

## SOVEREIGN JOINS UK CRITICAL MINERALS ASSOCIATION

### TITANIUM METAL MARKETS CONTINUE TO SEE TIGHTENING SUPPLY

- Sovereign has become a member of the UK's Critical Minerals Association which works to increase the self-sufficiency of supply chains for the UK's industrial strategy
- Discussions with governmental groups are ongoing as Sovereign's Chairman attended the UK Government's Critical Minerals Strategy Roundtable
- Sovereign's Kasiya project in Malawi will produce rutile - the purest natural source of titanium, and natural graphite as a by-product - both designated Critical Raw Materials for the US and the EU
- Importance of robust supply chains and security of supply for titanium metal and feedstocks highlighted by recent instability in Eastern Europe
- Rutile market fundamentals including current and forecast pricing remaining very strong

Sovereign Metals Limited (ASX:SVM; AIM:SVML) (**the Company** or **Sovereign**) is pleased to announce that it has become a member of the UK's Critical Minerals Association (**CMA**). Sovereign's Kasiya Rutile Project (**Kasiya**) is the world's largest undeveloped rutile deposit, the purest natural form of titanium, as well as containing a natural graphite by-product. Titanium and natural graphite have already been identified as Critical Raw Materials by the United States, the European Union and Australia.

Recent developments in Eastern Europe have highlighted the importance of robust supply chains and security of supply for critical raw materials. Sovereign's membership of the CMA is part of the Company's ambition of supporting sustainable, socially responsible, and environmentally beneficial supply of natural rutile and natural graphite. With an urgency to identify new sources of critical minerals, the CMA's objectives include increasing the self-sufficiency of supply chains for the UK's low-carbon, sustainability-driven industrial strategy. To this end, the CMA will provide a direct line of communication between Industry and Government.

Last week, Sovereign's Chairman Ben Stoikovich attended the Critical Minerals Strategy Roundtable held by the UK's Department for Business, Energy and Industrial Strategy. Sovereign's attendance follows a number of discussions between the Company and the UK's Department of International Trade focussing on Sovereign's potential to supply high purity titanium feedstocks and natural graphite as critical raw materials required by the UK.

**Sovereign's Chairman Ben Stoikovich commented:** *"The world's economies are rightly focusing on developing sustainable and secure supply chains of raw materials deemed critical based on their economic, environmental, and social importance. In this regard, Sovereign's Kasiya project in Malawi is well positioned to potentially supply two critical raw materials to economies across the globe over several decades."*

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## TITANIUM IS A CRITICAL RAW MATERIAL

### NATURAL RUTILE IS THE PUREST NATURAL SOURCE OF TITANIUM

Natural rutile is the purest, highest grade natural form of titanium dioxide ( $\text{TiO}_2$ ) and is the preferred feedstock in manufacturing titanium pigment and producing titanium metal. Titanium pigments are used in paints, coatings, and plastics. Titanium is also used in specialty applications including welding, aerospace, and military.

#### Robust Price Environment

The rutile market fundamentals are robust with current and forecast pricing remaining very strong. In 2021, the market rebounded firmly with pigment plant utilisation rates returning to pre-pandemic levels. Major producers have noted that very strong demand in the welding market is outstripping supply.

Natural rutile supply is tight with limited new projects coming online in the short to medium term. Iluka Resources Limited (Iluka), one of the world's largest producers of rutile announced a **contracted rutile price of US\$1,351 per tonne**<sup>1</sup> for the quarter ending 31 December 2021. Per Iluka, pigment price increases announced for Q1 2022 indicate that prices are now at ten-year highs, with increases of US\$150-280 per tonne being announced<sup>2</sup>. Price increases vary by region, with European high-grade chloride pigment pricing now at record levels as producers attempt to cover increased energy and raw material cost inflation.

Bagged rutile sales into the welding and other non-pigment sectors have also achieved significantly better pricing, often with **25%+ premiums to bulk rutile pricing**<sup>3</sup>.

Consequently, market leading independent consulting and publishing company, TZ Minerals International (TZMI), expects bagged rutile sales to fetch US\$500-600 per tonne price premiums over the bulk market in 2022. TZMI understands that some bagged rutile sales for Q1 of 2022 were agreed at close to **US\$2,100-2,200 per tonne CIF**. TZMI also expects bagged rutile sales to lead pricing growth because the welding end-use sector has limited alternatives to rutile feedstock input.

#### Recent Developments - Titanium Metal Markets

Global production of titanium metals is concentrated across Asia and Eastern Europe, with China and Russia accounting for around 70% of global supply<sup>3</sup>. Titanium metal is required for advanced industries such as electric vehicles, military, and aerospace applications. Recent developments in Eastern Europe have highlighted the importance of robust supply chains for critical raw materials.

In March 2022, Reuters noted that the potential for disruptions to Russian titanium metal supplies has thrown a spotlight on the metal, particularly for the aerospace industry. Russia's VSMPO-AVISMA Corporation (VSMPO-AVISMA), the world's largest titanium metal producer, supplies 25% of global titanium metal, in particular for high-end aerospace applications. According to Reuters, Airbus relies on Russia for half its titanium needs, while a U.S. industry source said VSMPO-AVISMA provided a third of Boeing's requirements.<sup>5</sup>

Per London based broker, SP Angel Corporate Finance LLP: *"The invasion of Ukraine is likely to redraw the map on titanium supply ... the sanctioning of metal and concentrates by the west should lead to consumers seeking new western suppliers."*<sup>6</sup>

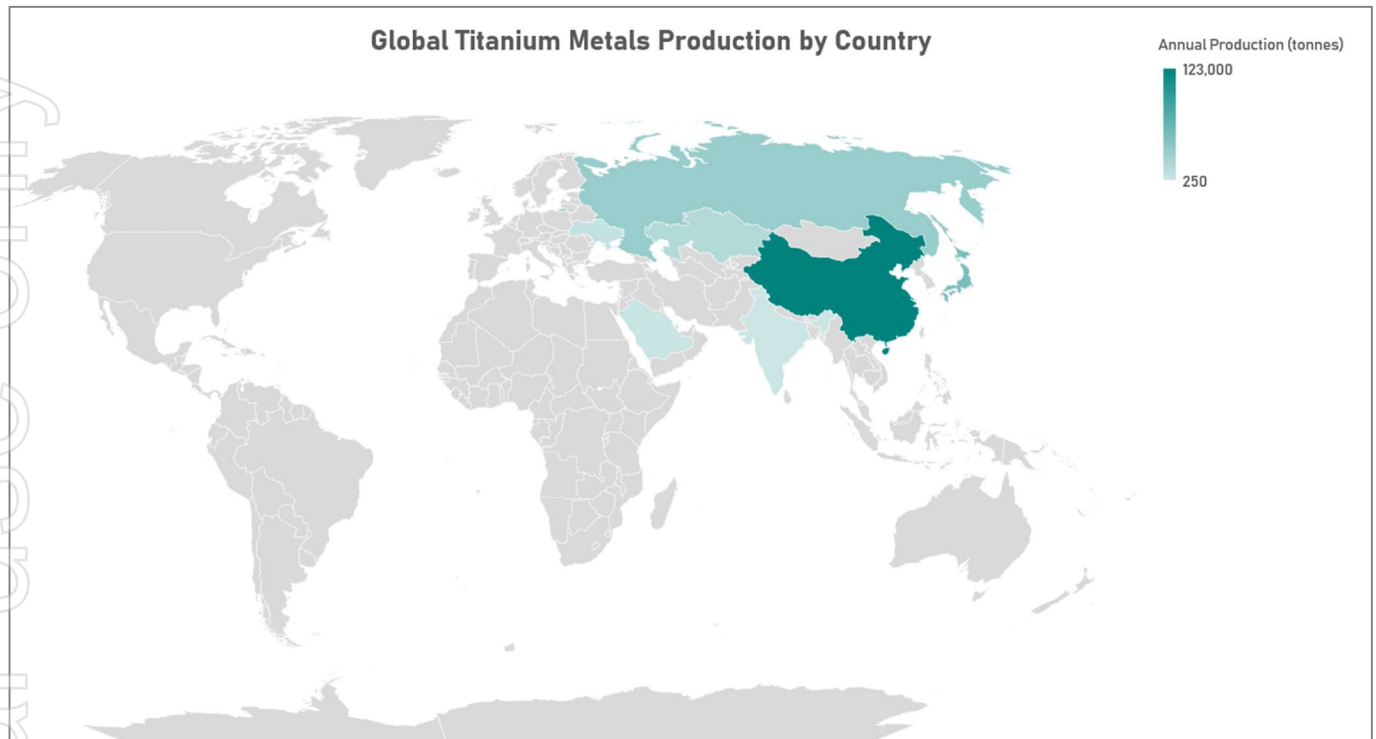
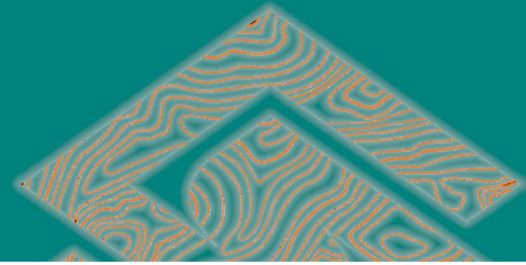


Figure 1: Titanium Metal Production 2020 by country  
(Source: USGS)

## Natural Rutile Uses and Supply

### Pigment

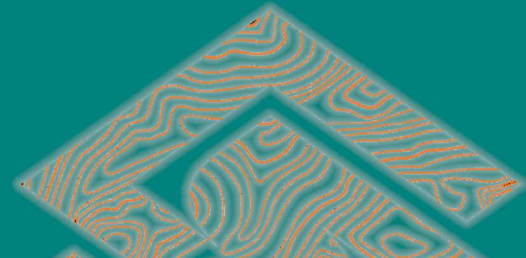
Titanium dioxide is a bright white substance used primarily as a vivid colourant in a wide array of common products. Prized for its ultra-white colour, ability to scatter light and UV-resistance,  $\text{TiO}_2$  is a popular ingredient, appearing in hundreds of everyday products, bringing significant benefits to economies and overall quality of life. Its high refractive index means that, as a pigment, it is able to scatter visible light. This results in an opaque colour and creates a bright, reflective quality when applied to a surface or incorporated into a product.

In the EU and UK, applications for  $\text{TiO}_2$  include paints, plastics, paper, pharmaceuticals, sunscreen and food.

As a white pigment,  $\text{TiO}_2$  is one of the most important raw materials for paints and coatings. The DIY market for  $\text{TiO}_2$ -containing paints is €3.5 billion alone<sup>7</sup>. Until laws changed in the 1920s, most commercial paint manufacturers used highly toxic white lead as a whitener.  $\text{TiO}_2$  is now one of the most common pigments in global use and is the basis for most paint colours. It is also found in coatings and plastics. These uses of titanium dioxide account for more than 50% of its global usage.

### Titanium Metal

Titanium metal is an essential component in the aerospace, military, medical and construction sectors with strong growth coming from the high-performance, clean-tech, and technology industries. Titanium metal's combination of corrosion resistance, excellent weight-to-strength ratio, and very high melting point is not found with other metals.



## Welding

Natural rutile is one of the most important constituents of welding flux, responsible primarily for slag forming properties. There are very limited alternative raw materials to replace rutile in welding applications.

### A Genuinely Scarce Commodity

The global titanium feedstock market supply is currently over 7.7Mt of titanium dioxide with the majority of this been consumed by the pigment industry. Natural rutile's high purity (~95%  $TiO_2$ ) classifies it as a high-grade titanium feedstock yet only accounted for 0.5Mt of total supply in 2020.<sup>8</sup>

Natural rutile is a genuinely scarce commodity with no other large rutile dominant deposits having been discovered in the last half century.

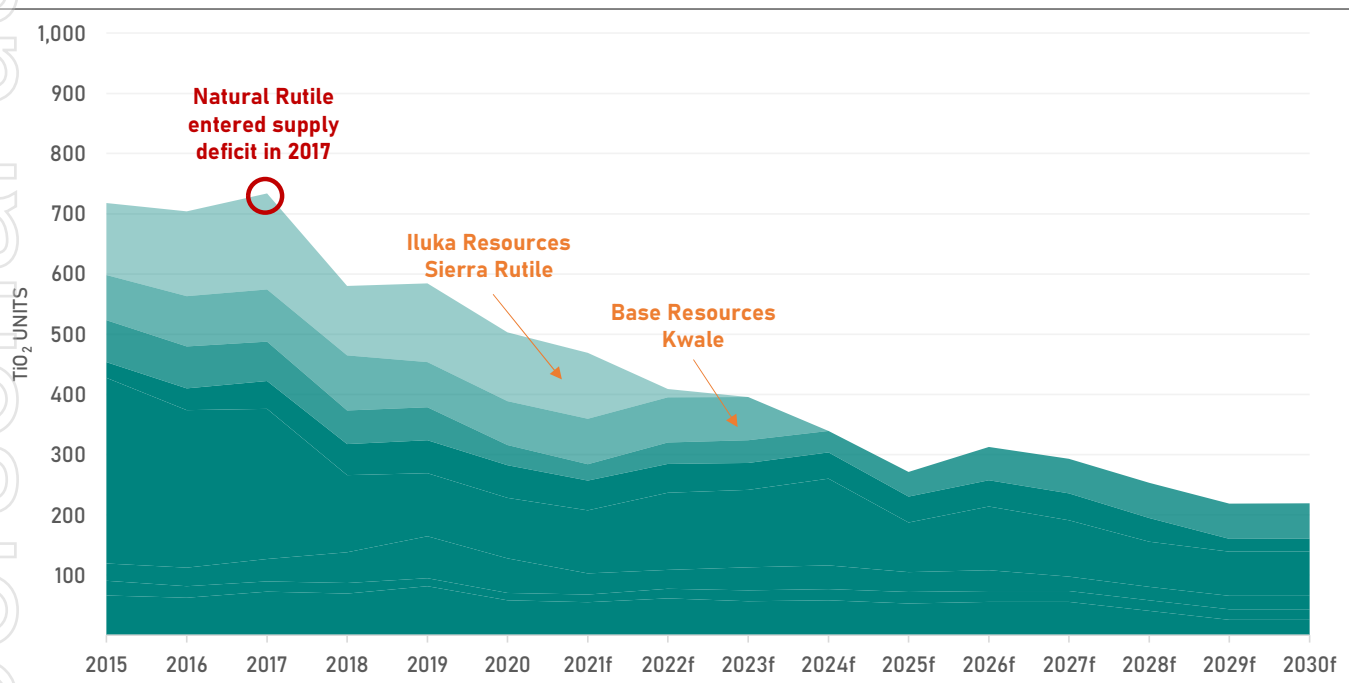
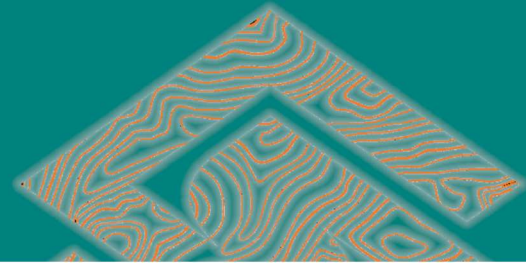


Figure 2: Expected global natural rutile supply to 2030  
(Source: TZMI)

Supply of natural rutile from current sources is in decline as several operations' reserves are depleting concurrently with declining ore grades. These include Iluka's Sierra Rutile and Base Resources' Kwale operations in Kenya. Additionally, there are limited new deposits forecast to come online, and hence supply of natural rutile is likely to remain in structural deficit.



## About Sovereign Metals

Sovereign Metals Limited (ASX:SVM & AIM:SVML) is an ASX and AIM-listed company focused on the exploration and development of its Kasiya rutile project in Malawi.

Kasiya is a strategic and globally significant natural rutile deposit with substantial additional resource growth expected. Kasiya's Mineral Resource Estimate is 605Mt at 0.98% rutile (0.7% cut-off, indicated + inferred).

Natural rutile is the purest, highest-grade natural form of titanium dioxide (TiO<sub>2</sub>) and is the preferred feedstock in manufacturing titanium pigment and producing titanium metal.

The Company completed an initial Scoping Study in December 2021 which confirms Kasiya as a globally significant natural rutile project. It is the largest undeveloped rutile deposit in the world and therefore is highly strategic in a market characterised by extreme supply deficit. The initial Scoping Study developed the concept for a multi-decade mine providing a stable supply of a highly sought-after rutile (TiO<sub>2</sub>) and graphite whilst contributing significantly to the economy of Malawi.

### Sources

1. Iluka Resources Limited – Quarterly Report period ended 31 December 2021
2. Iluka Resources Limited – 2021 Full Year Results Presentation
3. TZMI
4. U.S. Geological Survey (USGS)
5. Reuters: <https://www.reuters.com/business/importance-russian-titanium-global-industry-2022-03-01/>
6. SP Angel contribution to Proactive Investors' "Todays Market View" dated 25 February 2022
7. Titanium Dioxide Manufacturers Association
8. TZMI

### Forward Looking Statement

This release may include forward-looking statements, which may be identified by words such as "expects", "anticipates", "believes", "projects", "plans", and similar expressions. These forward-looking statements are based on Sovereign's expectations and beliefs concerning future events. Forward looking statements are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of Sovereign, which could cause actual results to differ materially from such statements. There can be no assurance that forward-looking statements will prove to be correct. Sovereign makes no undertaking to subsequently update or revise the forward-looking statements made in this release, to reflect the circumstances or events after the date of that release.

### Competent Persons Statement

The information in this announcement that relates to Sovereign's Mineral Resource Estimate is extracted from the ASX announcement dated 16th December 2021 which is available to view at Sovereign's website at [www.sovereignmetals.com.au](http://www.sovereignmetals.com.au). Sovereign confirms that a) it is not aware of any new information or data that materially affects the information included in the ASX announcement; b) all material assumptions included in the ASX announcement continue to apply and have not materially changed; and c) the form and context in which the relevant Competent Persons' findings are presented in this report have not been materially changed from the ASX announcement.

This ASX Announcement has been approved and authorised for release by the Company's Managing Director, Dr Julian Stephens.