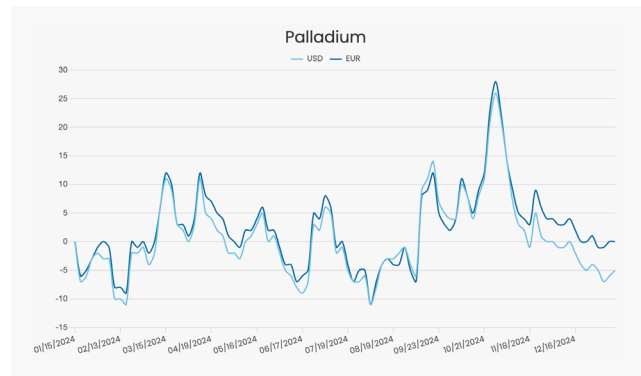
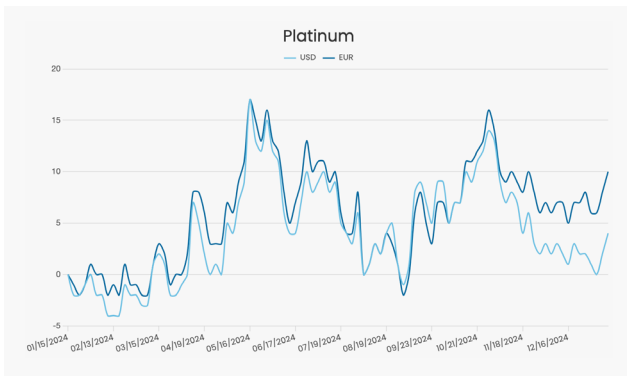
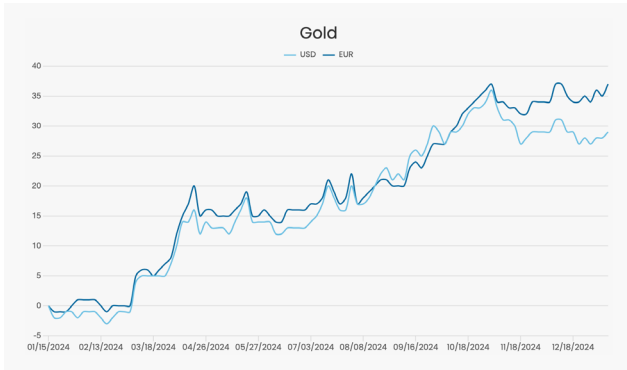
Gold prices reached several all-time highs this year. In April, rising tensions in the Middle East pushed prices higher, while the most recent record in October was driven by uncertainties surrounding the U.S. presidential election. With the Democratic and Republican candidates in a tight race until Election Day, the future direction of U.S. economic policy remained unclear for an extended period.

Silver also benefited in 2024. In addition to the geopolitical tensions that, like gold, made silver an attractive safe haven, industrial demand surged. Silver is widely used in photovoltaic systems, and as the global shift to renewable energy continues, its demand is expected to grow. Experts predict that the gold rally will carry over into 2025, although it may not reach the same heights as in 2024. The key factor will be financial institutions' monetary policies, which significantly influenced gold prices last year. While rising interest rates tend to diminish gold's appeal, the precious metal often becomes a favored alternative to interest-bearing investments in times of low rates.

The silver market has been in deficit for several years, and experts expect this trend to continue, with a positive outlook for prices in 2025.

Meanwhile, platinum metals have gained from the slower-than-expected transition to electric mobility. These metals are essential for catalytic converters used in emissions control. A growing trend toward hybrid vehicles has been seen in the automotive sector, reflected in rising sales figures. This year also saw increased demand from the jewelry industry, but especially from the hydrogen production sector, where platinum group metals are used in electrolyzers to split water into hydrogen and oxygen.

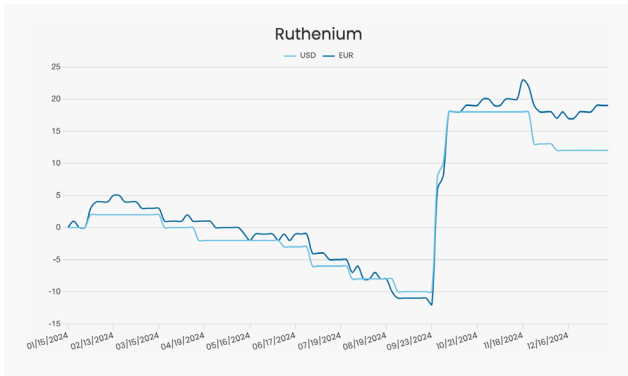
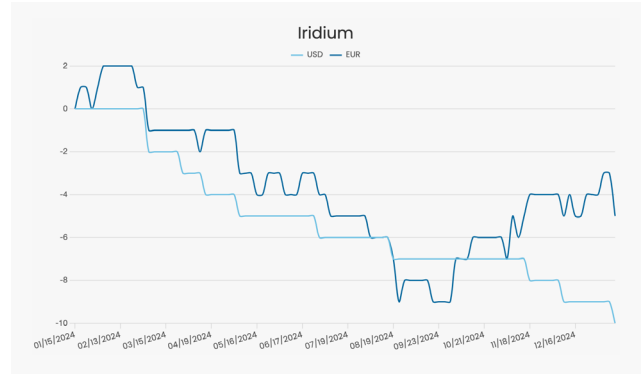
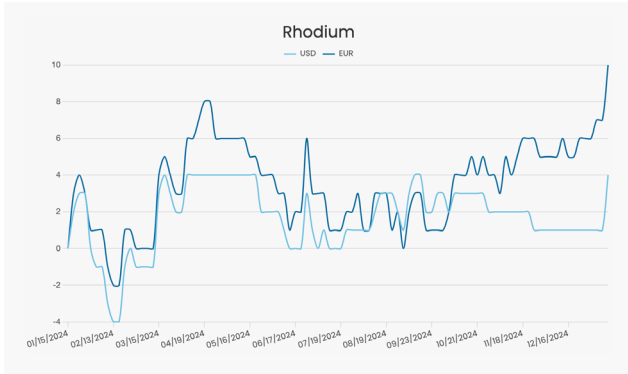
As in 2024, a platinum deficit is expected in 2025, as mining production is unable to keep up with demand. A significant uncertainty factor in Europe remains the final decision on banning the sale of vehicles with internal combustion engines. Discussions about reversing this ban have grown louder, especially ahead of the European elections in the spring.



„Gold has once again demonstrated, with its record-high prices, that it remains the ultimate safe haven in times of crisis—investors, both private and institutional, understand its enduring appeal. Silver has also had an outstanding year. Meanwhile, the outlook for platinum group metals remains intriguing: Their continued use in automotive manufacturing, particularly in internal combustion engines, is sustaining high demand. We may need to reassess the assumption that combustion engines will vanish from the roads as quickly as initially anticipated.“



Philipp Götzl-Mamba,
Senior Manager Precious Metals



TRADIUM in the Media 2024

TRADIUM's expertise continued to be highly sought after internationally throughout the past year, especially when providing insightful commentary on current events in the critical raw materials sector and offering precise, comprehensible analysis. Below is a selection of media features:

Deutschlandfunk:

["Firmenportrait: Schatzkammer für Rohstoffe und seltene Erden – TRADIUM"](#)

(„Company Profile: A Treasure Trove of Raw Materials and Rare Earths – Tradium“)

Einkaufsmanager:

["5 Experteneinschätzungen zu den Rohstoffmärkten 2024"](#)

(„Expert Insights on the Commodities Markets in 2024“)

Financial Times:

<https://www.ft.com/content/9cd56880-4360-4e11-8c22-e810d3787e88> (Paywall)

Germany Trade and Invest:

["Bürgerkrieg in Myanmar gefährdet Versorgung mit Seltenen Erden"](#)

(„Civil War in Myanmar Threatens Rare Earth Supply“)

Handelsblatt:

["Rohstoffe kommen aus immer weniger Ländern"](#)

(„Raw Materials Sourced from an Increasingly Limited Number of Countries“)

[„Versorgungsprobleme: Europas Rohstoff-Dilemma“](#)

(„Supply Challenges: Europe's Raw Material Dilemma“)

[„Gallium und Germanium: China stoppt Ausfuhr von Halbleiter-Rohstoffen“](#)

(„China Halts Export of Semiconductor Raw Materials“)

Sat1, TV report: ["Lager für seltene Rohstoffe"](#)

(„Storage for Rare Raw Materials“)

Springer Professional: [„Bereits vor 30 Jahren erkannte China das Rohstoff-Potenzial“](#)

(„China Recognized the Resource Potential 30 Years Ago“)

VDI Nachrichten: ["Seltene Erden hinter Stahlbeton"](#)

(„Rare Earths Behind Reinforced Concrete“)