

Fortuna Metals targets rutile and graphite production by 2029

By Nelendhre Moodley

ASX-listed Fortuna Metals is fast-tracking progress on its Mkanda rutile and graphite project in Malawi, with the company pushing for production within a three-year window, which is far more aggressive than traditional timelines, Fortuna Metals CEO, Tom Langley, tells *Modern Mining* in an exclusive interview.



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Recent developments on the project, which was acquired in September last year, include the maiden resource of 298 mt at 0.87% rutile and 1.19% graphite (TGC), production of a high-quality Rutile product of +96% TiO₂ from the bulk sample, completion of infill resource drilling and commencement of a 5 000 m ~ 20 m deep air-core drilling to test the deeper rutile mineralisation potential, of which the results are expected by year-end. Fortuna Metals is working towards first production by 2029.

As a testament to the attractiveness of the asset, the emerging miner recently inked a strategic investment and partnership deal with WNDR, a USA based investment firm.

WNDR is a Silicon Valley-based, technology-focused investment firm with over US\$3 billion in assets under management. The firm has a growing interest in the critical minerals – including titanium – that underpin the next generation of AI, robotics, defence, and advanced technology applications.

The investment by WNDR comprises A\$8.6 million for 19% of the company. Beyond American financial muscle, WNDR, offers exposure within the US titanium, graphite and rare earth manufacturers and supply chain.

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“Having a major US-focused cornerstone investor is strategically important for us.

This investment validates our strategy in Malawi and provides us with significant runway for continued development of the company’s Mkanda and Kampini rutile, graphite and rare earth projects. We are particularly encouraged that investors of the calibre of WNDR have recognised the significance of these projects and their potential value to the broader US market,” says Langley.

Beyond providing capital, WNDR brings significant strategic value through their network and ability to help position the project with downstream titanium industries.

“That includes potential connections across sectors such as aerospace, where companies like Boeing are significant titanium consumers, as well as defence applications, where titanium plays a critical role. WNDR also provides exposure to emerging technologies, including humanoid robotics. For example, they were early investors in AI company Cursor, which recently sold for US\$60bn to Space X. Our immediate priority is to unlock the project’s value by demonstrating the scale and quality of the resource. With our maiden resource estimate in hand, we have a much stronger



Humanoids and robotics are potentially the most exciting new long-term growth option for titanium.

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Mkanda rutile and graphite project

Although Fortuna Metals also has assets in Australia, its focus remains largely on advancing its flagship Mkanda project, having already allocated more than 90% of funds to its development.

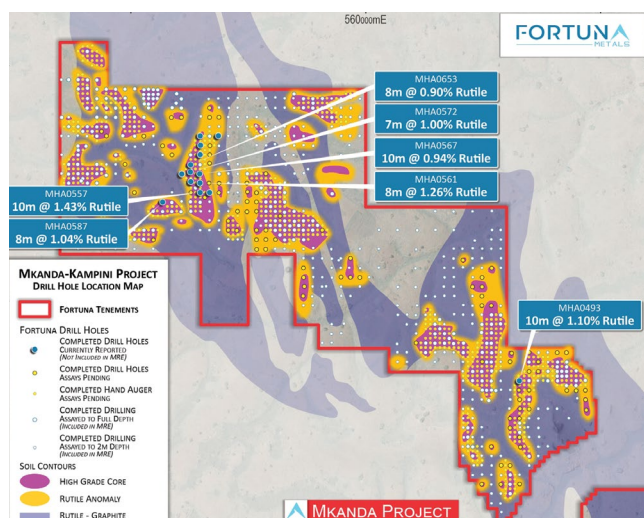
Located in Malawi’s Lilongwe District, about 30 km west of the capital, the Mkanda project covers a highly prospective 658 km² corridor.

Importantly, the site is positioned directly along the same geological trend immediately south of Sovereign Metals tier-one Kasiya project, which is considered the world’s largest known rutile and second-largest flake graphite deposit. Kasiya is earmarked to process 12 mtpa of ore in Stage 1, eventually expanding to 24 mtpa.

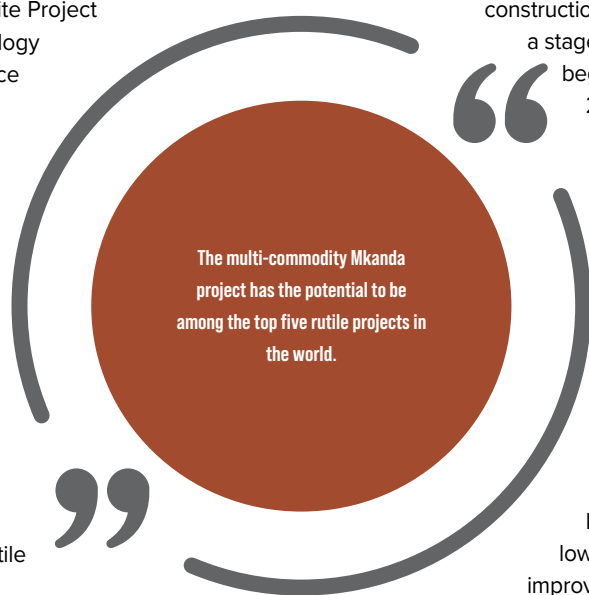
“We believe our project represents the southern continuation of the Kasiya Rutile-Graphite Project mineral system. It shares the same geology and the same mineralised host sequence with our northern tenement boundary directly adjoining the Kasiya tenure. The mineralisation extends uninterrupted to the railway corridor, roughly 11 kilometres from our northern boundary. Given the continuity of the geological setting and the results we have seen so far, we see strong potential that our project forms part of the same regional mineralised system, which is highly encouraging from an exploration and development perspective,” explains Langley.

So, can Fortuna Metals be the first rutile production in Malawi?

With a market capitalisation of \$35–40 million and \$12.8 million in cash, Langley says the company is well funded to advance its flagship asset up the value chain. Unlike Sovereign Metals, which is advancing its large-scale



Kasiya Project toward commercial production in 2030 after completing development, permitting and a three-year construction phase, Fortuna Metals is pursuing a staged development strategy. It plans to begin with small-scale production in 2029 before ramping up to full-scale operations.



“We believe optimising the project’s initial scale will provide a significant competitive advantage. Rather than pursuing a large, capital-intensive development from the outset, our strategy is to build a right-sized operation that is easier to finance, simpler to execute and capable of generating strong cash flow. By keeping upfront capital requirements low, we reduce financing risk and improve the prospects for timely project delivery. Moreover, by establishing a profitable operation first and expanding capacity over time, we can minimise execution risk while creating a clear pathway for long-term growth. Successful project development is about more



Hand Auger Drill activities being undertaken by the team.

than producing an attractive financial model—it's about delivering a project that can be financed, built and operated successfully.”

The multi-commodity Mkanda project has the potential to be among the top five rutile projects in the world, coming in as a low-cost producer with graphite as a valuable byproduct coupled with zircon and rare-earths upside.

“As demand continues to grow for battery materials, significant investment is being made globally in downstream anode and graphite processing capacity. Much of that capacity currently relies on higher-cost hard-rock graphite feedstock, whereas for Mkanda graphite is a by-product that offers a meaningful cost advantage. In addition, the mineral assemblage also contains zircon and monazite, and that is something we are completing further work on to provide further potential value streams and enhancing the overall economics of the project.”

Progress to date

Since acquiring the Mkanda and Kampini assets last year, the company has embarked on an aggressive drilling campaign, with an air-core drilling programme commenced in early July.

“We completed our 650 infill hand-auger drilling programme in June with the next phase being air-core drilling. This is a critical step because it allows us to test the mineralisation below the 10-metre depth reached by the hand-auger programme. Our maiden Mineral Resource Estimate, released in mid-July, is based on an average depth of only around eight metres. Even at that shallow depth, the project is ranked top six in the world by contained rutile.”

The air-core drilling programme will test the deposit to depths of around 20 metres, similar to the average depth of the nearby Kasiya Rutile-Graphite Project.

“If the mineralisation continues as expected, there is potential

for the resource to increase significantly, making this drilling programme a major value catalyst. We will be releasing assay results progressively throughout the remainder of the year.”

Discussing the results from its recent bulk sample test work in Johannesburg, Langley says the project produced a clean, high-grade rutile product containing +96% TiO₂ with low impurities.

“In parallel, we have a conceptual study underway targeting completion by the end of August. This study will define the preliminary CAPEX and OPEX estimates, as well as the proposed plant layout and design. We are also commencing a pilot plant programme to further validate the process. By August, we expect to have a comprehensive dataset that will significantly advance the project, support key development decisions, and accelerate the next phase of development.”

According to Langley, the Mkanda mineralisation is extremely favourable as the deposit begins at surface and is shallow, making it highly amenable to rapid resource delineation.

“This allows us to define the resource quickly and efficiently through shallow hand auger and aircore drilling. This combination of shallow mineralisation and a favourable geological setting enable us to progress rapidly through resource definition and the feasibility study process, substantially de-risking the project. From there, we can move confidently into discussions around offtake agreements, project financing and feasibility studies. That ability to accelerate development while systematically reducing project risk is a compelling aspect of the project,” he explains.

Importantly, the emerging miner announced its maiden Mineral Resource Estimate (MRE) in mid-July.

Langley commented “I’m extremely pleased to deliver our

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maiden Inferred Mineral Resource estimate at Mkanda of 2.6 million tonnes of contained rutile at a high grade of 0.87%, placing Mkanda in the top six rutile deposits globally. When you combine today's MRE with the recent high purity 96.6% TiO_2 rutile product, the large high grade graphite resource and potential additional streams of zircon and monazite, it is clear Mkanda is evolving into a strategic critical mineral project of significance. It is encouraging to have received positive results of up to 10m @ 1.43% rutile from the central Kahuna prospect, now emerging as a multi-kilometre high grade rutile anomaly. These results will be included in the next updated MRE. We continue to progress the project at pace with multiple workstreams running in parallel, including early-stage conceptual mining and pilot plant studies, graphite flotation test work and aircore drilling underway."

The focus for 2027 will be on completing the PFS, with the intention of transitioning directly into the Definitive Feasibility Study (DFS). Given the consistency of the results to date, and the geological similarities with the nearby Kasiya Rutile-Graphite Project, the team is increasingly confident in its development pathway.

Demand/supply fundamentals for Rutile – a Critical Mineral

Natural rutile is the highest quality and best source of titanium feedstock for titanium sponge/metals, welding and the pigment industries. Traditional deposits are becoming exhausted with legacy producers in decline, with an anticipated tight supply and industrial demand growth expected to drive strong future prices.

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Demand is being compounded by increasing defence expenditure and a strategic restructuring of Western titanium supply chains away from historically significant Russian and now growing Chinese supply.

Aerospace provides a structural long-term demand foundation for titanium with Airbus forecasts more than 42 000 new commercial aircraft will be required over the next 20 years, while the industry is already carrying a backlog exceeding 16,000 aircraft. Modern aircraft are increasingly titanium intensive, with approximately 10–15 tonnes of titanium material associated with

narrowbody aircraft and up to ~40 tonnes for composite-intensive widebody aircraft. The current global commercial aircraft backlog of 16,133 aircraft is more than a decade of embedded aircraft production

Global titanium sponge demand is forecast to grow at approximately 4% per annum through 2030, with aerospace and defence among the principal growth drivers resulting in ~ 27% demand growth over six years. Aerospace is arguably the most strategically important part of that growth because it requires the highest quality, most tightly qualified titanium supply.

Humanoids and robotics are potentially the most exciting new long-term growth option for titanium. Titanium has a compelling engineering proposition for high-performance motion systems because reducing mass in a moving limb has benefits beyond simply reducing the robot's total weight. Potential applications include in the high-load motion hardware such as shoulders, hips, knees, elbows, wrists and other structural links and housings.

As physical AI moves towards higher performance and greater scale, lightweight, high-strength motion hardware creates a potentially significant new addressable market for titanium.

"When you look at the rutile market, the fundamentals are highly compelling. The same qualified titanium supply chain serving today's commercial airlines and defence requirements can potentially serve tomorrow's robotics market. The industry has been facing a structural supply deficit for several years, following the closure of several major rutile operations over the past decade and with relatively few new projects coming online. From both a geological and investment perspective, these are the kinds of commodities we want exposure to, markets where long-term supply constraints underpin demand, regardless of short-term macroeconomic cycles."

Langley concludes: "Our goal is to bring the Mkanda project into production within about three years. It's an ambitious target, but one we believe is achievable given the nature of the deposit, the work programmes already underway and the strength of the underlying market fundamentals. Projects of this nature are rare to find and have historically taken five years or more to reach production, but today's market is placing a greater premium on delivering new sources of critical minerals as quickly and efficiently as possible." ■