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DEC 2025 - JAN 2026 | Vol 20 No 12
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IN THIS ISSUE

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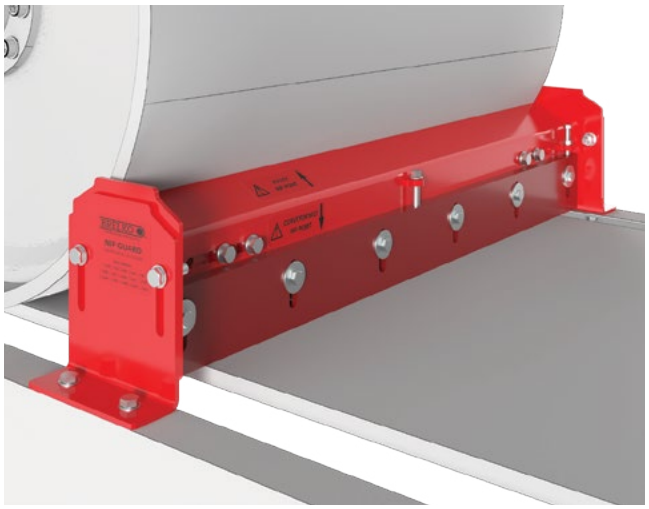

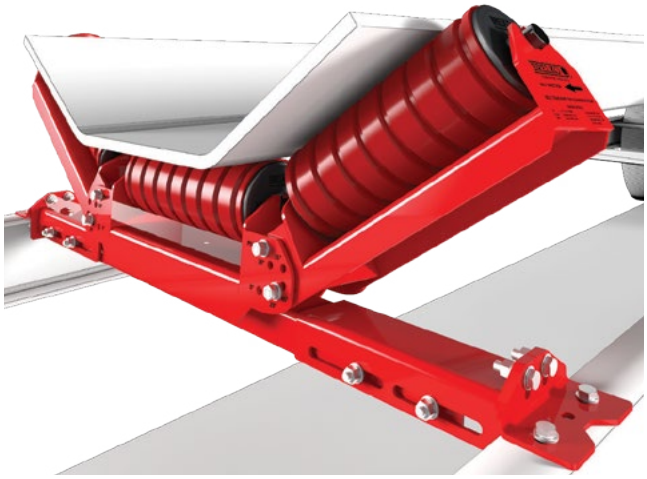

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- **Brelko Nip Guards improve worker safety around head, tail, and drive pulleys. Brelko Nip Guards prevent worker exposure to conveyor pulley nip points and pinch point hazards.**

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- **Low maintenance.**
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3 / 5 ROLL TROUGHING FRAME

PATENTED

- **Install the Belt Tracking System on the troughing side of the belt to centralise a misaligned belt, prevent spillage, decrease downtime, decrease maintenance and extend belt life.**

FEATURES

- **Easy installation.**
- **Low maintenance.**
- **Vibration free rolling action.**
- **Simple design.**
- **Adjustable troughing angle.**
- **Operates in all conditions.**
- **Manufactured according to S.A.B.S. mounting standards.**
- **Fully sealed construction of bearing housing prevents ingress of material into the bearing unit.**
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ON THE COVER

The year 2026 marks a significant milestone for the MQA as it celebrates 30 years of empowering South Africa's mining workforce. **Pg 8.**

COMMENT

2026 – Are you ready to fire on all cylinders?

Nelendhre Moodley.

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Circulation: Brenda Grossmann and Shaun Smith
Published monthly by: Crown Publications (Pty) Ltd
P O Box 140, Bedfordview, 2008
Tel: (+27 11) 622-4770
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www.modernminingmagazine.co.za

Printed by: Tandym Print

Average circulation
Jan-Mar 2024: 10 696

Having struggled through 2025, are you ready for the Year of the Fire Horse, which, according to the Chinese astrology, is expected to bring sweeping changes, rapid developments, and a strong push for liberation, innovation, and self-expression. It is a year associated with passion, boldness, and giant leaps.

For the global economy, one can expect dynamism, innovation, and rapid, potentially volatile, change.

In 2026, South Africans can anticipate potential economic and personal growth opportunities, driven by a cautiously improving economy, the potential for a stronger Rand after exiting the Financial Action Task Force Grey List, and interest rate cuts.

While the IMF pegs South Africa's economic growth rate at 1.2% year-on-year, for 2026, financial services firm, Investec, is more upbeat forecasting a growth rate of 1.5% year-on-year - this on the back of anticipated alleviations in the domestic freight crisis, driving faster export-led economic growth domestically. Global financial holding company, Moody's, is even more positive, forecasting growth to double to 1.6%, driven by ongoing structural reforms, particularly in logistics.

Locally, consumers are adapting to economic changes and expecting household situations to improve, while the mining sector may benefit from opportunities in critical minerals.

South Africa's mining sector performance in 2026 and 2027 is expected to be largely influenced by the global demand for critical 'green minerals', ongoing efforts to address persistent infrastructure and energy constraints, and commodity price volatility.

South Africa has abundant critical minerals, including platinum, manganese and chrome ore, which are vital for the global transition to a low-carbon, technologically advanced economy. Other key minerals include vanadium, rare earth elements, cobalt, lithium, gold, and iron ore, amongst others.

> "Locally, consumers are adapting to economic changes and expecting household situations to improve, while the mining sector may benefit from opportunities in critical minerals."

In this edition

On the topic of critical minerals, our commodities outlook highlights the growing strategic importance of antimony. Antimony plays a key role in many industries that drive modern economies, ranging from defence and technology to renewable energy and aerospace. As the world increasingly seeks stable and secure mineral supply chains, the growth of these industries means antimony's strategic importance is only increasing (pg 10).

Precious metals consultancy firm, Metals Focus, recently published Precious Metals Investment Focus 2025/2026, its flagship annual report on investment in gold, silver and platinum group metals.

It advises that gold prices are expected to continue rising in 2026, with the metal likely to challenge the $5 000 level and silver set to benefit from many of the same drivers as gold, including policy uncertainty and robust investment demand. Moreover, platinum has rallied over 80% year-to-date, with the market expected to record a fourth consecutive deficit in 2026. Palladium price strength has been boosted by tariff risks. In early 2026, palladium is expected to experience a temporary spike to around $2 000, before fundamentals reassert – all of which bode well for the local mining industry (pg 12).

The Mining Qualifications Authority (MQA), our cover story for January 2026, marks 30 years of empowering South Africa's mining workforce. With mining contributing 7% to South Africa's GDP, the sector remains a cornerstone of the economy — and the MQA's work is central to sustaining its competitiveness, innovation and transformation. "More than a celebration of the past, it's a reaffirmation of our role in shaping the future of mining skills in South Africa," says Dr Thabo Mashongoane, CEO of the MQA (pg 8).

Also of note is our Top Projects feature, which focuses on key projects at varying stages – early-stage projects such as Lifezone Metals' Kabanga Nickel project, located in north-west Tanzania and Omico Mining's Omitiomire Copper Project, in Namibia; Ivanplats' Platreef mine, which was officially opened by President Cyril Ramaphosa on 18 November; De Beers' Venetia mine, which operated as an open-pit mine from August 1992 to December 2022, before transitioning to underground mining and Debmarine Namibia's Benguela Gem diamond recovery vessel, recently deployed the next generation of crawler design and capability.

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Southern Palladium secures **A$20 m placement to accelerate DFS**

ASX-listed Southern Palladium has secured firm commitments to raise A$20 million through a two-tranche placement, supported by three new global institutional investors alongside the company's largest shareholder, as well as strong participation from existing institutional and high-net-worth investors. The capital raise positions the company to accelerate the Definitive Feasibility Study (DFS) and progress towards the Final Investment Decision to advance near-term mine development at its Bengwenyama Platinum Group Metals (PGM) project in South Africa. Funds raised will support completion of the DFS and near-term mine development activities - including construction of the box cut and development of a decline to the orebody while advancing the company towards its FID. The capital raise will significantly strengthen Southern Palladium's balance sheet ahead of key near-term milestones, including the expected award of the Mining Right and updates on the DFS work programme. "This strategic capital raise provides Southern Palladium with a strong cash runway to accelerate our DFS works programme as we advance towards mine development at the Bengwenyama PGM project," said Executive Chairman Roger Baxter. ■

Southern Palladium's Executive Chairman Roger Baxter.

Completion of CEO transition **at Sibanye-Stillwater**

JSE-listed Sibanye-Stillwater recently appointed Richard Stewart as the new Chief Executive Officer (CEO) of the Group, effective 1 October 2025. Stewart succeeded Neal Froneman, who retired as CEO and executive director on 30 September 2025, following a distinguished 12-year tenure that transformed the Group into a leading multinational mining and metals processing company. The Group also announced the appointment of Mduduzi Bhulose as Executive Vice President: Business Development. Bhulose joined the Group from the Public Investment Corporation (PIC), where he most recently served as the Head of Listed Equities. ■

Richard Stewart is the new CEO of Sibanye-Stillwater.

Rosond appoints Dr. Adwoa Boaduo as Head of Safety

Dr. Adwoa Boaduo is Group Head of Safety at Rosond.

Leading drilling and exploration specialist, Rosond, has appointed Dr. Adwoa Boaduo as Group Head of Safety, effective November 2025. A seasoned professional engineer with over 14 years' experience in mining, safety, and geotechnical engineering, Dr. Boaduo brings a wealth of strategic leadership and technical expertise to the Rosond team.

She joins Rosond from Gold Fields' South Deep Mine, where she served as Unit Manager: Safety, contributing towards the digital transformation of safety systems and the integration of smart safety and risk management tools across one of the world's largest and deepest underground mechanised mines. Her career includes key roles at Petra Diamonds, SRK Consulting, and Anglo American Platinum, as well as industry-wide leadership through the Minerals Council South Africa's MOSH Learning Hub, where she contributed to a national 88% reduction in Fall of Ground fatalities in 2022. ■

Blue Gold secures $140m to restart Bogoso & Prestea Gold mine

Blue Gold, a next-generation gold development and technology company, has announced a further $65 m of committed funding available to finance the restart of the Bogoso and Prestea gold mine in Ghana, bringing the total committed capital to $140 m. The funding, which comes from a new institutional investor, is structured as a secured loan for the exclusive purpose of financing the restart of the 5.1m oz Bogoso and Prestea gold mine in Ghana. Operating the Bogoso and Prestea mine ties in with the company's strategy to tokenise its gold production to create the world's first global, gold-backed currency, which it is preparing to launch through its recently launched Digital Division. ■

TGME construction accelerates

Theta Gold Mines (TGM) is accelerating the TGME gold plant build with the strategic procurement of a cutting-edge Titan GDM3065 – 900kW Ball Mill Circuit from MechProTech, a leading engineering firm. The high-impact order reflects TGM's commitment to world-class processing technology and sets the stage for rapid construction progress. The comprehensive package—featuring two, high-performance ball mills, an integrated feed system, and containerised MCC panels—will be manufactured in Johannesburg. First fills of lubrication and grinding media are included to ensure a smooth commissioning phase.

Backed by a robust service agreement, on-site training, and full commissioning support from MechProTech's expert engineers, this partnership is expected to drive operational excellence and establish a new benchmark in mineral processing performance.

Comments by the Executive Chairman, Bill Guy: "TGM has taken a decisive step toward delivering the TGME gold plant by placing an order with MechProTech for a state-of-the-art 900kW Ball Mill Circuit. This procurement is not just a major equipment milestone—it's a clear signal of TGM's commitment to commissioning the plant by the end of 2026. The comprehensive circuit package, including two high-performance ball mills,

TGM is accelerating the TGME gold plant build.

integrated feed systems, and containerised (Motor Control Centre) MCC panels, will be manufactured and delivered within 25 weeks. This timeline aligns with Theta's plug-and-play construction model, designed to accelerate build speed and reduce capital expenditure. Importantly, the mill comes with a performance guarantee and includes full commissioning support, on-site training, and a robust service level agreement—ensuring operational readiness and reliability from day one. This partnership with MechProTech strengthens Theta's execution capability and reinforces itsstrategic pathway to first gold production." ■

Switch Metals signs MOU with Xcelsior

Switch Metals, the exploration mining company focused on critical metals and minerals in Côte d'Ivoire, has signed a Memorandum of Understanding (MOU) with Xcelsior Capital Advisors (Xcelsior). Xcelsior provides financing to producers of critical metals and minerals including miners, processors, refiners, recyclers and manufacturers. It is partnered with Wogen Resources, a global physical commodities trader specialising in off-exchange critical metals and minerals, including tantalum and niobium.

Karl Akueson, CEO of Switch Metals, commented: "This is another major step forward for Switch Metals. The initiation of a strategic partnership with Xcelsior will accelerate our exploration, development and sales opportunities for the near-term production plan at the company's Issia Tantalum Project. Switch's early alignment with specialist and nimble participants within the specialist metals markets such as Xcelsior, adds to our credibility as an ambitious miner of these critical metals. We look forward to working with Xcelsior to access their funding and sales network, as well as their technical and ESG advisory expertise."

The MOU outlines the key terms for a

The partnership with Xcelsior will accelerate the production plan of the Issia Tantalum Project.

proposed strategic partnership between the parties to collaborate on common objectives, including:

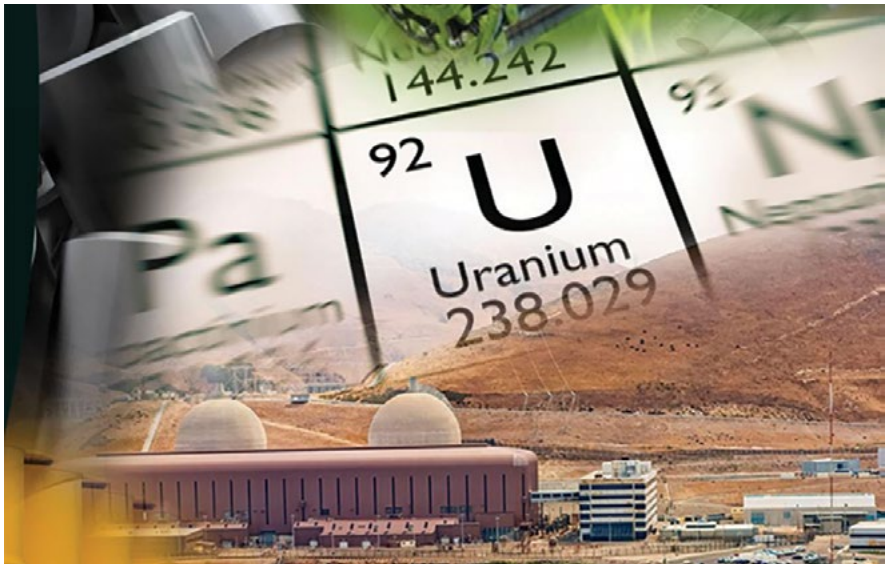
Securing exploration and development funding to develop Switch's portfolio of critical metal and mineral assets – with a priority on the company's Issia tantalum project.

Market support – developing marketing strategies to achieve material sales and enhanced pricing, particularly of Issia's coltan concentrate; and

Technical and ESG support – applying the most up-to-date technical and ESG practices to achieve superior production ethics and technical performance. ■

Testwork supports acid reduction of up to 70% at Letlhakane Uranium Project

Australian-based Lotus Resources announced positive results from its latest metallurgical test work programme for its Letlhakane Uranium Project in Botswana, which assessed and demonstrated the viability of a reduced acid flowsheet for uranium processing. Letlhakane is a large-scale development project, complementing Lotus' Kayelekera Uranium Mine in Malawi, which recently commenced uranium production.



Testwork supports acid reduction of up to 70% at Letlhakane Uranium Project.

Highlights

- Metallurgical test work supports a low acid processing opportunity at Letlhakane
- A low acid consuming flowsheet is viable at the current uranium price with approximately 70% reduction in acid consumption at a 6-8% reduction in uranium recovery.
- Preferred new processing flowsheet removes solvent extraction.

Lotus MD, Greg Bittar, commented: "This test work reinforces the potential of Letlhakane to become a significant uranium operation, alongside our production at Kayelekera, as the long-term uranium price environment strengthens. The multiple column leach test work demonstrates the ability to substantially reduce acid consumption, by up to 70%, and hence reduce operating costs as well as delivering a simplified processing flowsheet." ■

Paratus opens in Rwanda

Paratus Group, the pan-African telecommunications and network services provider, continues its strategic expansion across the continent with the launch of Paratus Rwanda. This new entity will provide and install Starlink services, delivering high-speed broadband internet connectivity to businesses throughout Rwanda.

The group was awarded the African distributorship of Starlink global LEO (Low Earth Orbit) satellite services in 2023, enabling the Group to offer cutting-edge satellite connectivity across multiple African markets. The launch of Paratus Rwanda marks another important milestone in the Group's mission to transform Africa through exceptional digital infrastructure and services. Commenting on the expansion, CEO of Paratus Group, Schalk Erasmus, says: "We are building Africa's quality network by investing in infrastructure, services and people across the continent. Rwanda's dynamic and fast-growing market aligns perfectly with our vision, and the addition of Paratus Rwanda strengthens our ability to serve customers with unmatched reach and reliability."

Paratus Rwanda will target key sectors in the country, including retail, financial services, government, NGOs, agriculture and tourism. The service will particularly benefit enterprises operating in remote and underserved areas where there is a lack of traditional infrastructure." ■

South African mining sector **shows resilience and recalibrates for sustainable future**

It's been a year characterised by a dynamic mix of challenges and progress for South Africa's mining sector. Despite infrastructure constraints, policy uncertainty and rising operational costs, the industry maintained its contribution to GDP at approximately 6%, reaffirming its critical role in the national economy. Gold stole the limelight, platinum found its feet late, bulks battled bottlenecks, and "green metals" have continued to grow in importance and prominence.

Mining companies sharpened their focus on cost management and portfolio optimisation.

Strong market performance amid volatility

Insights from our newly release *SA Mine 2025* reveal that the sector recorded a 20% increase in market capitalisation, driven by record gold prices and a rebound in platinum group metals (PGMs). Green metals continued their upward trajectory, gaining strategic importance as global demand for clean energy technologies accelerated. Although revenue remained flat, free cashflows improved on the back of operating cashflow improvements and lower capital investment.

Illegal mining escalates as a national priority

Illegal mining intensified in scale and complexity, expanding beyond gold and diamonds to affect nearly all commodities. The government responded with four dedicated work streams, with law enforcement efforts receiving the most public attention. "The issue now involves billions of rands and requires coordinated, cross-border action that addresses both economic and social dimensions" says Andries Rossouw, PwC's Africa Energy, Utilities and Resources Leader.

Operational discipline and innovation

Mining companies sharpened their focus on cost management and portfolio optimisation. M&A activity was targeted and strategic, aimed at securing critical minerals and enhancing operational efficiency. Key cost control measures included:

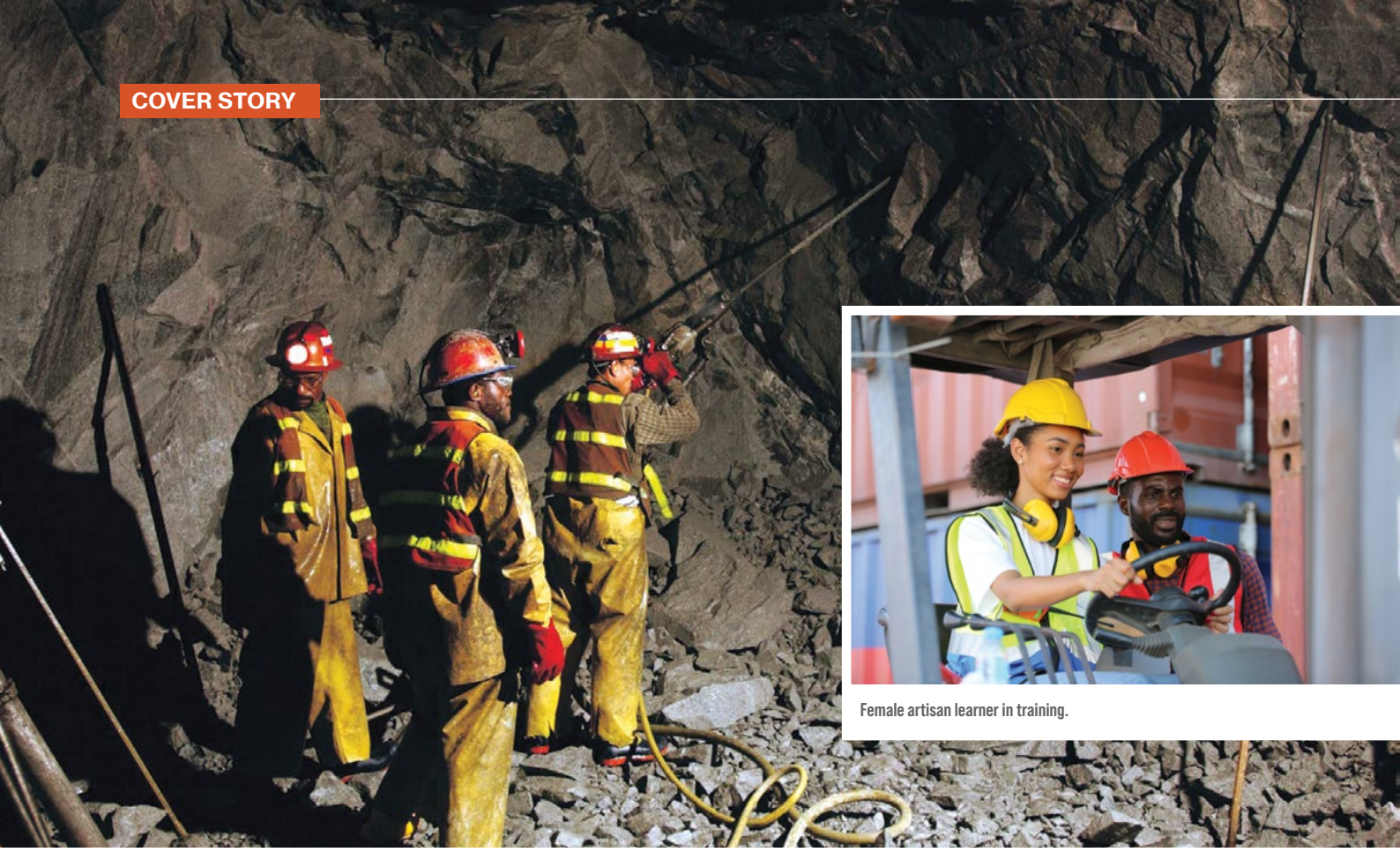
- Adoption of AI and digital tools
- Investment in renewable energy projects
- Workforce rationalisation

However, most renewable energy projects remain behind schedule, hindered by financial, technical and regulatory challenges. "Many completed projects are still small relative to operational demand, reinforcing the sector's continued reliance on Eskom for stable energy supply" says Vuyiswa Khutlang, SA Mine Project Leader.

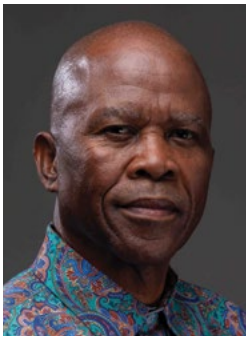
> "The sector recorded a 20% increase in market capitalisation, driven by record gold prices and a rebound in platinum group metals (PGMs)."

Looking ahead: Collaboration and execution will be key

"2025 was a year of strategic recalibration" says Laetitia le Roux, PwC's South Africa Energy, Utilities and Resource Tax Leader. The sector's ability to adapt—through innovation, collaboration and disciplined execution—will be critical as it navigates ongoing volatility and positions itself for long-term, sustainable growth. ■



Female artisan learner in training.



Dr Thabo Mashongoane, CEO of the MQA.

MQA marks 30 years of empowering South Africa's mining workforce

The year 2026 marks a significant milestone for the Mining Qualifications Authority (MQA), the statutory body responsible for driving skills development and training in South Africa's mining and minerals sector. As it celebrates its 30th anniversary, the MQA reflects on three decades of progress in building a skilled, inclusive and adaptable workforce that continues to power one of the country's most vital industries.

With mining contributing 7% to South Africa's GDP, the sector remains a cornerstone of the national economy — and the MQA's work is central to sustaining its competitiveness, innovation and transformation.

"This anniversary marks more than a quarter century of empowering individuals, communities and the mining industry through education and training," says Dr Thabo Mashongoane, CEO of the MQA. "It's a time to reflect on our journey, honour our stakeholders and chart a bold path forward. More than a celebration of the past, it's a reaffirmation of our role in shaping the future of mining skills in South Africa."

A year of commemoration and collaboration

To mark this milestone, the MQA has planned a year-long programme of commemorative activities that will recognise its achievements, showcase its impact and strengthen collaboration across the industry.

Key events on the calendar include:

- 30th Anniversary celebrations at the 2nd Mining Skills Lekgotla, scheduled for 26–27 February 2026.
- National roadshows and exhibitions featuring success stories from learners, employers and training providers.
- The Good Practice and Recognition Awards, honouring excellence in training, transformation and innovation.
- The launch of a digital archive and commemorative publication documenting the MQA's 30-year journey and impact.
- Community outreach events aimed at promoting careers in mining and raising awareness of MQA-funded opportunities.
- Strategic dialogues and forums bringing together industry leaders to shape the next era of mining education and skills development.

Beyond celebration, the anniversary year will serve as a platform for the MQA to deepen engagement with its stakeholders — from employers and educators to learners and community partners — as it continues to drive an inclusive, future-oriented mining skills agenda.

"We are eager to hear from beneficiaries how MQA support has changed their lives and enabled them to play meaningful roles within the industry," Dr Mashogoane says. "Our 30-year journey is also their story — a testament to what partnership and vision can achieve."

Bridging the skills gap in mining

Since its inception, the MQA has played a pivotal role in ensuring that skills development in mining aligns with national priorities

and industry demands. As a Sector Education and Training Authority (SETA), it serves as a bridge between government, industry and training institutions — ensuring that education and training are relevant, responsive and impactful.

The MQA's approach is built on partnership. It works with mining companies to provide workplace-based learning, collaborates with TVET colleges and universities to align curricula, and engages community organisations to expand access and learner support. These partnerships have enhanced the relevance of training, improved learner placement rates and supported community upliftment in mining regions.

A key focus area in recent years has been the rollout of portable skills programmes for retrenched workers, helping them transition into new sectors or start their own businesses. The initiative has been particularly successful in rural mining communities affected by restructuring and mine closures.

In the 2023/24 financial year, the MQA supported over 10 000 learners through various interventions, including learnerships, internships, bursaries and artisan training programmes.

"This investment ensures that South Africa's mining workforce remains agile and responsive to a rapidly changing industry landscape," notes Dr Mashongoane.

The MQA funds qualifications across NQF Levels 2–7, covering disciplines such as mining engineering, occupational health and safety, environmental management and metallurgy. Demand for funding continues to grow, particularly in areas identified as critical and scarce skills, and support remains targeted at historically disadvantaged individuals.

In 2024/25, the MQA disbursed R1.5-billion to support sectoral skills development. Funding allocations are governed by its approved Funding Policy, which ensures that resources are distributed transparently and strategically through:

- Mandatory grants for levy-paying employers to invest in workplace skills.
- Discretionary grants for learnerships, internships, bursaries, artisan development and skills programmes.
- Special projects aimed at rural development, retrenchment support and transformation initiatives.
- Priority areas for funding include youth development, women in mining, community-based training, and green economy and digital skills.

Driving transformation and inclusion

The MQA's programmes have transformed thousands of lives, particularly in historically marginalised mining communities. Through targeted interventions, the industry body has enabled access to training, promoted equity and supported greater representation of women and youth in mining occupations.

Transformation remains a core pillar of the MQA's mandate. By funding learning opportunities for young people and women, the MQA is helping to break barriers to entry in what has traditionally been a male-dominated industry.

The SETA's rural development initiatives are equally impactful. By partnering with local organisations, the MQA supports community-based training centres that provide basic and portable skills to unemployed youth and retrenched workers — fostering entrepreneurship and alternative livelihoods in mining-dependent areas.

Preparing for Industry 4.0

As the mining sector embraces automation, artificial intelligence (AI) and green technologies, the MQA has intensified efforts to ensure that training keeps pace with global trends. The organisation is modernising its curriculum to include digital literacy, mechatronics, robotics, data analytics and environmental management — critical areas as mines transition toward more sustainable, technology-driven operations.

"We remain committed to inclusive, responsive and future-focused skills development," says Dr Mashongoane. "As new technologies reshape mining, we must ensure that workers are equipped to thrive in the digital era."

The MQA's 2024–2026 strategic focus includes:

- Digital transformation of training and assessment systems.
- Expansion of community-based skills development centres.
- Strengthened partnerships with TVET colleges and universities.
- Increased participation of women and youth in technical and leadership roles within mining.

The MQA also recognises that the Industry 4.0 skillset requires a balance of technical and soft skills — from data analytics, AI and cybersecurity to critical thinking, adaptability and collaboration. Through partnerships with academia and industry, the MQA is designing programmes that blend these competencies to build a workforce fit for the future.

Benchmarking South African mining skills globally

To remain globally competitive, the MQA actively benchmarks its programmes against international standards. A recent study visit to Malaysia formed part of this effort, enabling collaboration with vocational training institutions on the digitalisation of training delivery and green mining and sustainability practices.

"Global engagement allows us to exchange knowledge, adopt proven models and align our qualifications with global benchmarks," Dr Mashongoane explains. "These partnerships ensure that South African learners are not only ready for local opportunities but equipped to compete in international mining ecosystems."

Shaping the next era of mining skills

As it enters its fourth decade, the MQA's mission is clear: to continue shaping a workforce that is skilled, inclusive and globally competitive. Its investments in training, innovation and partnerships have laid a strong foundation for South Africa's mining industry to navigate the challenges and opportunities of the digital and green economy.

"As the sector embraces automation, AI and sustainability, our focus is on ensuring that South Africa's mining skills remain world-class," concludes Dr Mashongoane. "Our learners are not only the future of this industry — they are the future of South Africa's economic resilience."

With a proud legacy and a forward-looking vision, the MQA stands as both a custodian of mining education and a catalyst for transformation — empowering people, communities and the industry it serves. ■

MQA at a glance

Since its establishment in 1996, the MQA has:

- Funded and supported tens of thousands of learners through bursaries, learnerships, internships, and artisan development programmes.
- Strengthened partnerships with mining companies, TVET colleges, universities, and community organisations.
- Driven transformation by prioritising youth, women, and rural communities in its funding and programme rollout.
- Adapted to industry shifts, including the rise of automation, sustainability, and digital mining technologies.

The growing strategic importance of antimony: How emerging projects could secure Western supply

Antimony plays a key role in many industries that drive modern economies, ranging from defence and technology to renewable energy and aerospace. As the world increasingly seeks stable and secure mineral supply chains, the growth of these industries means antimony's strategic importance is only increasing. This is largely driven by geopolitical tensions, supply chain vulnerabilities, and the rising demand for high-tech materials. As nations work to strengthen critical mineral independence, several new Western projects are emerging to diversify global supply, including Australia's Hillgrove Project, developed by ASX-listed Larvotto Resources.

Antimony's rising significance in the global market

The strategic value of antimony is surging across several critical sectors. One such industry is renewable energy, growing rapidly due to the increase in net-zero initiatives, where antimony is a key component of energy storage systems and liquid metal batteries. These batteries are increasingly seen as a long-term solution for grid-scale energy storage, improving the life cycle and capacity of these systems and thereby offering enhanced durability and efficiency. These qualities mean antimony is also a key element in bearings for wind turbines and glass clarification for solar energy, improving the performance of solar panels by enabling them to absorb more light and convert it into energy most effectively. As renewable energy solutions become central to global climate goals, the need for antimony is growing.

In addition to its energy applications, antimony has applications in flame retardants, which are added to plastics, electronics, and textiles to enhance fire safety. It is also crucial to the production of semiconductors, alloys, and lead-free solders used in technological applications, increasing their conductivity and therefore performance. This makes the metal crucial to the development of high-performance quantum computers and data centres, as well as applications across other rapidly developing industries such as automotives and aerospace.

Defence and geopolitical implications

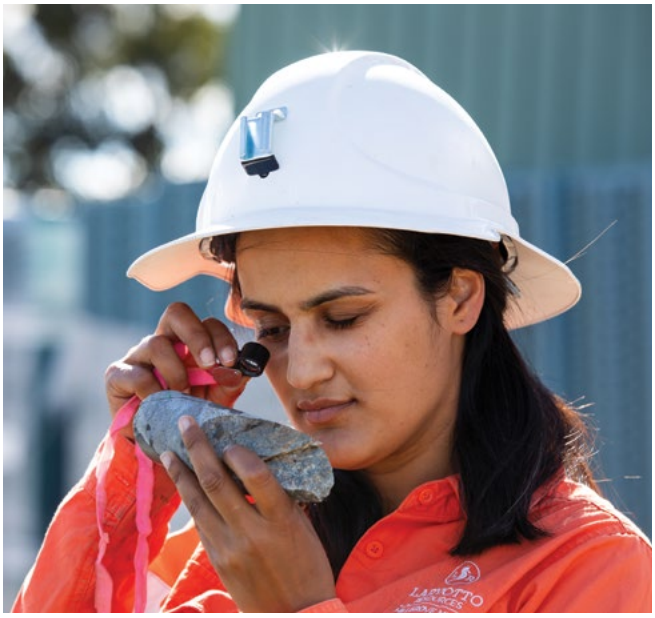
However, perhaps the most strategic use of antimony is in defence technologies. The metal is essential in the production of military-grade batteries, munitions, night vision goggles, explosives, flame-retardant uniforms and infrared sensors, making it a central part of global military logistics and operations.

A clear indicator of the rising demand for antimony in the defence sector is the $245 million contract signed in September between the United States Antimony Corporation and the Pentagon – a five-year agreement which secures the supply of antimony metal ingots for the country's defence stockpile. This deal, which followed months of negotiations, underscores the critical need for a stable antimony supply for national defence in the face of evolving global challenges. It also reflects broader concerns about the strategic importance of antimony amid an increasingly volatile global landscape.

This growing concern is compounded by China's dominance in global production, accounting for nearly 50% of the world's antimony supply. With recent disruptions in Chinese supply, driven by mine closures, stricter environmental regulations, and export restrictions last year, the urgency for securing alternative sources has intensified. Geopolitical tensions, particularly trade disputes and security concerns, have made the US and other nations wary of relying on foreign sources.

In 2024, global antimony mine production totalled approximately 83 000 tonnes, with China contributing around 38 600 tonnes, or 46.5% of the global supply. This marked a slight decline from 2023, when China produced 40 000 tonnes. Myanmar, another key supplier and the fourth-largest antimony producer in 2024 also faced supply disruptions stemming from ongoing political instability. As the US, EU, UK, Japan, and Australia designate antimony as a critical mineral, the reliance on a handful of unstable sources is becoming a growing risk.

Hillgrove's above-ground infrastructure.



Supply chain alternatives and Larvotto Resources' role

Reflecting this heightened demand, the price of antimony reached a record high of over $35 000 per tonne in November 2024. Despite fluctuations, supply constraints and low inventory levels are creating the environment for potential price increases, with Research and Markets estimating global demand will grow from $2.5 billion in 2024 to $3.4 billion by 2030, intensifying the need for alternative sources of the metal.

One alternative to China's market dominance is Africa, rich in mineral resources such as antimony, but largely underexplored. The Consolidated Murchison mines in South Africa, which comprise the famous 'antimony line', began operation in the 1930s, and for many years South Africa remained one of the world's largest antimony producers. Historical production in the area from World War II through to 2015 was approximately 605 000 tonnes according to Perpetua Resources, before the large-scale closure of facilities after their acquisition by Chinese investment firms. Other African countries, such as Morocco and Zimbabwe, offer promising antimony deposits, with Zimbabwe being the fastest growing market for antimony exports in Southern Africa between 2023 and 2024, according to The Observatory of Economic Complexity. However, limited infrastructure, funding, and regulatory uncertainty have presented barriers to developing antimony mining in these countries, and only through proper investment in these sectors could the regions position themselves as key players in the global antimony market.

In this context, Western projects are emerging as viable alternatives to ensure a secure, sustainable supply for critical industries. One notable example is Larvotto Resources, whose Hillgrove Project in New South Wales – the largest antimony deposit in Australia and 8th largest globally – is positioned to contribute significantly to global supply. With production expected to commence in 2026, the project is projected to supply around 7% of global antimony demand per year once operational.

The Definitive Feasibility Study released in May 2025 demonstrates promising economics, including a projected eight-year mine life with the potential to increase to 20 years, strong margins, and resilience even under conservative pricing scenarios. Hillgrove's Mining Resource Estimate stands at 1.7 million ounces of gold equivalent, offering dual exposure to both the gold and antimony markets. What's more, the mine is expected to deliver 320 000 to 535 000 tonnes of gold concentrate, antimony concentrate, and gold doré per annum from underground operations.

Further strengthening its long-term outlook, Larvotto also possesses a strong exploration upside, with a target of between 670 000 to 1.08 million ounces of gold equivalent. Strategically located near essential infrastructure, including major highways, rail links and regional airports, it ensures efficient logistics and a solid foundation for growth. Through these strong economic fundamentals and geographic advantages, the Hillgrove Project is poised to support global antimony demand and stabilise the Western supply chain.

Crucially, the company's focus on ethical and sustainable mining practices aligns with global environmental objectives and rising demand for responsible resource management and development. This approach not only supports international ESG standards but also meets the expectations of governments and investors seeking transparency.

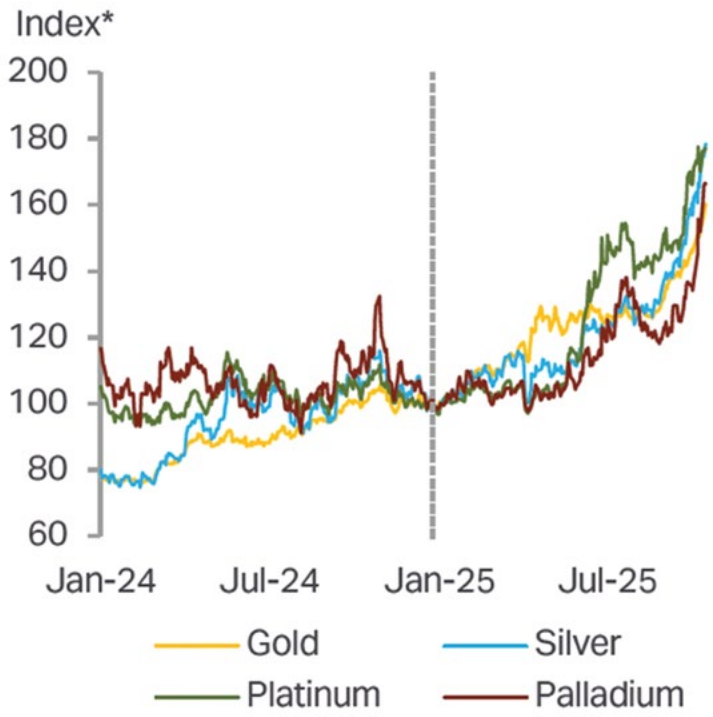
Hillgrove and the future of antimony

The growing strategic position of antimony and the relevance of companies such as Larvotto, cannot be overstated. As global demand accelerates and geopolitical risks persist, the Hillgrove Project stands out as a future-ready solution. With production set to commence in Q2 2026, it stands as the only project of such significant scale expected to come online in the near term. Larvotto is uniquely positioned to deliver a secure, sustainable supply of this essential metal for the industries shaping the economy. ■

Metals Focus publishes Precious Metals Investment Focus 2025/26

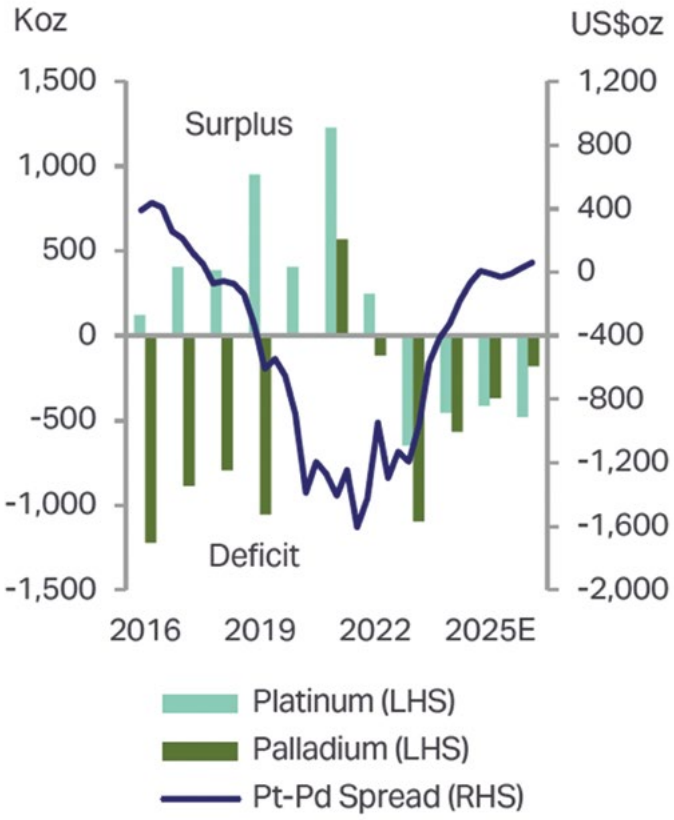
***Metals Focus,* a leading precious metals consultancy, announced the publication of Precious Metals Investment Focus 2025/2026, its flagship annual report on investment in gold, silver and platinum group metals.**

Indexed Precious Metals Price Performance



*index 3rd January 2025=100
Source: Bloomberg

Platinum and Palladium Physical Surplus/Deficit



Source: Metals Focus, Bloomberg

Highlights of the Precious Metals Investment Focus include:

- Gold: Gold prices are expected to continue rising in 2026, with the metal likely to challenge the $5 000 level. Ongoing uncertainty surrounding US trade policy, a weaker dollar, and declining real interest rates are seen as key drivers. Investor demand will be further supported by geopolitical tensions and continued official sector buying, even if below record levels. As a result, the annual average price is forecast to rise by 33% year-on-year (y/y) to around $4 560.
- Silver: Silver is set to benefit from many of the same drivers as gold, including policy uncertainty and robust investment demand. Persistent physical tightness in the London market and resilient bar and coin buying, particularly in India, should offer additional support. While gold may regain leadership later in the year as supply constraints ease, silver is forecast to break above $60 in mid-to-late 2026, with an average annual price of $57.
- Platinum: Platinum has rallied over 80% year-to-date, supported by gold's strength and market tightness linked to trade disruptions and localised stockholding. The market is expected to record a fourth consecutive deficit in 2026, though price action is increasingly driven by investment and liquidity dynamics. The annual average price is forecast to rise 34% y/y to $1 670.
- Palladium: Palladium has joined the broader rally, gaining over 70% so far this year. Price strength has been boosted by tariff risks, including a Section 232 probe and anti-dumping petition in the US. A temporary spike to around $2 000 is possible in early 2026, before fundamentals reassert. The annual average price is projected at $1 340, up 20% y/y, amid another, though narrowing, market deficit.

Gold prices are expected to continue rising in 2026, with the metal likely to challenge the $5 000 level.

- Minor PGMs: Deficits across the minor PGMs are expected to narrow in 2026 on stronger secondary supply and softer demand in select sectors. Rhodium's market will remain tight despite a smaller deficit, with prices forecast to average $7 500, up 23% y/y. Ruthenium is projected to average $780, up 5%, while iridium should rise modestly to $4 600 as its deficit nearly disappears.

Extract from the report: Gold's strength continues to reflect an extremely positive macroeconomic and geopolitical backdrop for safe haven assets, coupled with concerns towards other safe havens. In our view, the single most important factor has been uncertainty around US trade policy. The fluidity of tariff announcements and the prospect of further measures have complicated planning for companies and governments around the world and produced ever fatter macroeconomic tail-risks.

This fuelled concerns that inflation in the US could prove stickier than hoped if tariffs keep import prices elevated and supply chains unsettled, potentially at the same time as growth is hit, cost pressures squeeze margins and uncertainty hampers capex. Combined, these reinforce a non-trivial stagflation tail risk; historically a supportive backdrop for gold, as both a hedge against price instability and a portfolio diversifier.

There are also mounting signs of cooling in parts of the US economy which, alongside the above-discussed uncertainties, have sharpened expectations for rate cuts. Lower real yields and a more benign policy rate path reduce the opportunity cost of holding non-yielding assets, sustaining interest in gold. Layered over this is concern over persistent fiscal deficits, the ongoing and rapid accumulation of US debt and the independence of the Federal Reserve. This raises questions about long-run debt sustainability for the US and, by extension, the dollar's role as the *de facto* reserve currency in the future. With few viable alternatives, gold has hugely benefited from this.

Philip Newman, Managing Director of Metals Focus, commented: "We are pleased to release Precious Metals Investment Focus 2025/2026, which looks at investment trends across gold, silver, and the PGMs. In 2025, precious metals markets experienced significant price appreciation, driven by a combination of macroeconomic uncertainty, trade policy developments, and shifting investor sentiment. Gold and silver were the clear beneficiaries, as declining real interest rates, persistent inflationary concerns, and renewed geopolitical tensions reinforced their safe-haven status. Central banks remained healthy net buyers, further underpinning market strength."

"Among the PGMs, platinum and palladium also saw sharp gains, supported by tighter market conditions, trade-related supply disruptions, and speculative inflows. Although the longer-term fundamentals for palladium remain challenging, both metals benefited from the broader rally across the precious complex. The minor PGMs, meanwhile, continued to experience narrowing deficits as recycling improved and industrial demand eased."

"Among the PGMs, platinum and palladium saw sharp gains, supported by tighter market conditions, trade-related supply disruptions, and speculative inflows.

"Looking ahead, the outlook for 2026 remains constructive across the precious metals spectrum. Persistent policy uncertainty, ongoing fiscal challenges, and elevated geopolitical risks are expected to keep investor interest high. While volatility will remain a feature of these markets, underlying conditions point to another strong year, led once again by gold, which we expect to challenge the $5,000 level." ■

Gold breaks records **as investors seek shelter from market turbulence**

The World Gold Council's Q3 2025 Gold Demand Trends report reveals that quarterly gold demand (including OTC) reached 1 313 t, or US$146 bn in value terms and was the highest quarter for demand on record.

Louise Street, Senior Markets Analyst at the World Gold Council.

Growth was driven primarily by investment demand which accelerated in Q3 reaching 537 t (+47% y/y) and accounted for 55% of overall net gold demand. This momentum was driven by a powerful combination of an uncertain and volatile geopolitical environment, US dollar weakness and investor "FOMO" as the price climbed higher.

Investors continued to pile into physically backed gold ETFs for a third consecutive quarter, adding a further 222 t with global inflows reaching US$26 bn. Year-to-date, gold ETFs have added a total of 619 t (US$64 bn) to their holdings with North American listed funds leading the charge (346 t), followed by European (148 t) and Asian funds (118 t).

Bar and coin investment rose 17% y/y, totalling 316 t, with growth in almost all markets but with significant contributions from India (92 t), China, (74 t).

On the other hand, gold jewellery demand was weighed down by 50 record gold prices this year, seeing a 19% y/y decline in consumption for Q3. While the two largest consumer markets - India and China – both saw a quarter-on-quarter uplift, largely due to seasonal factors, the y/y picture across both markets remained weak.

Central banks picked up the pace in Q3 with net purchases totalling 220 t in the third quarter, up 28% on Q2 and 10% y/y, despite the record-high gold price. On a year-to-date basis, net buying totalled 634 t, trailing behind the exceptional highs of the last three years, but comfortably above pre-2022 levels.

Total gold supply reached a quarterly record of 1 313 t, up 3% y/y. Mine production increased by 2% y/y to 977 t while recycling was up 6% y/y at 344 t, staying relatively stable given the soaring gold price.

Louise Street, Senior Markets Analyst at the World Gold Council, commented:

"Gold's climb towards US$4 000/ oz in the third quarter underscores the strength and persistence of the factors that have been driving demand throughout the year. Heightened geopolitical tensions, stubborn inflationary pressures and uncertainty around global trade policy have all fuelled appetite for safe-haven assets as investors look to build resilience in their portfolios. The outlook for gold remains optimistic, as continued US dollar weakness, lower interest rate expectations, and the threat of stagflation could further propel investment demand. Gold has set record after record this year, and the current environment suggests there could be more upside gains for gold. Our research indicates the market is not yet saturated, and the strategic case to hold gold remains firmly in place." ■

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Steenkampskraal sets out rare earths six-phase production plan

Steenkampskraal Monazite Mine (SMM), one of the world's highest-grade rare earths and thorium deposits, has set out its six-phase production plan following confirmation of receipt of the first tranche of funding from the Industrial Development Corporation (IDC).

"The development roadmap extends far beyond conventional mining industry evolution, positioning the project as an integrated rare earths value chain," said Steenkampskraal Chairperson and shareholder, Dr. Enock Mathebula.

The Six-Phase Development Strategy

Phase 1: Monazite Concentrate Production

- Construction of concentration plant (current IDC funding focus)
- Production of high-grade monazite concentrate containing >50% TREO
- Establishment of initial production capabilities and infrastructure

"This first phase represents the foundation upon which the entire value chain will be built, with the concentrate serving as feedstock for all subsequent processing steps," added Graham Soden, CEO of SMM.

Phase 2: Mixed Rare Earth Carbonate

- Production of Cerium- and Lanthanum-depleted Mixed Rare Earth Carbonate (CLDMREC)
- Implementation of proven technology from Chimerical Technology
- First step in downstream value addition process

"By removing cerium and lanthanum (the most abundant but least valuable rare earths), this phase significantly increases the value of the remaining product," he noted.

Phase 3: REE Separation

- Implementation of magneto-electrochemical separation processes
- Proposed partnership with the Remedy Group
- On-site or near-site processing to retain value domestically

Rare earth separation represents one of the most technically challenging and value-adding steps in rare earth processing, traditionally dominated by Chinese companies.

Phase 4: Fluorination Process

- Production of Rare Earth Fluorides through patented processes
- Proposed partnership with Rare Earth Refiners
- Further advancement in the value chain toward end-use products

The fluorination process transforms separated rare earth compounds into forms more readily used in specific industrial applications.

Phase 5: Metallization

- On-site or near-site metallization capabilities
- Discussions underway with global reduction companies
- Significant value addition through advanced processing

Metallization converts rare earth compounds into pure metals, which command premium prices in industrial markets.

Phase 6: End-Product Manufacturing

- Production of separated end-products
- Discussions with global RE product manufacturers
- Complete vertical integration from mine to market

"This final phase represents the ultimate goal of full value chain integration, enabling South Africa to capture maximum economic benefit from its rare earth resources," Soden added.

"This milestone marks a turning point in Steenkampskraal's history to establish itself as a reliable global supplier of rare earth elements, essential for the technologies driving the green transition and advanced industries," he said.

"Once operational, the plant will continually deliver a high-grade monazite concentrate containing more than 50% Total Rare Earth Oxides (TREO), positioning South Africa among the elite producers of critical minerals."

Thorium and radium-228 by-products

"Beyond rare earths, the Steenkampskraal

Decline shaft headgear.

deposit offers valuable by-products that further enhance its economic potential," Dr. Mathebula said. "A notable development in this area is the partnership with Thor Medical, which is working with Steenkampskraal and select local funders to conclude agreements that will enable the business to progress with harvesting Radium-228 for medical applications."

"The IDC's investment is not only a financial boost but also a catalyst for broader economic benefits. Through this support, Steenkampskraal is strengthening South Africa's industrial base, creating employment opportunities in both direct mining operations and downstream beneficiation. The Steenkampskraal project is structured as a series of interlinked phases, each designed to capture additional value by moving further downstream in the rare earth supply chain," he added.

Dr. Mathebula highlighted that South Africa's official Minerals Beneficiation Strategy, adopted in June 2011, seeks to transform the country's mineral wealth into a competitive economic advantage through downstream value addition. "This strategy is integrated into broader industrialisation initiatives aimed at improving export quality, creating sustainable employment, diversifying the economy, and building a knowledge-driven industrial base.

"The IDC, a state-owned development finance institution established in 1940, plays a central role in promoting economic growth and industrial development in South Africa and across the continent. It provides funding to businesses and projects that expand industrial capacity, stimulate job creation, and drive economic transformation," he concluded. ■

Trade sentiment heralds boom **for the Mining Industry**

Global trade sentiment is showing a positive trend towards Africa, with trade shows, conferences and multilateral forums increasingly highlighting the continent's prospects, and investors clambering to form partnerships and seize opportunities in the region.

The fourth edition of the Intra-African Trade Fair (IATF), which concluded recently in Algiers, Algeria, saw trade and investment deals worth $48,3 billion signed – an enormous vote of confidence in the African continent as a partner for global and intra-continental trade.

This continued trend of growing investor confidence in the region and its prospects was also reflected at this year's Investing In African Mining Indaba 2025 in Cape Town, which drew 10 500 attendees from 120+ countries, including more than 1 450 company executives, 1 300 investors, 58 ministers and 1 400 government officials.

Mining Indaba attracted more than 400 investors with funds between $5 million and $50 million, and with several attendees controlling budgets reaching into stratospheric levels beyond $50 billion.

Dr Ngozi Okonjo-Iweala.

There are clear commonalities emerging in terms of the sectors attracting investor interest at African trade shows: technology, industrialisation, critical minerals and the Just Energy Transition (JET), with consistent awareness of the need to include communities, while protecting health and safety.

Underlining a vision for trade and mining as intertwined pillars of African growth is Kwasi Ampofo, Head of Metals and Mining at BloombergNEF, and Mining Indaba executive board member, who addressed a dedicated critical-minerals panel at the IATF Investment Forum.

"Investing about $1.6 trillion in critical minerals over 25 years could unlock $6–$10 trillion in global revenues, with Africa's 30% share worth roughly $3 trillion if fully realised," he said.

Elsewhere, the decision by the United States, under President Trump, to impose tariffs on African countries has served as a wake-up call for African governments. Regional integration is becoming a non-negotiable requirement for growth – especially given the opportunities of the AfCFTA. But this integration is also likely to establish Africa as a global trade powerhouse.

Speaking at the "Unstoppable Africa Summit," a side-event during the 80th UN General Assembly, Dr Ngozi Okonjo-Iweala emphasised Africa's growing significance, declaring, "Africa is the market of the future. One day, the US will need Africa more than we will need them."

Investing in African Mining Indaba head of Public Affairs, Collen Dlamini says he is encouraged to see this acceptance of the need to find partners in Africa to explore mutual growth.

> **Investing about $1.6 trillion in critical minerals over 25 years could unlock $6–$10 trillion in global revenues, with Africa's 30% share worth roughly $3 trillion if fully realised.**

"At forums around the world, and in global trade, we increasingly see investors looking to seize upstream and downstream opportunities in industrialisation, critical minerals and renewable energy," he says. "There are also incredible developments in AI, robotics, data and other technologies. It's an exciting time for African trade – especially in the minerals space – and stakeholders are rushing to get on board."

Perhaps the most exciting opportunity Africa faces is the rapidly unfolding critical minerals boom, which places the continent at a pivotal turning point. Grabbing hold of all the possibilities that critical minerals offer will require effective and visionary leadership. But more than anything else, trade, energy and minerals players must work together to turn potential into reality.

"We have abundant resources in the ground, skilled people, and patient capital," says Dlamini. "Harnessing them for mutual success requires vision and strong leadership, but the ultimate catalyst is partnerships. No matter the sector or the organisation, we're always stronger together."

Investing In African Mining Indaba 2026 runs from February 9 – 11, 2026 at CTICC 1 and 2 in Cape Town. The event will be a pivotal event for mining professionals, investors, and industry leaders looking to capitalise on the opportunities in Africa's mining sector. ■

Africa's top projects **make their mark**

***Modern Mining's* Top projects for 2026 cover a range of commodities: platinum, nickel, copper and diamonds. These are stand-out projects, not only for their sheer size and hefty investments, but because they meet the current and future needs of global industry.**

While platinum and nickel are benefiting from strong tailwinds that support their long-term price outlooks, the diamond market is facing pronounced headwinds as it contends with the rapid rise of lab-grown alternatives. The copper market, on the other hand, is experiencing mixed signals, with strong long-term demand from the green and digital transitions clashing with short-term volatility and potential supply chain stress.

The projects include: Lifezone Metals Kabanga Nickel project, located in north-west Tanzania, Omico Mining's Omitiomire Copper Project, in Namibia, Ivanplats' Platreef mine on the Northern Limb of the Bushveld Complex, in the Limpopo Province, and two diamond projects associated with diamond miner, De Beers - the Venetia diamond mine in the Limpopo Province, which is transitioning from open pit to underground, and the Benguela Gem diamond recovery vessel.

The projects are at various stages of development – early-stage projects include the Kabanga Project, which is transitioning from exploration to a developmental financing phase. Kabanga is a high-grade, large scale resource hosting one of the world's largest undeveloped high-grade nickel sulphide deposits. The company is working to secure the funding needed for construction, aiming to find a clear path to the final investment decision expected in 2026. The rising global demand for Lithium-ion batteries is a key market driver for nickel, boding well for the project.

The Omitiomire Copper Project, also an early-stage project focused on securing a strategic partner for funding purposes, completed its Bankable Feasibility Study (BFS) in late 2024, and is now positioned for implementation. Omitiomire is aiming for full production by 2028.

On 18 November 2025, President Cyril Ramaphosa officially opened Ivanplats' Platreef Platinum-Palladium-Nickel-Rhodium-Gold-Copper Mine. The inauguration of the largest mine for precious metals on the African continent, is being developed in three phases by Ivanhoe Mines and its partners, with a total initial and expansion capital expenditure of a whopping $2 billion across all phases.

Meanwhile, owing to the challenges in the diamond market, the Venetia project has taken substantial steps to optimise its operations, notably by adjusting the development sequence of its flagship diamond mine. While the ramp-up to 6 mtpa of kimberlite ore to produce nameplate capacity of roughly 4 to 4.5 million carats, remains firmly on the table. The revised ramp-up is scheduled for 2032, which extends the life of mine by a further three years to 2049 from 2046.

Lastly, Debmarine Namibia's Benguela Gem diamond recovery vessel, which has been in commercial operation since March 2022, recently deployed the next generation of crawler design and capability. These next-generation crawlers will deliver higher production, combined with efficiency and even better reliability than earlier models, which were already world leading. ■

Drilling underway at the Omitiomire Copper Project in central Namibia.

Omitiomire Copper Project aims for full production by 2028

Building on the depth of mining expertise in West Africa, developed over more than a century of mining in countries like Ghana, the region is needing to foster local skill sets in response to changing standards and requirements both from government and clients.

With a unique-to-Africa chloride heap leaching process, the Omitiomire copper mine will support the just energy transition, while adding significantly to the Namibian economy.

The Omitiomire Copper Project in central Namibia, currently being developed by Greenstone Resources, with Omico Mining Corp, is a fully de-risked, open-pit copper mine, designed to produce 25 000-30 000 tonnes of high-purity copper cathode annually for approximately 15 years, using a chloride heap leach process and solvent-extraction and electrowinning (SX/EW).

The project has been focused on securing a strategic partner for funding purposes, following the completion of its Bankable Feasibility Study (BFS) in late 2024, and is now positioned for implementation.

According to the project manager, Mike Stuart from Omico Mining, the project has a storied history. The original deposit was discovered by General Mining (Genmin) in the 1970s, and significant work was then undertaken by Anglo-American in the 1990s. International Base Metals Limited (IBML) became involved in 2008, which led to extensive drilling, with some 85 000 metres completed between 2008 and 2014, and a pre-feasibility study into producing copper concentrate by flotation.

However, he says, IBML eventually mothballed the project as, at the time, the economic feasibility of a large-scale flotation operation was not viable due to low copper prices.

“Greenstone then became involved in late 2019, as a private equity group that was seeking copper projects to invest in at a bankable feasibility study (BFS) level. When it was unable to identify a sufficient number of these, it sought out projects that could be brought up to this level, which is when they looked at Omitiomire,” he explains.

“With this project, they found a method that would allow it to be a viable deposit economically, notably through a change of the metallurgical processing route, by using chloride heap leaching and SXEW to produce pure copper cathode, as opposed to the previous process route of flotation.”

Stuart joined as project manager in 2020 and explains that although time was lost due to the

Soil sampling and drilling underway.

Covid-19 pandemic, he has spent the last four years undertaking extensive metallurgical test work, resource drilling and engineering to prove that the project is up to economically viable.

"We are currently looking at alternatives to fund the project to get it up to production phase. This means that construction has not yet begun, but we are in the post-BFS phase and are presently doing a lot of work in respect of strategic planning."

Timeline to production

"As for our timelines, we are hoping that by early to mid-2026 we will be in a position to begin construction of the mine, which is anticipated to take around a further 24 months, meaning that we expect production to begin in 2028. Current studies indicate that we can expect to produce approximately 27 000 tonnes – peaking at around 32 000 tonnes where the grade is highest – of pure copper cathode annually, over a 15-year life of mine."

He notes that the mine's long-term viability is underpinned by the just energy transition, and the growing demand for copper that is part of this.

"The global copper market is huge, and although Omitiomire is not a major producer compared to some mines, copper remains a long-term growth market. Thus, we are confident that by the time we get to production, demand will not only be strong, but the market will be a profitable one – after all, most organisations view copper as having excellent long-term potential," he says.

What really sets the project up to be profitable, he continues, is the chloride heap leaching process that is being adopted to extract the copper. Not only is this method more cost effective than most, thereby increasing overall profitability, but it's chloride requirement can easily be met on location, as Namibia is a major producer of salt.

Essentially, explains Stuart, the chloride leaching process that will be used is highly effective for the predominantly chalcocite copper ore at Omitiomire. The process involves adding salt to the ore during agglomeration, to help to oxidise the chalcocite, after which acid is then used to leach the copper from the ore.

Team inspecting core samples.

> The global copper market is huge, and although Omitiomire is not a major producer compared to some mines, copper remains a long-term growth market.

"When we add salt, it creates a more effective solution for dissolving copper from this specific type of ore, and the now copper-rich solution can then be processed using solvent extraction and electrowinning (SX/EW), enabling us to produce pure copper cathodes on-site."

"The copper-rich leach solution is sent to an SX/EW circuit, which uses organic solvents to extract the copper, followed by

Project manager, Mike Stuart and a team-mate from Omico Mining inspect core samples.

electrolysis, to deposit it as pure copper cathode."

By reducing the amount of acid consumed in the process, notes Stuart, the mine's expenditure – both in terms of the sulphur required to make the acid, and the size of the acid plant needed - is reduced.

"Leaching times are also reduced, and because it is a dynamic heat leaching system, less space is required, water consumption is also lower, and the end product has a higher purity. These important drivers of value make Omitiomire a standout copper project," he suggests.

Power and road infrastructure

Talking about the supporting infrastructure, he indicates that, generally speaking, Namibia has a well-developed road network. The Omitiomire mine is around 70km from the nearest tarmac road, but the remainder of the distance is accessible via gravel.

"Power access is similar in that the nearest line is about 70km away. This means it will take some time for grid power to the mine site, but we are presently working with Nampower on how best to bring power to the site. We will also be installing solar – sunlight being something else Namibia has a wealth of – that will cater for around 30% of our power requirements" he adds.

This will be a 25 MW solar plant designed to run the whole operation, including crushing and SX/EW operations, he explains, but due to the lower amount of sunlight received in the morning and evening, and none at night, the solar facility will provide about 30% of the total power required.

"Because the mine is situated in a remote region, there are few local communities in the area, with the nearest small town being some 50km away. This means that most of the employees will be sourced from Windhoek and other areas in Namibia," adds Stuart.

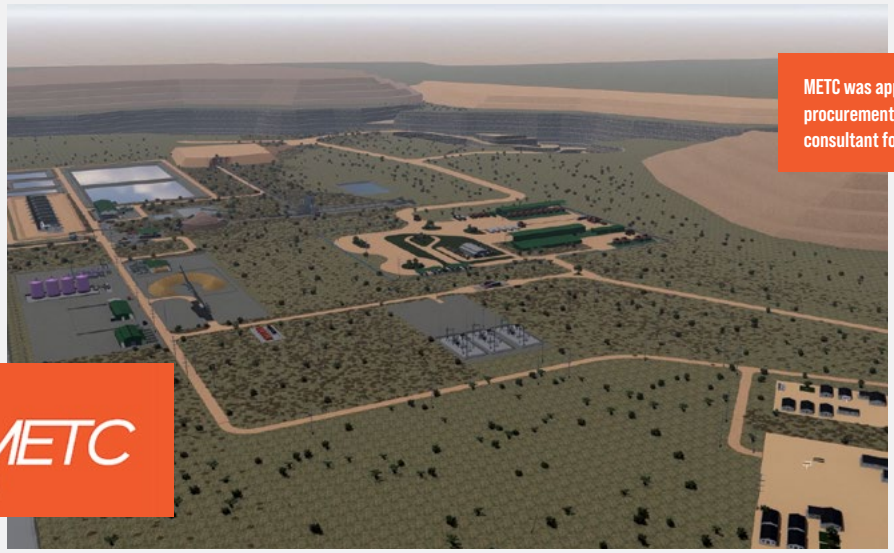
"Of course, the country does have a strong and well-skilled mining workforce, so I have little doubt that the vast majority of our employees will be Namibian, and those who require it will be trained and skilled up as the project develops."

Stuart points out that the mine expects to retain a total workforce of around 800 -1000, which will be a win for the nation in terms of job creation, adding that the mining sector as a whole is a large contributor to employment in, and the GDP of, Namibia.

"We will obviously also contribute to environmental, social and governance (ESG) principles through the Craton Foundation Trust. We are currently undertaking outreach programmes with local farms and are investigating working with them on implementing camera monitoring anti-poaching systems. The Trust has, in the past, worked in conjunction with Namibian health authorities to provide services such as eye-testing at local schools and the construction of classrooms."

Looking ahead, he notes that the company's first milestone will be to finalise its financing within the next six months, and then to begin construction in early 2026, with production starting in 2028.

"Ultimately, the Omitiomire project is unique in Africa, thanks to its use of the salt leaching process, something that has not been done on the continent before. This will benefit not only Namibia as a major salt producer – with our mine using around 100 000 tonnes of salt per annum – but will also be beneficial to the local suppliers. Between these aspects, and the jobs that will be created once the mine hits its full stride, we are confident that Omitiomire will be equally beneficial to Namibia, its people and our owners, for years to come," concludes Stuart. ■



METC was appointed lead engineering, procurement, and project management consultant for the BFS.

METC Engineering: **solving the metallurgical puzzle at Omitiomire**

In Namibia's Kalahari Copperbelt lies the Omitiomire copper deposit — a long-studied but technically challenging project containing both oxide and sulphide mineralisation. The fundamental hurdle has always been metallurgical: the ore requires two different recovery routes, each with traditionally narrow economic margins. METC was appointed lead engineering, procurement, and project management consultant for the Bankable Feasibility Study (BFS). In this role, METC Engineering played a pivotal role in the development of the process innovation that finally provided a technically robust and economically viable solution.

Unlocking a path forward

Chloride heap leaching — pioneered globally by MJO in Chile — offered a promising processing alternative to sulphuric acid heap leaching. For Omitiomire, the test work was carried out by Mintek using conventional chloride leach conditions. Early test work confirmed that chloride leaching effectively breaks down sulphide minerals, but slow kinetics and extremely high sulphuric acid consumption threatened economic viability. However, column tests revealed something important: although acid consumption was intense in the first metre of the heap, copper continued to leach effectively in deeper layers.

Recognising this as an opportunity, the Omico/Mintek/METC team proposed operating the heap at elevated copper tenors, shifting the solution chemistry from cupric to cuprous conditions. This approach reduced the acid consumption without compromising on leach kinetics.

Follow-up test work confirmed this breakthrough. Acid consumption dropped from roughly 44 kg/t to just 9 kg/t. Leach cycle times shortened from about 300 days to roughly 120 days. Total copper recovery remained strong at ~73.5%. This advance — achieved through multiple test-work phases and detailed modelling — became the foundation of the BFS flowsheet.

Engineering innovation with impact

This new chemistry introduced several engineering challenges to the process plant design. Drawing on its extensive experience and technical expertise, METC resolved these issues and delivered a BFS flowsheet that optimises the project's economics. Among the key innovations is the adoption of a dynamic heap-leach pad, rather than a conservative static design, providing significantly greater operational flexibility. The process route underpins forecast production of 23–32 ktpa of LME Grade A copper cathode over a 15-year mine life, with lower reagent intensity translating directly into reduced operating cost and environmental impact.

John Edwards, METC Chief Metallurgist, notes: "At Omitiomire, we weren't simply adjusting an existing flowsheet. We revisited the chemistry from first principles. Operating at higher copper concentrations allowed us to control acid behaviour and design a process that is both practical and economically sound."

Nick Tatalias, METC Managing Director, adds: "This project reflects METC's core philosophy: solve complexity through focused engineering and disciplined test work. We pushed the boundaries where needed but avoided unnecessary complication. The result is a flowsheet that unlocks value for Omico and Namibia."

Beyond the Chemistry

As EPCM lead, METC integrated metallurgical findings directly into engineering design, ensuring scale-up fidelity and reducing technical risk. The Omitiomire project stands as a clear example of METC's ability to advance hydrometallurgical thinking — applying established technologies in new ways to solve long-standing challenges. More than a successful design exercise, it demonstrates METC's enduring commitment to innovation, value creation and engineered solutions that make difficult projects possible. ■

Venetia adapts **to survive and soar**

To adapt to challenging market circumstances, leading diamond producer, De Beers Group, has taken substantial steps to optimise its operations, notably by adjusting the development sequence of its flagship diamond mine, Venetia, which is transitioning from open pit to underground mining.

"Challenging times require that we step up and work differently," Venetia mine's Senior General Manager, Ntokozo Ngema, tells a media delegation on a recent site visit. "Having reworked the business plan, we now have a clear pathway forward. Importantly, we have turned the corner at Venetia mine."

The Venetia Mine, located in Limpopo, has been the country's largest producer of diamonds since 1995. Opened in 1992, the Venetia open pit mine was in operation until December 2022, when the open pit ceased to operate and the mine transitioned to underground in 2023. The $2.3 billion investment in the Venetia Underground Project, is one of the largest investments in South Africa's diamond mining industry in decades.

According to De Beers, 2024 continued to be an extremely challenging year for natural diamonds. "Just as the supply chain had stocked up heavily following record years of demand in 2021 and 2022, the industry was faced with a deteriorating global economy and declining engagement rates in the post-Covid lull."

However, the diamond specialist remains upbeat about the future of diamonds.

"We are confident that we will move through this cycle and that industry conditions will improve. Nonetheless, we're not relying solely on the cycle. We've already taken actions to build financial resilience as we continue to navigate the prolonged period of lower demand through our cost management and streamlining initiatives. Furthermore, we have reviewed our strategic focus and are confident we have the right strategy in place to capture future opportunities, maximise the efficiency of our business and create enhanced value as we move through this stage of the cycle. As it stands, we have the best assets in the diamond industry, with long lives, strong expansion potential and enviable positions on the cost curve – all vital, as the outlook for global supply is in for a gradual decline in the years ahead."

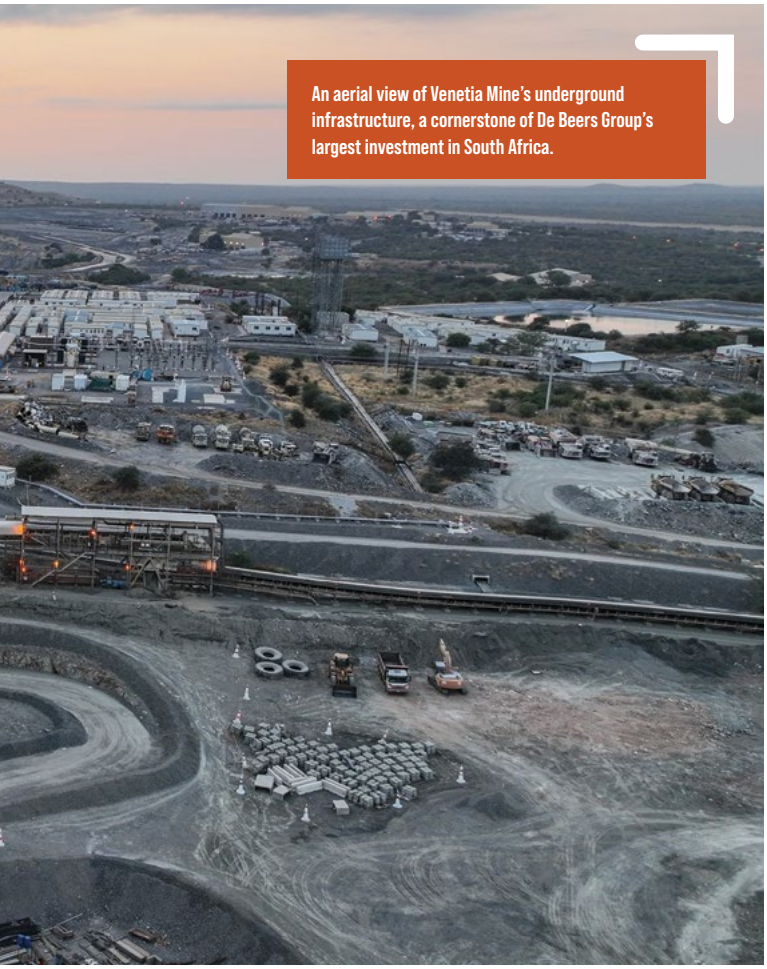
Venetia mine

Initially targeting 6 mtpa of kimberlite ore by 2027, the downturn in the market and stiff competition from lab-grown diamonds, saw the diamond miner revisit its original underground mining strategy.

While the ramp-up to 6 mtpa of kimberlite ore to produce nameplate capacity of roughly 4 to 4.5 million carats, remains firmly on the table, the revised ramp-up is scheduled for 2032, which extends the life of mine by a further three years to 2049 from 2046", Ngema said.

According to Jan Nel, General Manager: Project and Underground, in response to the economic downturn, the company conducted a comprehensive operational review, focusing on optimising working costs, capital expenditures, and production sequencing. This included developing various business plans designed to safeguard the company's future value. The plans involved determining the optimal workforce size, necessary power and infrastructure for the underground operation, and future production levels alongside their corresponding capital requirements.

"The existing plant will stand us in good stead for another 20 years and adequately support 6 mtpa capacity," explained Nel. According to De Beers, its updated Venetia turnaround



An aerial view of Venetia Mine's underground infrastructure, a cornerstone of De Beers Group's largest investment in South Africa.

programme will recover 1 billion dollars in value over the next five years and secure sustainable value creation over the life of mine, which spans more than two decades.

Unlocking underground potential

Venetia Mine's orebody consists of three kimberlite pipes, K01,K02 and K03. The Venetia underground project is focused on unlocking diamond production from two of three key kimberlite pipes – K01 and K02.

Described as a world class asset in terms of size, quality and quantity of diamonds produced, the main kimberlite pipe, K01, has an impressive resource grade of more than 100 cts per 100 tonne, reflective of an outstanding asset.

"The open pit was mined to a depth of 400 m, with the K01 pipe being mined the deepest during open pit operations. Current underground plans indicate mining depth of about 1000 m at 100 Level with the orebody extending downwards in a vortex shape. Production from K01 will take us to 3.5 mtpa with the introduction of K02 adding 2,5 mtpa to bring production to a total of 6 mtpa," said Nel.

The K01 pipe is the largest of the three diamond resources followed by K02, and K03 as the smallest kimberlite pipe.

The miner is currently undertaking studies to determine the mining method for K02.

"At Venetia, we currently use the sub-level caving method (SLC). However, standard underground mines adopt the block cave method of mining - a more efficient and cost-effective method. Before we adopt the block cave method for K02, suitable infrastructure will need to be developed at the bottom of the

An employee points toward Venetia Mine's production shaft, the heart of the mine's new underground operation.

Employees make their way underground, united in their commitment to safety and excellence.

An employee at Venetia Mine collects her rescue pack as part of mandatory safety procedures before going underground.

Showcasing De Beers Group's natural diamonds.

Employees at Venetia Mine's Integrated Operations Centre (IOC), where advanced technology and real-time data integration drive operational efficiency.

mine," explained Nel.

Production from Venetia underground is around 100 000 tons a month, with the miner set to double production to 200 000 tpm in 2026.

Safety

Touted as one of the safest mining operations in the country, De Beers Venetia mine achieved 13 million fatality free shifts in June 2025. According to Ngema, the last fatality occurred in March 2018.

"This achievement is seven years in the making, and we are looking forward to extending this to eight, nine, ten years and beyond."

Given the drive to ensure its safety standards remain amongst the best in the world, the miner has implemented several initiatives including an environmental monitoring system (EMS), which monitors the occurrence of gases after each blast. Apart from keeping a watch on the underground ventilation and pump systems, Venetia mine also tracks the weather in real time. Of the four stages in the weather monitoring system, the orange and red stages are critical and call for the immediate evacuation of personnel from site.

Further to this, De Beers uses the Mobilarius Personnel Location System (PLS) to track and manage its personnel in its mines. The system uses RFID technology to provide real-time location data, enhancing safety and operational efficiency in the mining environment. For ease of use, De Beers recently partnered with lamp cap manufacturers to have PLS installed onto lamp caps. The roll-out of this innovation is imminent.

"These measures underpin our achievement of 13 million fatality free shifts," reiterated Ngema.

Drive to automation

Automation offers several benefits to miners, such as considerably improving safety by removing workers from hazardous areas, increasing productivity through continuous operation and reducing costs and maintenance expenses. Mining houses are increasingly adopting latest technologies and products, with De Beers leading the charge.

According to Nel, 20% of the Venetia mine LHD fleet is fully automated, and the remaining 80% is automation ready. When it comes to underground dump trucks, two of the fourteen dump trucks are fully automated and the rest of the dump truck fleet is automation ready

"To effectively automate the mine, we need the building blocks that include the necessary technologies and communication infrastructure. As it is, we are in the early stages of automation. Although the equipment is automation ready, the backbones and the communications systems are currently under development."

The miner is presently engaged in a study on how best to automate 46 Level East of the mine, which is located at 460 m below surface. Machine learning is being used to program equipment to navigate the underground tunnels and, to date, one LHD and two dump trucks have been trialled on the eastern side of the mine.

"During the test phase, the LHD was set on semi-autonomous mode and programmed to study the tunnel layout. This LHD successfully loaded material and delivered it to the specific point," explained Nel.

Apart from autonomous trucks, Venetia is also evaluating the use of autonomous drills. "We recently acquired several new technologies such as automated drills, including a long-haul drill, face drills, automated trucks and electric LHDs, which are earmarked for use at the bottom of the mine where the routes are shorter."

Diamond market outlook

Despite the cooled appetite for the precious stones, the diamond miner remains upbeat about the future for its product.

"Underlying desirability for natural diamonds remains robust. We've been through these cycles before and have always seen demand recover strongly as consumer confidence improves. We are already seeing improved conditions compared with late 2023," the company said in a statement.

While growth in lab-grown diamonds continues to pose a challenge to the producer of natural diamonds, De Beers is confident that attraction for LGD is temporary and that individuals will soon pivot towards natural diamonds.

"It is becoming increasingly clear to consumers and retailers alike that LGDs are an entirely different product to natural diamonds and they are increasingly occupying a distinct place in the jewellery sector, just as has been the case with other lab-grown gems which are focused on lower-priced fashion jewellery. Looking ahead, the positive outlook for natural diamond demand is supported not only by improving macroeconomic conditions as we move through the cycle and the bifurcation of LGDs and natural diamonds, but also by massive growth in the number of middle-class households in key consumer markets, and a fast-growing self-purchase segment as more of the world's disposable income is controlled by women. We are already seeing encouraging signs that demand is stabilising in China following significant declines in recent years due to pandemic-related macroeconomic challenges." ■

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The Next Generation Crawler (NGC) positioned at the L-Berth in Cape Town harbour undergoing final testing before installation.

Next generation crawler for marine diamond recovery

Over two decades after pioneering subsea crawler technology for marine diamond recovery, De Beers' technology and engineering division, Upstream Technology, has now deployed the next-generation of crawler design and capability.

Rudi Agostinho, Project Manager for the Next Generation Crawler (NGC) at Upstream Technology.

The latest crawler system, designed and built for Debmarine Namibia's Benguela Gem diamond recovery vessel, represents a major leap forward in sub-sea recovery technology, says Rudi Agostinho, the Next Generation Crawler (NGC) Project Manager at Upstream Technology in Cape Town. After nearly four years of intensive design, engineering and building, the first crawler was installed on the Benguela Gem in September 2025 and entered production in October the same year. A second unit is already under construction and will serve as a complete rotable spare - ensuring the client experiences no significant downtime.

"We have combined advanced automation, precision engineering and insights gained from decades of operational data," says Agostinho. "These next-generation crawlers will deliver higher production, combined with efficiency and even better reliability than earlier models, which were already world leading."

The upgrades provide a strategic boost for the group, increasing the Benguela Gem's effective recovery rate by more than 20% - significantly reducing the cost per carat recovered. This additional output enables the vessel to fully capitalise on the capacity of its onboard treatment plant resulting in only a marginal increase in operating cost for a significant improvement in productivity.

Debmarine Namibia closely monitors its environmental impact and has a comprehensive programme to minimise the impact and accelerate the seabed recovery post operations. By recovering the diamonds from the ore onboard the vessel and returning all the extracted material back to the seabed in the area it was removed from, the recovery is significantly accelerated. Furthermore no harmful chemicals, which could damage the environment, are used in the process.

Performance and throughput

The new crawler is an engineering heavyweight, measuring 28 m in length, 8 m in width and

The Next Generation Crawler (NGC) being hoisted aboard the Benguela Gem, marking the next phase of advanced marine diamond recovery.

8 m in height, with a fully equipped weight of 370 t. Its boom sweeps a 21 m arc in just 25 seconds, powered by an array of high-performance systems - a 3,4 MW dredge pump for material transport, a 600 kW hydraulic system and a jet water system to fluidise the seabed.

Rated to operate at depths of up to 200 m, it typically works between 100 m and 135 m below the surface in concessions located as far as 20 km offshore.

Track innovation

Built as a modular platform, the crawler houses all key recovery systems including the excavation boom, slurry pumping and transport, hydraulics, electrical control and instrumentation and advanced sonar. Sebastian 'Bas' van der Laer, Mining System Specialist at Upstream Technology, notes that the track system on this generation has seen major advancements.

"The track tensioning system is unique - using hydraulics that can adjust automatically during operation," he explains. "It responds in real time to operational forces reducing chain wear, extending lifespan and improving gearbox torque - enabling the crawler to overcome larger obstacles."

This adaptive tensioning technology is a first for subsea crawlers, cutting the risk of track derailment and ensuring smoother movement across uneven seabeds.

Improved reliability

Operational data from the previous generation of crawlers was rigorously analysed to identify and address potential weak points, enabling longer component life, van der Laer says.

"Our goal was to raise engineering availability to 87%, up from 82% on the previous generation," he explains. "That 5% improvement translates into a significant increase in production over the crawler's three-year lifecycle."

The team prioritised durability and robustness, particularly in the pumps, with a target of increasing service life by 30%.

Critical sensing systems now feature built-in redundancy, eliminating single points of failure that could halt operations. Machine-learning algorithms further enhance reliability by analysing sensor data to predict component wear, enabling preventative maintenance and reducing downtime.

Further automation

Automation has been a key lever in boosting both performance and durability, says Technology Development Manager Imraan Parker. By embedding best operating practices directly into

The Next Generation Crawler (NGC) is a cutting-edge subsea mining unit developed for deployment on the Benguela Gem.

the crawler's systems, the team has achieved more consistent performance and greater control over the operational forces acting on the machine.

"All this translates directly into longer structural life," Parker explains, highlighting the value of the forward-looking sonar which can map the seabed in real time - even in low-visibility conditions where cameras are ineffective.

"Sonar enables more precise recovery allowing the crawler to work right down to the footwall - the boundary between ore-bearing material and the underlying seabed," he says. "When gullies or variations appear in the footwall, the system can adapt to the terrain and recover more ore-bearing material."

One-person operation

Automation also plays a central role in the crawler's launch and recovery systems. Van der Laer notes that a single operator can control both the crawler and its handling system from the vessel.

"The crawler can operate continuously for between 6 and 15 days before planned retrieval," he says. The vessel automatically tracks the crawler's movements, maintaining the optimal position for pumping and cable management - a critical factor for stability, efficiency, and safety in offshore operations.

Deployment and retrieval are carried out using a single cable and winch. To compensate for the vessel's vertical movement in ocean swells, a wire line tensioning system (WLTS) keeps the cable under constant tension. An umbilical cable houses all essential

The team stands proudly in front of the Next Generation Crawler (NGC) ahead of its deployment to the Benguela Gem.

The MV Benguela Gem docked at Cape Town harbour, ready to receive its latest subsea technology upgrade.

connections for the crawler including power supply lines at different voltages for the dredge motor, jet water system and high-pressure unit, along with lubrication and communication channels.

Assembly and transport

Scaling up the crawler's size by 20% compared to its predecessor required significant assembly upgrades at Upstream Technology's advanced technical facilities in Cape Town. Senior Workshop Engineering Officer Abdul-Gameed Davids recalls the challenge of lifting the 47 tonne dredge motor into the crawler frame inside the workshop equipped with two 30 tonne cranes.

"Our solution was to synchronise both cranes to give us the added capacity," Davids says. "We have since formalised this process, increasing our capability for future builds."

Moving the completed 370 t crawler from the workshop to the harbour demanded months of meticulous planning - covering everything from night-time road closures to the temporary removal of street infrastructure. Senior Project Engineer Steven Smith explains that the team collaborated closely with specialist rigging and lifting partners to complement its in-house expertise.

"The crawler's weight, combined with its 28 m length, called for a specialised multi-axle heavy-haul vehicle," Smith notes. "The route had to be surveyed for road and bridge load limits, turning radii and overhead clearances under power lines and signage."

Street infrastructure, such as lamp posts and barriers, was temporarily removed to accommodate the load. The move took place at night to minimise traffic disruption with police escorts and traffic management teams closing and reopening roads in sequence. At the harbour, a 750 t mobile crane lifted the crawler from the transporter and set it down on the quayside, ready for loading onto the vessel.

Testing and commissioning

Before installation on the Benguela Gem, the crawler underwent full-scale simulation testing on land. Specialised rigs were used to replicate operating loads - allowing the team to validate all systems including hydraulics, control software and automation - before the crawler even touched the water. Davids underscores the complexity of the control systems.

"We use 2,2 km of cabling on the crawler with more than 10 000 individual connections," he says. "Every one of them must be fully checked before leaving the workshop, because once the unit is offshore, you don't have the luxury of quick access."

Van der Laer notes the efficiency of crawler changeovers. "When the vessel docks, the onboard machine is lifted off and the replacement is installed immediately," he explains. "We load the new software and it is ready to go straight into operation."

Client collaboration

Smith highlights the close collaboration with Debmarine Namibia during the assembly of the first next generation crawler, which included having a member of the crawler operations team embedded in the mining systems workshop on a weekly rotation.

"While on site, these operations team representatives provided valuable observations that fed directly into our continuous improvement process," he explains. "By systematically acting on their feedback, we were able to incorporate enhancements into the first unit and carry these improvements into the build of our second unit - ensuring all future models benefit from real-world operational insights."

Specialised design and sourcing

Agostinho underscores the depth of design and engineering expertise behind De Beers' crawler legacy.

"To our knowledge, this is the largest remotely operated submersible machine in the world and every aspect of its design is customised and carried out in-house," he says. "We rely on an extensive, well-established supply chain of trusted partners to deliver specialised components - many of which are bespoke and produced exclusively for us."

Even with outsourced parts, the Upstream Technology team undertakes multiple iterative adjustments to achieve seamless integration with the core design - a process that draws on extensive expertise in mechanical, hydraulic, electrical, and control engineering.

In-house R&D

Parker highlights the extensive research and development behind the next generation crawler, noting that the improvement process begins with a detailed analysis of historical data from legacy units to identify key opportunities and challenges.

"We then explore how to influence the behaviour of a particular system to achieve the desired result," he explains. "For example, with the enlarged recovery nozzle we used computer simulations and 3D printing to create smaller prototypes for experimentation. Our on-site test facility allowed us to simulate recovery conditions at scale and run performance trials."

"Our R&D team takes the design to a certain stage before handing it over to the engineering team for full-scale detailing," Parker says. "Collaboration is key - everyone contributes their expertise and the process continues right up to operational deployment. The lessons we learn in operation feed directly into the next generation."

Agostinho describes the next generation crawler as a groundbreaking integration of innovation, operational experience and disciplined engineering.

"By upgrading our precision recovery tools, adaptive systems, automation and predictive maintenance capabilities, we have created a platform for the next decade of offshore diamond recovery," he says. "With its focus on reliability, precision and efficiency, this crawler will recover more material, more consistently and with less downtime - even in increasingly challenging conditions." ■

The Next Generation Crawler (NGC) team at Upstream Technology, from left: Abdul-Gameed Davids, Senior Workshop Engineering Officer; Rudi Agostinho, NGC Project Manager; Steven Smith, Senior Project Engineer; and Sebastian "Bas" van der Laer, Mining System Specialist. (Absent: Imraan Parker, Technology Development Manager).

The Kabanga Nickel project is in north-west Tanzania's Kagera Region.

Kabanga Nickel heads towards final investment decision in 2026

Following the filing of its Feasibility Study, the project is transitioning from the exploration stage to the developmental financing and site preparation phases.

The Kabanga Nickel project, located in north-west Tanzania's Kagera Region - near the Burundi border - is one of the world's largest and highest-grade undeveloped nickel sulphide deposits. The deposit lies within the East African Nickel Belt, and contains significant nickel, copper, and cobalt mineralisation.

It is a project with some history: the initial discovery occurred in the 1970s, with additional major discoveries made in the 1990s and early 2000s. According to Chris Showalter, CEO of Lifezone Metals, the asset had passed through several ownership structures over time, before being consolidated under Lifezone Metals in 2021.

Operating company, Tembo Nickel Corporation, is 84% owned by Lifezone and 16% by the Government of Tanzania.

> The next steps include securing project financing, final permitting and site preparation, building the underground mine and concentrator, and advancing plans for the proposed Kahama Hydromet Refinery.

"You could say the stars have aligned for Kabanga, given the major investment in hydro power and rail infrastructure by our partner, the Tanzanian government, coupled with the completion of our feasibility study, which confirms the technical and economic strength of one of the world's most significant undeveloped nickel sulphide deposits," says Showalter.

The company recently announced the filing of the Feasibility Study Technical Report Summary, he notes, adding that with the feasibility study now filed, the Kabanga Project transitions from exploration into the developmental financing phase.

The project is transitioning from the exploration stage to the developmental financing and site preparation phases.

Next steps

The project has an after-tax net present value of $1.58 billion using an 8.0% discount rate and after-tax internal rate of return of 23.3%, based long-term consensus metal prices

"The next steps include securing project financing, final permitting and site preparation, building the underground mine and concentrator, and advancing plans for the proposed Kahama Hydromet Refinery," states Showalter.

He further explains that the recent Feasibility Study outlined a mine plan for 52.2 million tonnes of ore (100% basis) to be processed over an 18-year life-of-mine (LoM), with average feed grades near 2% nickel.

The Kabanga Nickel Project hosts 67.1 million tonnes of measured and indicated resources, grading 2.09% Ni, 0.29% Cu, and 0.16% Co, plus a further 16.2 million tonnes of inferred resources at similar grades (100% basis).

"Nickel recoveries are expected to exceed 87%, producing around 350 000 tonnes of concentrate per year. Kabanga's grade and scale make it a potential first quarter cost producer among global nickel operations. Looking ahead, we see strong growth potential - with exploration to target new, high-grade zones - and there is significant opportunity to convert additional resources into mineable reserves."

Based on analysis provided by CRU International (CRU Group), Kabanga's low all-in sustaining costs averaging $3.36 per pound of nickel contained in concentrate, net of copper and cobalt by-product credits, will fall within the first quartile of the global nickel cost curve.

Rising demand

With its high grades, long life, low-carbon processing

Lifezone's ultimate intention is to create a mine-to-metal operation.

The Kabanga Nickel Project hosts 67.1 million tonnes of measured and indicated resources.

technology, and strategic location in the growing critical-minerals space, Showalter suggests that Kabanga represents a cornerstone asset for the future supply of responsibility sourced metals. He further indicates that the recently completed feasibility study demonstrates robust project economics, with approximately 902 000 tonnes of Nickel in concentrate produced over the LoM.

"The rising global demand for Lithium-ion batteries is a key market driver for the nickel, copper, and cobalt that will be produced from the project. Lifezone's ultimate intention is to create a mine-to-metal operation that produces battery-grade nickel, copper and cobalt for international markets," he says.

An Initial Assessment evaluates a vertically integrated mining, processing and refining operation, commencing with a high-grade nickel sulphide underground mine and concentrator at the Kabanga site, followed five years later by a hydrometallurgical refinery at Kahama.

"The expanding lithium battery market, driven by electrification and decarbonisation, is a core end-use market for its nickel production, one that supports the long-term strategy in respect of the energy transition."

However, it's not just about batteries, he points out, explaining that stainless steel – of which nickel is still a critical component – remains the core demand source, as it is a cornerstone of modern living.

"Stainless steel is projected to grow at a compound annual growth rate of 5.2% over the next decade, underscoring its increasing role in global infrastructure. This is unsurprising, as its durability and resistance to corrosion make it the preferred choice for appliances, as well as making it the ideal choice for construction materials."

Infrastructure and ESG

Showalter indicates that the project benefits from existing infrastructure, although he adds that there are certain enhancements that are planned to support its development. For example, while the mine site is currently accessible via a 77 km unpaved public road that provides basic connectivity, small improvements may be necessary to accommodate the increased traffic during construction and operations.

"The Tanzanian Electric Supply Company Limited (TANESCO) currently supplies grid electricity to site, which is sufficient for construction and initial mine development. Further infrastructure enhancements may also be required to meet full operational demands."

Asked about the company's environmental, sustainability and governance (ESG) processes, he notes that sustainability is something that is innate to the business, as its products are produced with far fewer harmful impacts on the environment than most.

"Our approach is ever-evolving, as it is strategically driven by adherence to global standards governing ESG practices. By working as partners with diverse stakeholders, our commitment to sustainability remains resolute. Risk management and the mitigation of our impacts will be driven and defined by our goal to achieve significant carbon reductions in nickel, copper and cobalt production," he says.

"We have also made a commitment to share social benefits and build lasting stakeholder relationships across our operations. Making better choices for our people, their communities and environment means that rights, responsibilities and inclusion will always govern our decisions and how we grow as a company."

He explains that the business focuses on in-country beneficiation, job creation and community development policies and programmes.

Social investment

Tanzania is expected to receive an equitable share of the total economic benefits from the Kabanga Nickel Project through the Economic Benefit Sharing Principle (EBSP). This includes dividends from its 16% free-carried interest, $1.2 billion in royalties, fees, levies and duties, and $2.4 billion in corporate income taxes estimated in the Feasibility Study economic model.

"Additionally, a core goal is to have a labour force with a low expat representation, focusing on skills transfer and training. Security will be managed collaboratively and in strict partnership with communities and local government, as well as via training on the Voluntary Principles on Security and Human Rights."

"Our Social Investment and Corporate Social Responsibility plan at Kabanga has a strong focus on healthcare and education, where we have continued to support healthcare workers, surrounding schools and our communities."

Showalter adds that the investment in education includes ongoing support for local schools, and initiatives that promote vocational training. The company has also continued to work on identifying potential partnerships with vocational centres in the surrounding regions, working towards future training opportunities for local youth.

"Furthermore, as part of fostering local economic growth and enterprise development, we have previously supported

A recent Feasibility Study outlined a mine plan for 52.2 million tonnes of ore to be processed over an 18-year life-of-mine.

five agribusiness groups with their registration as formal business enterprises," he states.

A leading development

Showalter describes the Kabanga Nickel Project as one that stands out as one of Africa's leading mining developments for several reasons.

"It is a high-grade, large scale resource hosting one of the world's largest undeveloped high-grade nickel sulphide deposits, with over 46 million tonnes of measured and indicated resources at over 2% nickel, along with significant copper and cobalt."

"Moreover, it plays a strategic and significant role in the energy transition and nickel market in general. Kabanga is designed to produce nickel, cobalt and copper, diversifying supply of these metals where it is currently very concentrated, while also supporting the growing lithium-ion battery market for electric vehicles (EVs) and renewable energy storage."

A third reason it stands out is its method of creating responsible, low-carbon production through the potential the company's Hydromet Technology brings, making it a project that can, over time, deliver metals with an even lower environmental footprint, meeting the ESG expectations of investors and off-takers.

The long life of mine and strong economics of the project position the business as a competitive, long-term producer of nickel. To this end, he suggests that the organisational strategy is focused on advancing the project towards production, whilst securing financing, completing regulatory approvals and preparing key infrastructure.

"We aim to achieve several major milestones next year, including finding a clear path to the final investment decision expected in 2026, with all strategic options under evaluation, including potential asset level change of control."

"The company is thus actively working with international financial institutions to secure the funding needed for construction, while early-stage development activities are planned to support construction and operations. As we move into 2026, we also continue to progress environmental and social permits, ensuring compliance with Tanzanian regulations and, ultimately, readiness for the construction phase," he concludes.

Cementation Africa adapts Ivanplats' Shaft 3 for production ramp up

At Ivanplats' Platreef mine – one of the world's largest undeveloped precious metals projects – Cementation Africa is preparing Shaft #3 to help deliver the mine's ambitious Phase 1 production targets.

Cementation Africa undertaking the equipping of Platreef's Shaft #3 headgear as part of the shaft development programme.

Shaft #3 will allow the mine to augment its hoisting capacity from Shaft #1, to reach five million tonnes per annum from the first quarter of 2026. During Ivanplats' Phase 1 development, it will ramp up its annualised production to about 100 000 oz of platinum, palladium, rhodium and gold (3PE+Au), plus 2 000 t of nickel and 1 000 t of copper.

Located in South Africa's Limpopo province, Platreef is mining a globally significant precious metals orebody currently exceeding 50 Moz of gold-equivalent, according to Ivanhoe Mines' Founder and Executive Co-Chairman, Robert Friedland – who highlights that Platreef is the world's leading polymetallic mine in development. Exploration on the deposit has been ongoing for over 30 years, during which the 26-metre thick, flat-lying Flat reef orebody was discovered some 15 years ago.

Ivanhoe's approach has been to meticulously delineate the deposit and to engineer the mine to grow through rapidly phased expansions. This positions Platreef as one of the lowest cost and largest primary producers of platinum group metals in the world.

Werner van der Berg, Platreef's Project Manager, explains that the initial purpose of Shaft #3 – which measures 950 m deep and 5,1 m in diameter – was to operate as an updraft ventilation shaft with facilities for emergency lifting of personnel.

"The shaft will now make a strategic contribution to our production plans and it has been important to have an experienced partner like Cementation Africa to work with us on this endeavour," Van der Berg says. "They also share our commitment to safety, while working closely with us to find innovative solutions to reach our production goals within the timeframes we have set."

The ventilation shaft was completed by Cementation Africa in 2024, using an advanced Rotary Vertical Drilling System (RVDS). According to Graham Chamberlain, New Business Director at Cementation Africa, this directional drilling technology – combined with the skills of its highly experienced operators – allowed minimal deflection in the shaft barrel.

> "Shaft #3 will allow the mine to augment its hoisting capacity from Shaft #1, to reach five million tonnes per annum from the first quarter of 2026."

"Over the full 950 m depth, the deflection did not exceed 0,05% – or 452 mm," Chamberlain says. "By the time we reached our targeted depth, the deviation was only 0,02% or 226 mm off centre."

This has provided the low tolerances necessary for using the shaft to convey ore on a daily basis. Cementation Africa was then tasked with fitting the shaft with hoisting infrastructure - initially for a person-riding conveyance and now for rock and ore hoisting to surface. Nonetheless, he points out that designing and installation of the steelwork to operate in upcast air is technically challenging.

"Our mine engineering design team has followed best practice from other projects where this kind of retrofitting

A view down into Platreef's Shaft #3 reveals Cementation Africa's detailed equipping process underway.

has been conducted," he says. "The installation methodology for the steel infrastructure, for instance, has been designed with the slight shaft deviations in mind, to accommodate some movement during installation."

The sinking of the shaft using specialised drilling equipment – rather than conventional blasting – has also meant that more precise information on the ground and wall conditions needed to be gathered from cameras. With no personnel having been physically present in the shaft, this camera work was vital to better understand conditions so that the most suitable support options could be applied.

Kethusitswe Mokgatlha, Project Executive at Cementation Africa, highlights the important role of a rock engineer in the company's team, to provide the necessary insights into the support design. This facilitated the identification of areas in the shaft barrel where shotcreting was necessary to strengthen poor ground conditions including shear zones.

In most areas, the appropriate solution was mesh and resin bolting, Mokgatlha explains, with the rock engineer specifying where long anchors would be required. Structurally weak areas would also be specified for the application of wetcrete. Shotcrete was applied as a routine support measure where the station levels were holed into the shaft at levels 750, 850 and 922.

Cementation Africa used core samples from the surrounding areas of the shaft to inform its understanding of the prevailing ground conditions, Chamberlain notes.

"In collaboration with the client, we then conducted a Stacey and McCracken test to assess ground stability and risk – to establish how long an excavation will stay open," he continues. "The competency of the ground needs to be well understood if your support strategies are to be effective."

Mokgatlha highlights that a key success factor in these projects is invariably the close collaboration that is developed with clients.

"Given how technical and complex this project is, we hold weekly progress meetings with the client team to overcome any obstacles and keep activities on track," he says.

An aerial view captures Cementation Africa's progress on the equipping of Platreef's Shaft #3 head with both the stage and kibble winders in place.

Platreef's Shaft #3 headgear, constructed by Cementation Africa, is shown alongside the permanent winder house on the left.

This cooperation includes finding ways to streamline processes to maintain the programme schedule. By the fourth quarter of 2025, Cementation Africa was able to complete pre-erection of the permanent headgear and construct the foundations for the permanent headgear raker legs.

"At the shaft bottom, we worked with the client to slipe the shaft to the required size for the loading box at 922 m, and conducted the necessary civil engineering works," he explains. "Working concurrently to make the most of the time available, we also assisted the client in slinging down conveyor infrastructure and the components for the loading box – for completion in December 2025."

Work progresses at Platreef's Shaft #3, where Cementation Africa's pre-assembled permanent headgear can be seen to the right.

The Cementation Africa crew carries out precise slinging activities at Platreef's Shaft #3.

The loading box, standing at 11 m tall, extends from the 922 m to the 933 m level and comprises around 60t of steelwork. This structure receives the crushed rock from a conveyor belt into a 20 t fixed-volume flask which, in turn, discharges into the skip for hoisting. Much of this process is automated through the use of specialised electronics, cameras and weightometer systems – the arrangement being designed and installed by Cementation Africa and its technology partners.

Chamberlain emphasises that the design, procurement and manufacturing of components for equipping the shaft tend to involve long lead times – especially with regard to aspects like steelwork, ropes, stages, headgear and loading box.

"All these critical inputs need to be available on site at the appropriate time which requires accurate and early planning as well as fastidious execution," he says. "At the same time, we also innovated extensively to ensure that the best solutions were applied to the project."

In the shaft design, for instance, the team needed a different approach to the conventional fastening techniques for shaft steelwork. Where a shaft is designed upfront for this infrastructure, nut boxes can be encased in the shaft lining to which buntons and guides can be attached.

"In this case, we didn't have any pre-installed steel elements in the lining, so we designed the steelwork to be pre-rounded to the finished diameter of the shaft," he explains. "This is carefully surveyed in, so that it can be anchored and bolted securely into place from the stage."

The survey work is a vital aspect of this process, and Cementation Africa even includes surveyors as part of its underground team working from the stage platform. This ensures that there is no compromise on safety or engineering quality, especially in regard to mission-critical infrastructure like the shaft.

Chamberlain highlights that the successful performance and longevity of the shaft will underpin both the lifespan and productivity of the whole mining operation.

"With the weight of the skip reaching up to 18 t, this creates considerable momentum when travelling up and down the shaft," he explains. "Among the quality checks we build into the shaft infrastructure are accelerometers which monitor the whole structure, as well as the movements of the conveyance. Any quick movements or slamming will compromise the guides and steelwork – demanding more frequent technical maintenance and operational downtime."

Shaft #3's permanent headgear includes a 50 t surface bin into which the skip will discharge crushed material after it is hoisted from underground. To facilitate easier lifting during the assembly stage, the headgear was designed in three parts, Mokgatlha explains.

"To streamline the assembly and construction phase, we fitted out each 'block' of the headgear beforehand," he says. "This made it quicker to transition from the temporary headgear to the permanent headgear and to commission it for hoisting by the end of the first quarter of 2026."

With the Shaft #3 project demanding innovative and creative solutions at various points, Chamberlain says the constructive relationship with the client has created a strong foundation for success.

"Most projects present circumstances where certain unquantified factors must be identified, investigated, understood and resolved in a safe and productive manner," he says. "With our respect for the client's expected outcomes and their respect for our knowledge and experience, our collaboration makes for sound project deliverables."

Mokgatlha highlights clear and regular communication as a golden thread binding the teams from the contractor and the client – providing the basis for effective problem-solving.

"With everyone focused on performance within the timeframes, we have developed high levels of trust that are vital for every complex and demanding project," he concludes. ■

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Mining For A Future

Pan African Resources' Tennant Mines operations in Northern Territory, Australia

During November 2024, Pan African Resources (PAR) announced the completion of its first acquisition outside of South Africa. Tennant Mines is the latest addition to Pan African Resources' growing portfolio of high-quality mining assets.

Situated in the highly prospective Tennant Creek Mineral Field in Australia's Northern Territory, it marks a key step in our global expansion strategy – bringing low-cost, near-term gold production and long-term exploration potential in a Tier 1 mining jurisdiction.

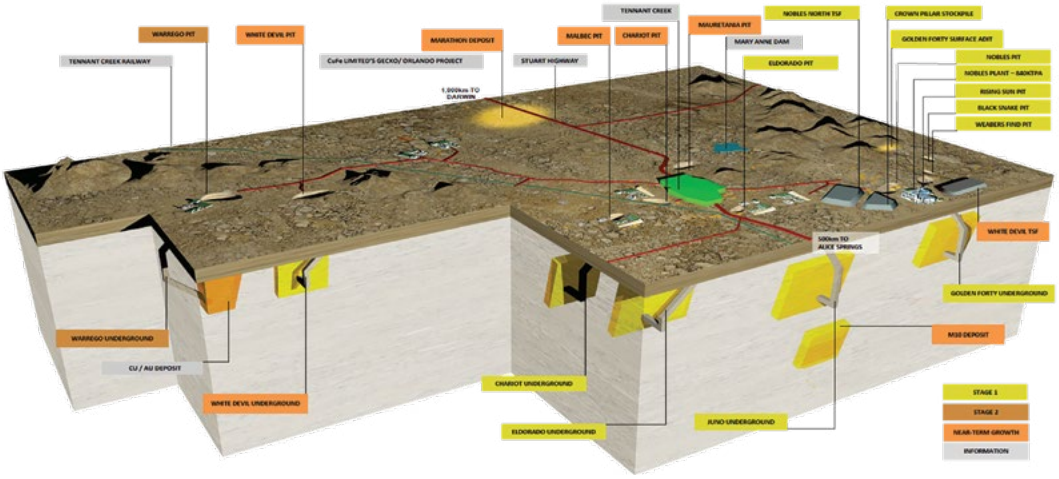
Tennant Creek is a town located in the Northern Territory of Australia. It is the seventh largest town in the Northern Territory, approximately 1 000 kilometres south of the capital Darwin, and 500 kilometres north of Alice Springs.

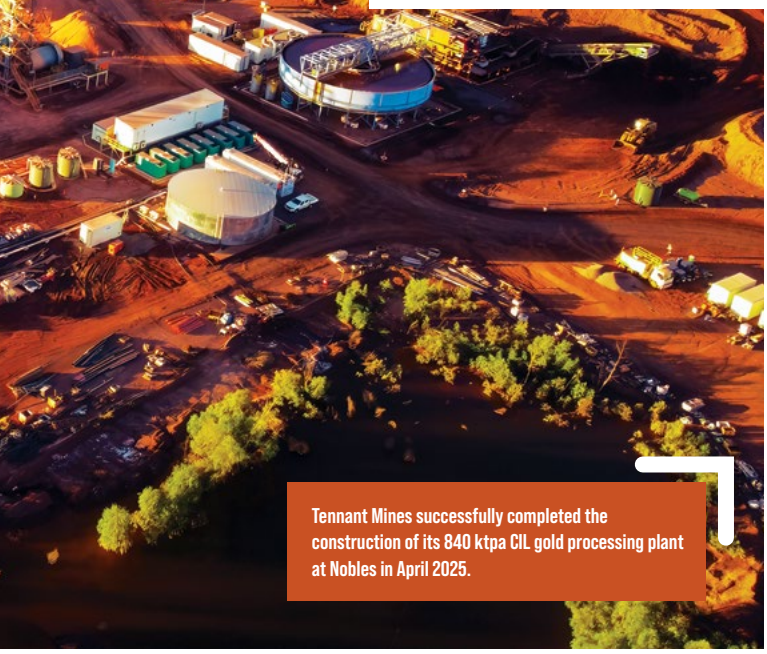
The Tennant Creek Gold Field (TCGF) was discovered in the early 1930s and was mined until the early 2000s when the gold price reached lows of ~A$500/oz, resulting in the termination of mining activities in this region. The TCGF was one of the highest-grade gold-producing fields in Australia, with production over the period yielding 156 t of gold (5.5moz), 348 000 t of copper, 59.2 t (1.9moz) of silver, and 21 600 t of Bismuth. Following 30 years of mining at the Nobles underground mine, the crown pillar collapsed in 1967 due to erosional degradation of the iron oxide lithologies. The broken material was excavated from the failure zone and stockpiled on the Crown Pillar Stockpile (CPS), with some of this material being treated while the new plant was being constructed during 1967 and 1968. From this point, Nobles was mined as an open pit mine, with the remainder of the CPS never being treated. It was Australia's largest open pit gold mine until 1985.

The mineral deposits in the TCGF are well studied and understood through historical mining as well as current exploration. These deposits form part of the hematite and magnetite end members of an Iron Oxide Copper Gold (IOCG) mineralisation style. The ore bodies tend to express as cone-like, blanket-like breccia sheets within granitic margins, or as long ribbon-like breccia or massive iron oxide deposits within faults or shear zones. Continuity of these deposits is proven with strike lengths more than 50 m, widths of 2 m-24 m or more and down-dip extents of hundreds of meters. Typically, these deposits are enriched in copper, gold, cobalt, silver, uranium and bismuth.

In 2022, realising the consolidation opportunity present in the area, Tennant Mines acquired 100% of the tenements around the historic highest grade and largest producers of the region, namely, Nobles, Warrego, and Juno, with the intent to expedite exploration and increase the conversion of Mineral Resources to Mineral Reserves.

Tennant Mines successfully completed the construction of its 840 ktpa CIL gold processing plant at Nobles in April





Tennant Mines successfully completed the construction of its 840 ktpa CIL gold processing plant at Nobles in April 2025.

2025, with the inaugural gold pour on 13 May 2025. The project was delivered ahead of schedule, having been built in less than 12 months, and within its allocated budget of US$36 million. This facility is the first of its kind to be developed in Tennant Creek in over two decades and is the largest ever constructed in the region, with a capacity more than double that of any historical facility. The construction of the plant was completed using over 160 000-man hours and achieved an exemplary safety record with no lost time injuries, no material security incidents and near-perfect compliance with all safety protocols. This outstanding performance reflects not only the effectiveness of the Company's policies and procedures but, more importantly, the strong culture and engagement of the Tennant Mines team.

As part of the plant's development, Tennant Mines implemented a pioneering dry stack tailings solution, marking the first time this environmentally conscious method has been used in a gold processing facility in the Northern Territory. Production ramp-up was achieved on schedule with the plant currently producing at steady state.

The immediate processing focus is on the 1.25 mt Crown Pillar stockpile, which carries an average grade of 1.48 g/t gold. Open pit mining operations commenced on schedule in the third quarter of 2025 and are expected to sustain production through to FY29 or FY30. At that point, underground mining is anticipated to contribute around 40% of total ore feed. Once commercial production is achieved, Tennant Mines plans to debottleneck and expand the facility to a 1 mtpa throughput (equivalent to 85 000 t per month). This development, identified since the feasibility study was completed, is forecast to extend the current eight-year mine life by an additional seven years. In early FY25, Tennant Mines received the necessary approvals to construct a 5MW solar plant. The project's feasibility study is in its final stages, with construction scheduled by early 2026. Once completed, the solar farm is expected to supply a significant portion of the operation's power needs, replacing diesel-generated power and significantly reducing operating costs and emissions.

Over the next 12 months, Tennant Mines is forecast to produce approximately 50 000 oz of gold, with an expected average annual output of 65 000 oz over the eight-year project life. Other advanced projects include the Warrego copper and gold project, where a prefeasibility study was completed. Work on the definitive feasibility study is now underway, with completion expected by mid-2026. ■

SEW-EURODRIVE South Africa's R385 million investment in its new 17 000 m² service and repair facility underscores its long-term commitment to local industrial growth and re-industrialisation.

New SEW-EURODRIVE service centre transforms future of drive repairs

Raymond Obermeyer, Managing Director of SEW-EURODRIVE South Africa.

In a momentous step for the local industrial gearbox and drives market, SEW-EURODRIVE South Africa has formally opened a new service and repair facility alongside its headquarters in Aeroton, Johannesburg.

"For the first time, customers can have all aspects of their industrial gearbox dealt with in one place – and to the highest OEM quality standards," Raymond Obermeyer, Managing Director of SEW-EURODRIVE South Africa, says. "This allows us to offer unprecedented warranties on service work, giving the market peace of mind, quicker turnarounds and enhanced uptime on their repaired and refurbished units."

The company has invested almost R385 million in the new 17 000 m² facility, where construction began a year ago. Significantly this followed just years after company built its R500 million, 26 000 m² head office complex in Aeroton, into which it expanded in 2022. These developments form part of SEW-EURODRIVE's proactive investment in added service capabilities across the world, which amounted to €1 billion in 2024 alone.

Obermeyer explains that in an unprecedented move the new service facility marks the end of an era in South Africa in which industrial gearbox users would have to involve multiple service providers in a single repair or refurbishment contract.

"The expertise and equipment in this facility allow SEW-EURODRIVE to conduct all aspects of a drivetrain repair – from the gearbox and coupling to the motor, steelwork and electronics," he says. "We now have all this capability at our disposal, which is game changing in terms of quality, reliability and warranties."

He highlights that the investment in skills and sophisticated hardware now gives the company comprehensive control over the repair process and the results.

"Previously, we were often limited by the fact that other players were involved in the work on many service interventions – and we could not take responsibility for their level of workmanship," he explains. "As a world class OEM and with our steadfast commitment

The interior of SEW-EURODRIVE's expansive new 17 000 m² service and repair facility nears completion, reflecting the company's substantial investment in state-of-the-art industrial engineering capacity.

The impressive 17 000 m² SEW-EURODRIVE service and repair facility takes shape during construction, showcasing the scale of the company's latest investment in South Africa's industrial infrastructure.

Purpose-built to OEM standards, the new SEW-EURODRIVE service and repair centre will bring all aspects of gearbox, motor and drive refurbishment under one roof - a first for the South African market.

to quality processes and components, we can now offer warranties of two years on our repairs and refurbishments. This has never been possible before and represents a significant and high-value development for customers all over Africa."

The new service centre will even conduct work on gear units from other manufacturers, he notes, given the depth of the experience and infrastructure at SEW-EURODRIVE's new world class service and repair facility. Over 65 additional technical staff are in the process of being brought on board at the site including engineering managers, field service engineers and artisans in various specialised disciplines.

"Our centre is being equipped with the some of the most experienced skills in the local market, and our in-house DriveAcademy is busy finetuning their expertise in line with our wide range of drive solutions," Obermeyer says.

Fully equipped with the latest technical infrastructure, the work of the new facility will include vibration analysis and diagnostic testing for motors and drives as well as equipment for 3D scanning and CNC machining. Winding machines will allow for motors to be rewound in-house and tested in line with SEW-EURODRIVE world class OEM standards.

"The facility will also include a fabrication department, so that we don't have to outsource aspects like base plates, flanges, guards and other steelwork," he says. "With the capacity to do our own cutting, bending and welding, this department allows us to conduct all this work in-house – speeding up turnaround times and ensuring constant quality control."

Obermeyer concludes that the breadth of in-house services and engineering equipment at the SEW EURODRIVE service and repair centre represents a significant investment in the re-industrialisation of the local economy – allowing customers to optimise the longevity and performance of their drive systems and is aligned with the company's commitment to strengthening its position as the leading industrial gearboxes and drives provided on the African continent. ■

Africa welcomes **first-ever fully electric Sandvik mobile crushing plant**

The African mining and aggregate industries are marking a major milestone with the arrival of the first fully electric Sandvik mobile crushing plant on the continent. Sold through Sandvik Rock Processing distributor, S&R Enterprises, the Sandvik UJ443E heavy jaw crushing plant has already been sold into the market, with significant interest building as the sector accelerates its move towards lower carbon, more cost-effective operations.

The Sandvik UJ443E heavy jaw crushing plant demonstrates the latest fully electric track platform technology.

"This is the first time Africa will see a Sandvik mobile plant built from the ground up on a fully electric track platform," Jaco Benade, Distributor Manager at Sandvik Rock Processing, says. "It is a game-changing development that helps customers cut operating costs while advancing their sustainability goals."

Benade says the introduction of the fully electric mobile crushing plant is a step change in efficiency and sustainability. "A key differentiator of the Sandvik UJ443E is its energy flexibility," he explains. "The unit can operate directly from the electrical grid, bringing customers considerable savings through reduced fuel costs, lower emissions and quieter operation. Where grid power is not available, it can switch to diesel or renewable biofuels such as hydrotreated vegetable oil (HVO)."

By offering multiple energy pathways, the Sandvik UJ443E allows customers to adapt to site-specific conditions while preparing for the broader shift towards electrification in mining, quarrying and construction. Benade notes that where reliable grid electricity is available, operators can also benefit from extended drivetrain service intervals, leading to reduced downtime and lower lifecycle costs.

With three-speed electric tracks and a redesigned feed station, the Sandvik UJ443E offers precise movement and simplified maintenance access.

The UJ443E incorporates Sandvik's proven CJ412 jaw crusher, featuring real-time monitoring and an unblock function for safer more efficient operation.

Proven technology, new platform

Built on a fully electric track platform, the Sandvik UJ443E is fitted with the proven CJ412 jaw crusher. This latest generation unit

The energy-efficient Sandvik UJ443E represents a major step forward in sustainable mobile crushing technology, paving the way for electrified solutions in Africa.

features smart technology for real-time performance monitoring and adjustment as well as an unblock facility that improves safety and reduces downtime. Other innovations include three-speed electric tracks for precise movement, a redesigned feed station with hydraulic tilt access for easier maintenance and a downstream 125-amp connection for integrating other electric equipment such as screening plants.

"This machine consumes about 90% less hydraulic fluid than its predecessors which means lower maintenance costs and a lighter environmental footprint," Benade explains. "It also offers flexible configurations - from a vibrating grizzly feeder for clean rock to an under-screen option for fines removal."

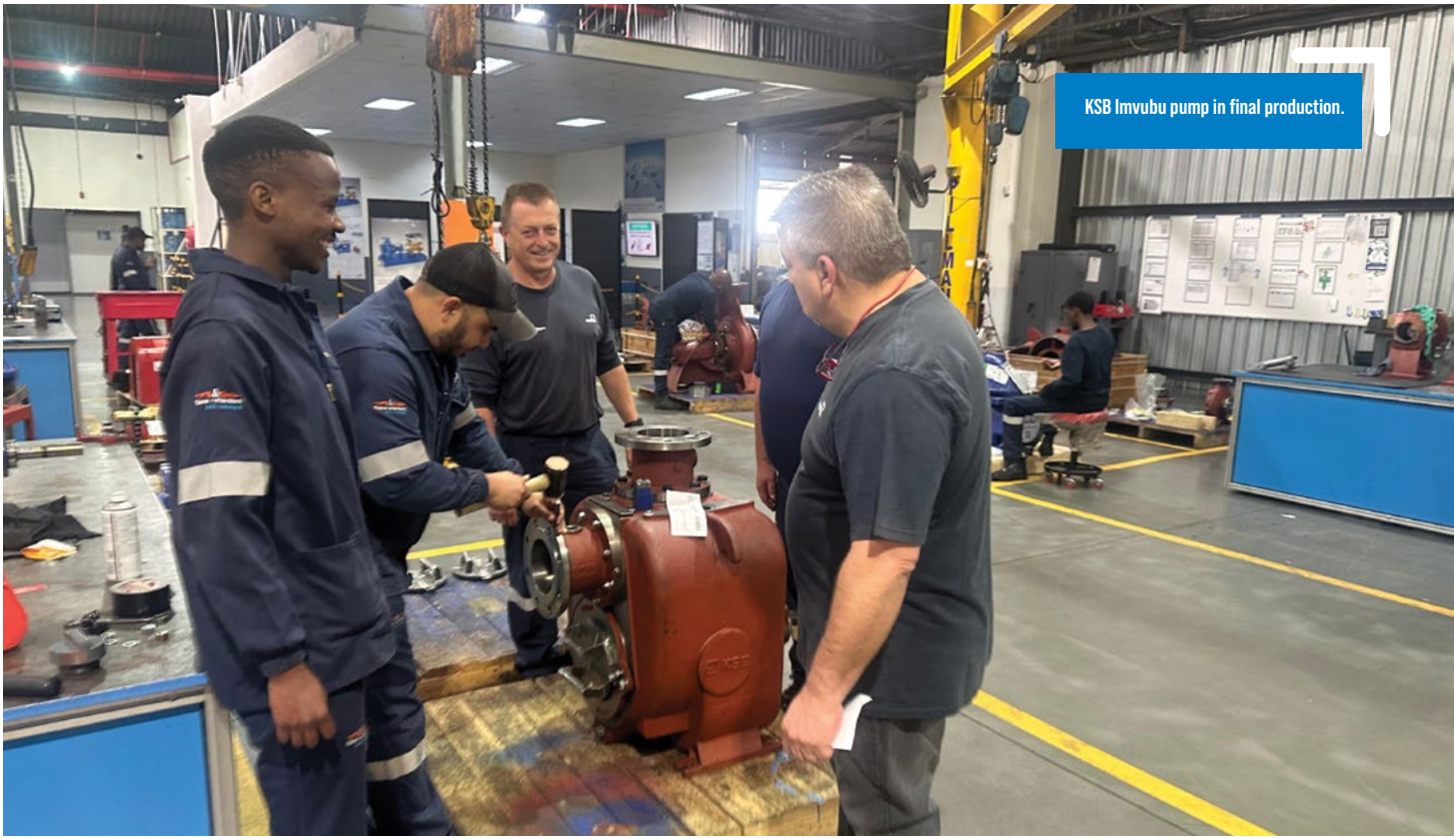
Market preparation and support

The first Sandvik UJ443E unit in Africa is already in preparation for delivery. To ensure seamless commissioning, Sandvik Rock Processing and S&R Enterprises have invested in advanced training for local service teams. A Sandvik factory technician will also be on site for the installation, guiding both distributor and customer teams through the process.

"Comprehensive lifecycle support underpins this introduction," Benade says. "We have ensured that our distribution network is ready with spares, technical expertise and tailored aftermarket packages. The Sandvik My Fleet telematics will further enhance support by enabling remote diagnostics and performance monitoring."

The arrival of the Sandvik UJ443E in Africa signals a turning point in mobile crushing technology on the continent. Customers can now access a solution that not only delivers on productivity but also drives progress toward decarbonisation and reduced operating costs.

"This first Sandvik UJ443E mobile crushing plant is just the beginning," Benade concludes. "With the level of market interest we are seeing, we expect more units to be placed soon - helping reshape the future of mobile crushing in Africa. ■



KSB Imvubu pump in final production.

KSB launches revolutionary Imvubu wastewater pump

Named after the Imvubu, which is the Zulu word for hippopotamus, the name carries a double meaning referring to its distinctive top-mounted lifting "ears" that mimic its profile in water, while its massive free-pass mouth and formidable strength mirrors the exceptional solids handling ability that swallows-up oversized waste and attests to the toughness and power of its design.

KSB Pumps and Valves product manager for wastewater, Hugo du Plessis, says the KSB Imvubu is the result of years of development which measured the strengths and limitations of earlier self-priming pumps used in municipal wastewater networks across Southern Africa. During this time KSB Pumps and Valves' engineering team worked closely with municipalities and industry operators to understand the realities they face daily including clogging, solids carry-over, complex maintenance, pump failures in remote areas and the need for equipment that is easy to service in places where skills are often scarce, and uptime is critical to prevent spills.

"We live in South Africa and can see the challenges of dealing with sewerage and wastewater. We also listened to the market where customers told us exactly where the problems lie in terms of pump clogging, difficult seal replacement, thin casings that wear quickly and designs that simply do not stand up to raw, unscreened sewage. This culminated in the development of the KSB Imvubu pump which is our answer to the market's needs. It is proudly designed and manufactured in South Africa and takes the best global technology and optimises it for African conditions," says du Plessis.

He explains that the KSB Imvubu pump was developed using advanced CFD (Computational Fluid Dynamics) modelling and efficiency redesigns of the impeller, volute and hydraulic passageways.

The result is significantly improved pumping performance, now reaching more than 65% hydraulic efficiency, which places it well ahead of competitor self-priming pumps currently in service. Critically, the pump achieves a 77.3 mm free-pass solids handling capability exceeding the global raw sewage benchmark of 76 mm. In real-world operation, that 1.3 mm can be the difference between uninterrupted pumping and a costly blockage.

"This culminated in the development of the KSB Imvubu pump which is our answer to the market's needs. It is proudly designed and manufactured in South Africa and takes the best global technology and optimises it for African conditions."

"The free pass is what sets us

apart. It is market leading and equates to the fact that if a pump can pass a bigger solid it will clog less. It is that simple and less clogging means less callouts, less downtime and less cost."

In addition, the KSB Imvubu features bearings-for-life with no oil lubrication required. Unlike competing pumps that require oil chambers, top-up checks and contamination risk, the KSB Imvubu pump uses grease-for-life bearings and KSB's own mechanical seal which is lubricated by the pumped medium itself. This makes the pump environmentally cleaner, safer to maintain and significantly simpler to service. The pump body is also cast with thick, heavy-duty volute walls to resist erosion and extend operating life, while its smart design includes an inspection hatch that allows staff to clear blockages without removing the suction cover which is a major advantage for treatment plant technicians and municipal maintenance teams.

The new locally designed and manufactured KSB ELN-150 Imvubu pump is a breakthrough in wastewater handling in South Africa.

The new KSB ELN-150 is also known as the Imvubu or hippo pump due to its unique lifting "ears" which give it a resemblance to the animal.

"We know that South Africa's wastewater infrastructure is under immense strain with limited resources and ever-rising sewage volumes which means equipment must be robust and easy to service to ensure its longevity. These are exactly the issues we have considered and served as guiding principles for our Imvubu pump and our design directly addresses the problems encountered in the field. We have made this pump for Africa and that is why we made it to be maintained using basic tools and why it can be speed-adjusted using simple pulley changes. It can also do the job of two pumps simply by moving from low to high heads and low to high flows easily with no need for a second pump. It can even be mounted on diesel skids for remote pumping or flood emergency use. It is versatile, strong and practical," says Hugo.

Applications extend beyond municipal wastewater to mining sumps, industrial effluent, pulp and paper, agricultural waste dams, river abstraction and portable dewatering units. The pump has already proven itself during extended testing at the Drakenstein Wastewater Treatment Works in the Western Cape where it has operated continuously with excellent results.

Because the KSB Imvubu pump is 100% locally manufactured, it aligns strongly with the Department of Trade and Industry's localisation incentives supporting South African industry and local employment. It also positions KSB Pumps and Valves as a major contributor in the export of high value engineered products into Sub-Saharan Africa and other regions where similarly robust and versatile pumps are required.

"This is a pump we are proud to build in South Africa as it keeps our people employed and shows that we can compete and lead international brands. We like to think that we do not follow, we leapfrog. Our Imvubu pump is a direct answer for many of the failures making national headlines and the timing in this period of regeneration could not be more significant. Municipalities and utilities urgently need equipment that can keep working away with minimum attention and maintenance to clear the backlog – and we are proud to say the answer is the KSB Imvubu," Hugo concludes.

Operating characteristics

- Max Flow: 429.4m^3/h
- Max Head: 47.6m
- Suction Size: 150NB (6")
- Discharge Size: 150NB (6")
- Solids Handling: 77.3mm
- BEP Flow: 305m^3/h
- BEP Head: 33m
- BEP ŋ: 65%
- Temperature: up to 80°C ■

LH Marthinusen successfully completed a significant fan installation project for a major mine in the Phalaborwa region.

LHM delivers **monumental fan project**

LH Marthinusen (LHM), a division of ACTOM, successfully completed a significant fan installation project for a major mine in the Phalaborwa region, solidifying its position as a leading provider of electro-mechanical solutions for the mining industry. The project involved the design, manufacture, and installation of four overhung centrifugal fans, one of the largest installations of its kind in the Southern Hemisphere.

Project specifications and impact - size and scale

Each of the 4-metre diameter centrifugal fans is powered by 3MW 11kV ACTOM motors, and delivers 400m^3/s of airflow at 5500 Pa. This impressive fan performance is precisely controlled by an integrated Inlet Guide Vane (IGV) system, ensuring optimal ventilation efficiency. The entire fan assembly, including outlet ducting, stands approximately 15 metres tall and spans 7.2 metres wide, designed to handle substantial amounts of water in the airstream.

"This project represents a major achievement for LHM," states Gareth Bodley, General Manager of the Fan Division at LHM. "We've delivered a robust and reliable ventilation solution that will enhance safety and operational efficiency for the mine. The size and complexity of this installation showcase LHM's capabilities in handling large-scale, demanding projects for the mining industry."

The fan system provides critical redundancy for the mine's ventilation, ensuring continuous operation even during maintenance. "These fans are the lungs of the mine," Bodley emphasises. "With this new system, the mine can maintain full production without interruption, enhancing both safety and productivity."

> "The size and complexity of this installation showcase LHM's capabilities in handling large-scale, demanding projects for the mining industry."

Engineering excellence and benchmarking innovation

The project's scope included the refurbishment and reuse of existing equipment, along with the design and manufacture of new components. LHM engineers implemented innovative design improvements, such as specialised, maintenance-free bearings for the IGV assemblies, ensuring long-term reliability and efficiency.

"LHM is not only a leader in electro-mechanical repairs and refurbishments, but also a provider of cutting-edge solutions supported by our technology partner TLT-Turbo GmbH, whose expertise in advanced ventilation solutions continue to inspire industry leading innovations," Bodley explains. "This project demonstrates our ability to design and deliver advanced fan systems that meet the unique challenges of the mining industry. We have enhanced the previous design, to ensure longevity, and minimise future problems."

Manufacturing and project timeline

The project, which commenced in October 2023, was scheduled for final completion in June 2025. The first phase, involving the installation of new equipment, was completed in December 2024, while the second phase focused on the refurbishment of existing components. The key components of this project were manufactured and assembled in LHM's state of the art 6000 m^2 Fan facility in Driehoek, Gauteng.

"We are proud to have delivered this project successfully, showcasing our expertise and commitment to the mining industry," Bodley concludes. "This project has already generated significant interest in our Fan Division, and we look forward to continuing to provide innovative solutions for our clients." ■

Maximising **dewatering efficiency at extreme depths**

Latest from IPR (Integrated Pump Rental) is the Atlas Copco PAC SH self-priming centrifugal single-stage pump range. With a maximum head of 235 metres and a maximum flow of 2 000 m^3, the range – the largest in IPR's expansive dewatering portfolio – is the pertinent answer to efficient pumping needs at extreme mining depths.

The PAC SH pump streamlines deep pit dewatering by reducing the number of pumps required and simplifying the overall setup.

The PAC SH high head pump is built to handle high concentrations of solids and abrasive materials, making it well suited to demanding site conditions.

Amid growing global demand for minerals, deep opencast mines have become an industry reality as near-surface deposits deplete at a rapid pace. These operations often contend with significant water ingress which, if not properly managed, can result in flooding, equipment damage and safety hazards.

Steve du Toit, Sales Manager at IPR, says traditionally mines have resorted to multi-stage centrifugal dewatering systems to pump water at extreme depths. However, these systems' complexity rises with mining depth. The addition of piping and pumping stations in multi-stage set-ups not only calls for more equipment but also increases the need for maintenance.

With their high lift capability, Du Toit says, the PAC SH pumps can move water directly from deeper levels of the pit without requiring multiple stages. This translates into easier installations, less equipment to look after and more efficient dewatering, allowing deepening mines to cut costs and increase efficiencies.

"The PAC SH self-priming centrifugal single-stage pump range stands out due to its ability to deliver greater lift and efficiency than conventional multi-stage centrifugal dewatering systems often used at extreme depths. The advanced design and capabilities mean that fewer pumps are needed, set-up is simpler and performance is more consistent in deep pit dewatering applications," Du Toit says.

The PAC SH complements an existing broad portfolio that already includes the VAR, PAS and PAC ranges, allowing IPR to offer mines a full suite of dewatering solutions for each stage of pit development, from breaking ground to deep levels.

The PAC SH pump's lower fuel consumption and longer service intervals help reduce overall operating costs.

"The extended PAC range means mines can now match the right pump to each stage of pit development – from medium depth to very deep pits. This flexibility ensures efficiency at every stage and provides operational teams with the confidence that the right solution is always available," Du Toit concludes. ■

NEXT intelligent solutions **drive smarter, more efficient performance**

Leveraging the power of data and digital technology, Weir's NEXT Intelligent Solutions have been benefiting customers through performance and condition monitoring – allowing performance optimisation and preventing unplanned downtime.

Weir's deep understanding of equipment functionality is harnessed by NEXT Intelligent Solutions to drive predictive maintenance.

Using Insight – one of three packages within NEXT Intelligent Solutions – a customer was recently able to gain the visibility they needed into the separation process on their hydrocyclones, according to Marina Eskola, Director of Digital Solutions Management at Weir.

"We created the Insight package to give our customers clearer visibility into their plant processes by providing real-time data flow," says Eskola. "When applied to hydrocyclone operations, this package includes a solution called roping index monitoring, which focuses on tracking the hydrocyclone's separation efficiency."

She describes how Weir was able to monitor the throughput and separation efficiency of the customers' hydrocyclones, as well as the roping index.

"We observed that the figures were consistently low for a specific material size which prompted the customer to take a closer look," she says. "The root cause was traced and resolving it only required a relatively simple adjustment. Without the visibility offered by Insight, however, identifying where to direct the investigation would have been far more challenging."

The long-term value of this adjustment was significant, enabling the customer to optimise both the hydrocyclone's separation efficiency and throughput, ultimately improving recoveries. In another example, this time focused on equipment condition, she highlights the benefits of vibration monitoring on a pump. In that instance, elevated vibration levels and temperatures were detected, signalling a potential issue.

"The customer took immediate action and was able to prevent a bearing failure that could have led to six to ten hours of unplanned downtime," she says. "The production loss from such a disruption would have been significant, but thanks to NEXT Intelligent Solutions, it was completely avoided."

These predictive insights do more than just protect components and equipment from damage and unplanned downtime - they also enable more effective planning of maintenance strategies, she explains. In turn, better maintenance contributes to a lower total cost of ownership for the equipment, she adds.

Insight, along with Uptime and Production, make up the three packages in NEXT Intelligent Solutions. Each package aligns with a stage in the journey that customers can take in partnership with Weir towards smart and more sustainable mining. These tools leverage real-time data in making informed decisions, applying cutting-edge sensing technologies and boosting operational efficiency.

"Weir partners with customers to help them unlock increasing value from this intelligent technology as they advance through each stage of implementation," she says.

While the Insight package gives the customer access to vital information about equipment performance and condition, Uptime allows customers to extend the operational lifetime of their equipment. Predictive capabilities are added, so that forecasts can be made of the remaining useful lifetime of critical components.

The third package, NEXT Production, then allows customers to maximise their process efficiency with AI-powered optimisation. Taking the data gathered through the Insights and Uptime packages, it gives recommendations to metallurgists, process engineers and operators based on their operational priorities. ■

Charting the future of milling efficiency

With a relentless focus on research and development Tega Industries has introduced world-beating technologies to the market that has placed it as a dominant player in the global mill liner and wear solutions market.

Much of this success comes from its close customer engagement and a willingness to challenge conventional thinking in mineral processing. This was evident at its industry conclave that was held in Pretoria recently and attracted over 170 attendees from mines across the world where a number of speakers provided a clear picture of where the industry is heading and how smarter milling can deliver measurable gains.

Tega Industries Africa CEO, Vishal Gautam, opened the event with a look at the financial case for adopting better methods and equipment. He argued that milling operations have long been obsessed with availability and tonnage but seldom translate those metrics into business value. “We are not here to just supply liners we are here to help you unlock hidden potential in your plant.”

He made the case for adopting an Overall Equipment Effectiveness (OEE) framework where underutilised assets and inefficiencies are exposed not just at the equipment level but across the value chain. For mines operating on tight margins, small percentage improvements in mill performance translate directly into millions of Rands saved or earned. The call to action was clear that treating mill optimisation as a strategic business lever rather than a maintenance exercise makes more sense.

Continuing the topic Professor Aubrey Mainza, deputy director of the Centre for Mineral Research, warned that many plant managers continue to run their mills blind. While technology such as variable speed drives and modern discharge designs is available, they are often misunderstood or misapplied.

He emphasised that volumetric filling – the correct balance of ore, media and water – dictates performance. Too much or too little filling changes the internal dynamics altering the number of particles to grinding media contacts and undermining throughput.

Training in measured adjustments is far more valuable than control systems that only protect the mill. Efficiency is not about buying more equipment but about disciplined control of filling, discharge, speed and media coupled with training operators to think in small, precise corrections.

Vishal Gautam, CEO of Tega Industries Africa opens the conclave discussions.

Aubrey Mainza of the Centre for Mineral Research spoke of the importance of balancing all aspects of mills.

Tega product manager for milliners, Sumeet Pahl, says the company constantly innovates to find solution for its customers.

Sumeet Pahi rounded off the session by highlighting how Tega is translating these insights into product innovation. “Discharge systems are too often neglected despite being central to circuit stability. Poor grate design, blockages or inadequate media can create “washing machine” effects where slurry circulates without exiting the mill, wasting energy and hammering liners.”

As a result, Tega’s research and development teams have developed optimised discharge designs and wear monitoring tools that not only extend liner life but stabilise grind conditions. Sumeet explained that innovation in liner metallurgy, lifter profile and grate configuration must be paired with customer-specific testing to truly deliver results. “Every plant is different, and every ore body is different. The answer is not a catalogue product but a collaborative design process.”

The conclave included talks and case studies from several specialists and mine operators including Sandile Nkwanyana of Mintek, Flavio Silva de Moura of Lundin Mining Brazil, Jennifer Giron, ex-senior metallurgist at FQML now working at Tega, as well Process Manager, Mr. Steven Zulu and Vamumusa Manyathi who is the Business Development Manager of Tega. The combined expertise painted a clear picture that showed that the era of treating mill liners as consumables is over. Tega’s approach of marrying business metrics with technical fundamentals and engineering can help mines to unlock hidden efficiencies and improve profitability. ■

The installation of this Weba screen oversize-to-conveyor chute highlights the company's tailored approach to creating dust-mitigated transfer solutions for steel plant operations.

Weba Chute systems drive down dust transmission in bulk materials handling

Dust generation has long been a critical challenge in bulk materials handling, with significant implications for safety, health and environmental compliance. Weba Chute Systems, a leading specialist in custom-engineered transfer point solutions, has positioned its technology as a proven way to dramatically reduce dust transmission while simultaneously improving operational efficiency.

Weba Chute Systems' Technical Director, Dewald Tintinger, underlines the importance of chute design in achieving dust suppression and sustained operational performance.

Dust - more than just a nuisance

In industries such as mining, power generation, cement and ports, dust is more than a simple housekeeping concern. Airborne dust creates serious health risks for workers, contributes to environmental pollution and can trigger regulatory penalties when emissions exceed permissible levels. Dust also increases maintenance requirements, shortens equipment life and can even create safety hazards such as reduced visibility or combustible atmospheres.

"These are not minor inconveniences," notes Dewald Tintinger, Technical Director at Weba Chute Systems. "Dust impacts the health of employees, the lifespan of equipment and the company's environmental footprint. Left unchecked, it can cost operations heavily - both financially and reputationally."

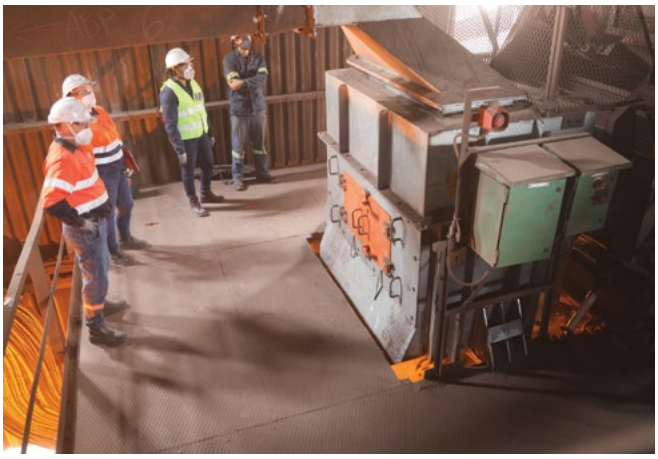
These challenges have intensified with stricter environmental regulations globally and a growing focus on sustainable operations. Companies are under pressure not only to comply with legislation but also to improve their ESG performance. Weba Chute Systems' transfer point solutions are helping operators address these concerns head-on.

Engineered chutes that control flow

At the heart of Weba Chute Systems' dust-reduction capability lies its fundamental design philosophy - controlling the flow of material. Traditional chute systems often allow material to free-fall, leading to uncontrolled impact, turbulence and the generation of dust clouds. By contrast, Weba Chute Systems are engineered to control both the velocity and direction of material flow.

"The principle is simple," Tintinger explains. "If you reduce impact and turbulence, you reduce the energy that causes particles to become airborne." By carefully directing material onto the conveyor in a streamlined manner, dust generation is drastically curtailed.

"Our designs are not generic. Every transfer point is engineered to suit a customer's specific conditions, so the system works with the material rather than against it," he adds.



At this steel plant, a Weba transfer chute is shown managing heavy material flow while effectively lowering dust emissions in a demanding environment.

This Weba screen oversize-to-conveyor chute installation demonstrates how advanced flow control and sealing methods reduce dust, spillage and excessive wear at a steel plant.

Lining and sealing for dust containment

A further feature of Weba's design is the effective sealing of the chute system. Engineered with wear resistant liners and designed with attention to transfer geometry, the chutes prevent dust from escaping into surrounding areas. Where needed, dust suppression or extraction systems can be integrated seamlessly into the chute design, ensuring compliance with the most stringent emission standards.

Weba Chute Systems' in-house design team uses the latest simulation software, including discrete element modelling (DEM), to predict material behaviour inside the chute. This allows the company to optimise liners, flow paths and sealing systems before manufacturing begins. The result is a custom-engineered solution that not only contains dust but also minimises spillage and wear.

"Our DEM capability gives us a powerful window into how the material will behave," Tintinger points out. "We can predict dust issues before they occur and design them out of the system – that is a real gamechanger."

Efficiency and environmental gains

Reducing dust transmission is not just about compliance; it also improves the bottom line. Dust that escapes into the air represents a loss of valuable product. By containing material more effectively, Weba Chute Systems help customers improve throughput and reduce waste.

At the same time, less dust means reduced wear on conveyor components, lower cleaning and maintenance requirements and safer working environments. These gains contribute directly to operational efficiency and sustainability.

"As much as dust control is a health and safety imperative, it is also a cost issue," says Tintinger. "Every ton of material lost to dust is revenue gone. By addressing dust, we protect both people and profits."

Proven success across industries

Weba Chute Systems' dust-control solutions are in operation across a range of industries and commodities from mines to power stations, cement plants and other bulk handling facilities. Each system is custom engineered for its specific application, taking into account the type of material, the rate of flow, particle size and environmental requirements.

In ports and loading terminals, where dust emissions are highly visible and subject to strict monitoring, the systems ensure compliance while maintaining fast loading rates.

"Whether it is in large scale port operations or on a mine, the principle is the same," Tintinger says. "Control the flow, contain the dust and you achieve safer, cleaner, more efficient operations."

Commitment to innovation

With decades of experience and thousands of installations globally, Weba Chute Systems continues to invest in innovation. Its dedicated research and development team works constantly to refine designs, enhance materials and explore new methods of dust suppression.

The company's approach is not limited to the initial installation. Weba Chute Systems provides ongoing inspection and maintenance services to ensure systems continue to perform optimally over their lifetime. Customers benefit from reliable transfer points that remain compliant and efficient long after commissioning.

Tintinger says that as industries move towards more sustainable, responsible and efficient operations, dust control has become an imperative rather than an option. "Our engineered transfer points provide a holistic solution, reducing dust transmission, enhancing safety, safeguarding the environment and improving efficiency," he says.

"By addressing dust at its source - within the transfer point itself - we help operators move beyond reactive measures and achieve proactive control. This not only ensures regulatory compliance but also delivers lasting value to both business and society," Tintinger concludes. ■

COLUMN

Port of Gauteng Initiative: The drive to achieving an integrated logistics network

By Gavin Kelly, CEO of the Road Freight Association

The Road Freight Association (RFA) has reviewed the recently released White Paper from Port of Gauteng and it notes that the developers have targeted a very ambitious project to address the huge shortfalls in the current logistics network, especially around rail and multi-modal operations involving rail, as well as the fundamental necessity of involving and allowing the private-sector to drive the integration of logistics.

Port of Gauteng may well provide the "missing link" that can make rail competitive again.

Gavin Kelly, CEO of the Road Freight Association.

The R50 billion project represents a pivotal opportunity to address the systemic inefficiencies crippling South Africa's economic arteries, particularly the Durban-Gauteng freight corridor.

The RFA has long championed an integrated, multimodal logistics network where road and rail function as collaborative partners, not competitors.

The vision outlined in Port of Gauteng White Paper, "to create a premier trade gateway that restores balance to our supply chain", resonates deeply with the core principles of bringing about integrated freight operations and infrastructure.

Over the past four decades, the RFA has advocated for the development of inland ports to alleviate the severe congestion at the ports, and the freight handling operations immediately surrounding the ports, as well as inland depots like City Deep. The White Paper correctly identifies the unsustainable pressure on the Port of Durban, a bottleneck that ripples through the entire economy – with an echo in the current inland freight handling depots.

The RFA has spent decades interacting with SARS Customs to make international trade (cross border freight movement requiring declarations to Customs) as simple and efficient as possible. This has (together with other stakeholders) realised the current electronic clearance processes and the drive towards SmartBorders – making goods declaration and clearance possible anywhere and at any time by registered importers and exporters. This no longer requires a "centralised facility" where importers and exporters need to present themselves and the relevant documentation. Block Chain has also brought efficiencies – however container staging at strategic hubs (outside of the ports) such as Cato Ridge and the proposed hub in Gauteng will unlock further significant efficiencies.

The Association echoes the need to shift rail

friendly cargo off road onto rail (with the given that rail will be able to efficiently handle such cargoes) and the Association has reiterated and driven this approach. The “access to rail by private operators” is key to the efficient operation of rail – but comes with its own operational challenges. The reality that rail currently handles less than 14% of volumes on the Durban/Gauteng Corridor is a vivid reminder of the work that needs to be done – and is in stark contrast to the National Development Plan (NDP) 50% target, highlights the gravity of the situation.

However, it is critical to emphasise that rail cannot succeed in a vacuum. The success of Port of Gauteng will be largely dependent on the efficiency of the road transport interface as road freight operations provide the vital “first- and last-mile” services that connect the rail network to the broader economy and customers who do not have sidings or efficient access to rail depots.

The White Paper envisages seamless train-to-truck transfers – which is a critical aspect if any success is to be achieved (think about the SAR container service in the 70s and 80s where dedicated fleets brought resized containers to the door of the customer). To achieve this, substantial investment must extend beyond the boundaries of the port to the surrounding road infrastructure and intermodal facilities. It is essential that true gateway is developed and built, not just a simple relocation of the bottleneck from Durban to Gauteng.

The explicit integration of Performance-Based Standards (PBS) vehicles into the design of the Port of Gauteng is intriguing – cognisance must be taken of the fact that this is still a pilot project, as well as the effect this will have on all road freight operators who operate standard, legal combinations.

The Association has been a leading advocate for the research and development of more efficient road freight vehicles for decades. Smart trucks are not necessarily vehicles that carry more payload – they are vehicles that bring compound efficiencies into the baseline operations of a fleet. That is where the future of smart trucks lies.

Vehicles (and drivers) that are safer, more efficient, and reduce road wear per tonne of freight moved, reduce fuel consumption and bring about lower operational costs are the non-negotiable components in modern, competitive road freight logistics operations – for both micro and large road freight companies (operators).

As previously noted, the RFA has consistently supported the efforts of government to revitalise rail, including the historic opening of the network to private operators. The candid assessment in the White Paper of Transnet’s past operational and financial challenges on the Corridor underscores why private sector involvement and investment are so crucial.

Port of Gauteng may well provide the “missing link” that can make rail competitive again. By providing the world-class infrastructure and reliability that shippers demand, it creates a viable business case for the road-to-rail shift. The realities of new market freight access also need to be taken into consideration – for example the demands of e-commerce and the logistical supply chains that this requires.

In the last five years, freight has morphed from large consignments into consumer operations with very small consignments – sometimes a single item – and this has in its own changed the realities within warehouses and consumer logistics supply chains. The Port of Gauteng will need to be efficient and fast to deal with this demand – irrespective of the mode it uses to arrive at the port – and if this is to be containerised via rail to the port, then there will be huge asks on turnaround times, scheduling of services and destuffing of containers at the port. It will place a huge “ask” on rail services.

The Association supports integrated modal operations – provided there is transparent cooperative competition within the port for various operators (rail, warehousing and road) - thus being based on a foundation of operational excellence and fair, competitive access for all parties.

Port of Gauteng is a project that aligns with the long-term vision of the RFA for a functional, efficient, and integrated South African logistics supply chain. The success of the port will be our members’ success, and ultimately, the nation’s success.

The Association looks forward to collaborating with all relevant stakeholders in this project to improve the integration and operation of the logistics network. By working together, the proposed R50 billion investment will be better able to deliver on the promised potential to create jobs, reduce logistics costs, and build a resilient economic future for South Africa. ■

The Port of Gauteng White Paper aims to create a premier trade gateway that restores balance to the supply chain.

Smart trucks are vehicles that bring compound efficiencies into the baseline operations of a fleet.

High-risk areas, such as drilling, loading, or crushing operations, require more frequent monitoring.

Implementing South Africa's new occupational exposure limit for silica dust

By Drikus Senekal, Senior Ventilation Consultant at BBE Group.

Health and safety are at the core of every responsible mining operation. While this was not always the case, the mining industry has evolved to make safety an integral part of its culture - not as a ticking box exercise, but as a deeply held ethos. Today, the principle that everyone goes home safe and healthy has transformed from a slogan into a shared responsibility.

Drikus Senekal, Senior Ventilation Consultant at BBE Group.

Employees are not only accountable for their own safety but also for the well-being of their colleagues. This responsibility extends beyond preventing immediate accidents; it involves fostering a culture of care, where workers look out for one another and make sound decisions that protect both their present and long-term health.

Historically, awareness of long-term health hazards in mining was limited. Generations of workers were often unknowingly exposed to unseen dangers. Legal action, including class suits, has compelled the industry to reflect and act, not merely to protect their reputations, but because genuine care for employee health has become the hallmark of a responsible employer.

Health and safety are at the core of every responsible mining operation.

One of the most dangerous aspects of silica dust is that it is invisible.

Understanding silicosis and its impact

As our understanding of occupational health risks grows, regulations continue to evolve to better protect workers. Rules are refined, exposure limits lowered, and monitoring improved, all in pursuit of safer, healthier workplaces. Among these efforts, few stand out as clearly as the fight against silicosis, a debilitating lung disease caused by inhaling respirable crystalline silica dust. Each tightening of the standard reflects what we have learned, protecting miners' long-term health requires vigilance, research, and an unwavering commitment to improvement.

Crystalline silica is made up of microscopic particles so small they can slip deep into the lungs with every breath. Once there, they cause scarring in the lung tissue, gradually reducing the lungs' ability to draw in oxygen and supply it to the body. As the damage worsens, the risk of other infections also increases. For mineworkers, the effects are devastating. Silicosis causes a persistent, painful cough, chest tightness, and breathlessness making even simple tasks exhausting.

So how much crystalline silica does it take to become dangerous, and how do time and exposure make the difference? In extreme cases, when exposure levels are very high, the disease can develop suddenly and prove fatal within a short time. More often, though, it creeps in silently over the years, only revealing itself long after exposure has ended.

One of the most dangerous aspects of silica dust is that it is invisible. The fine particles that cause the most harm cannot be seen with the naked eye, while the dust we can see is comparatively harmless, as it is coarser and settles quickly. This makes specialised dust sampling equipment and laboratory testing essential. Particles smaller than 10 microns remain airborne for the longest time, and present the highest risk, making accurate measurement critical.

South Africa's updated exposure limits

In South Africa, the current Occupational Exposure Limit (OEL) for respirable crystalline silica, which applies to most industries including mining, is 0.1 milligrams per cubic metre (mg/m^3). This limit was originally set in 2008 under the Hazardous Chemical Substances Regulations (HCSR). However, the Government Gazette of 28 March 2025 (no. 52388) introduced Regulation 6053, which amends the Mine Health and Safety Regulations for Occupational Exposure Limits for Airborne Pollutants.

This amendment reduces permissible exposure limits for several substances, including crystalline silica (quartz). Recognising that even lower exposures can harm workers over time, the Mine Health and Safety Council (MHSC) has stated that all measured silica dust exposures must fall below 0.05 mg/m^3. This new threshold reflects the industry's move towards safer, cleaner, and healthier workplaces.

You may wonder how South Africa's new limit compares to the rest of the world. The revised exposure limit aligns the country with Australia and the United States, where both Safe Work Australia and the U.S. Mine Safety and Health Administration (MSHA) set the same 0.05 mg/m^3 limit. Canada, however, goes a step further, following the ACGIH Threshold Limit Value (TLV) of 0.025 mg/m^3.

Ensuring compliance underground

So how does a mine ensure that dust levels stay below the new exposure limit? The answer lies in a systematic approach. To make sense of the thousands of potential dust measurements underground, mines begin by conducting baseline assessments to classify different work areas according to their level of risk. High-risk areas, such as drilling, loading, or crushing operations, require more frequent monitoring, while lower-risk zones can be sampled less often. This structured method of assessment forms the foundation for what's known as Homogeneous Exposure Groups, or HEGs.

HEGs group workers who perform similar tasks, in similar areas, using similar equipment, and are therefore likely to experience comparable levels of dust exposure. Instead of testing every worker individually, dust sampling is carried out on representative individuals within each HEG. The results are then used to estimate exposure levels for the entire group. This approach allows occupational hygienists to identify high-risk activities or areas, track changes as control measures are introduced, and demonstrate compliance with regulatory standards such as the OEL.

As the new exposure limits take effect, every mine will need to re-establish its baseline to understand the renewed risk profile of its workplaces. Continuous dust sampling, informed by well-defined HEGs, will be essential to verify that existing controls are effective and to identify where improvements are needed. Protecting mineworkers from respirable silica dust is not a one-time exercise; it is a continuous cycle of measurement, review, and action.

The new regulations do not just set a lower limit, they set a higher standard of care, reminding us that the health of every worker depends on collective vigilance underground. ■

Leadership changes at Babcock

Equipment supplier, Babcock, has announced the appointment of Tim Ward as the new managing director of the Equipment business, while Hendrik du Toit has taken the reins as managing director of Plant Services. After several years of dedicated service, David Vaughan has retired from his position as managing director of Babcock's Equipment business, a role he assumed on 1 November 2016. Vaughan assumes a new role as executive chairman of the Equipment business.

Tim Ward as the new managing director of the Equipment business.

Ward, who has previously served as financial director at Babcock's Equipment business brings a wealth of institutional knowledge. "Tim Ward brings not only strong commercial insight but also a deep understanding of our business, and he looks forward to building on the strong foundation already in place as he takes responsibility for the day-to-day running of the Equipment business," says Roger O'Callaghan, CEO at Babcock International Group Africa.

At Babcock Plant Services, Deon Verreyne has retired from his role as managing director, with Du Toit – who has been with Babcock for nearly 30 years – taking the reins.

"Having been with Babcock for nearly three decades, Hendrik du Toit brings extensive operational experience and a deep understanding of our people, customers and markets. His leadership will ensure continuity at Plant Services, while positioning the business for future growth," says O'Callaghan. ■

Rocla pre-cast solution **reduces downtime on mine**

Rocla Polokwane was recently contracted by a mining operation in Limpopo to manufacture a precast solution for a surface stockpile tunnel that was no longer structurally stable without temporary additional supports. This led to the loss of full operational functionality of the stockpile impacting on the mine's daily operations.

The surface stockpile area continuously faced downtime due the tunnel being damaged from machinery and vehicles. According to Rocla Technical Executive, Muhammad Bodhania, the client required the structural integrity of the tunnel to be restored to allow full operational functionality of the stockpile and the conveyor. "The repairs had to be done during the limited period of the shutdown which did not allow traditional in-situ construction."

The preferred solution was segmented steel-clad precast concrete sections assembled on site during the short time period available.

In total over 750 tonnes of precast concrete segments were assembled safely one week ahead of schedule creating a tunnel of over 40m long, ensuring that the stockpile area operations returned to be functional at maximum capacity. "This project has showcased the team's ability to meet all challenges through innovative design, expertise and capability while keeping to a tight schedule. This reflects our commitment to our customers' requirements," said Bodhania. ■

Rocla precast solution reduces downtime.

CEO Joe Creed introduces tools for Caterpillar's transition to high-tech innovator

Caterpillar will use its CES 2026 keynote to launch the next 100 years with a clear focus on technology.

The Consumer Technology Association (CTA)® has announced Joe Creed, Caterpillar CEO, as a keynote speaker at CES 2026, a powerful tech event. Combining a century of experience and technology, Caterpillar is redefining what heavy equipment can do, creating new, better, and safer ways for its customers to dig, mine, build, power, and evolve. Caterpillar will unveil its latest developments in AI, machine learning, and autonomous functionality, announcing new innovations, partnerships, and investments.

"CES is where innovators show up and bold ideas come to life," said Gary Shapiro, CEO and Vice Chair, CTA.

Celebrating its centennial in 2025, Caterpillar will use its CES 2026 keynote to launch the next 100 years with a clear focus on technology. Creed and other company leaders in digital and technology will outline how new tech approaches will meet today's needs and anticipate tomorrow's challenges, delivering continuous value to customers. From dirt to data, Caterpillar will cover its evolution in autonomous machines and the tangible impact of AI on the industry. Caterpillar is also equipping its workforce with tech tools that allow them to focus on customer service, product development, and operational efficiency.

"We are building on our strong legacy of innovation, rapidly expanding our tech capabilities in new ways that help solve our customers' toughest challenges," said Creed. "CES is the place to showcase Caterpillar as an advanced technology leader in industrial equipment with expertise that extends beyond moving earth to include intelligent systems and integrated digital platforms that anticipate, evolve and optimise customer outcomes for a better tomorrow." ■

Astec launches SED projects to empower the vulnerable and destitute


Astec's SED programme was launched at The Manger Care Centre in Benoni.

Equipment manufacturer Astec Industries officially kicked off its long-term commitment to giving back with the launch of a series of Socio-Economic Development (SED) projects aimed at uplifting and empowering vulnerable communities and supporting those in need. Astec's SED programme was launched at The Manger Care Centre in Benoni, Gauteng. This non-profit organisation provides shelter, care and life changing opportunities to vulnerable and destitute individuals. "Astec employees came together to donate supplies and lend their hands (and hearts) to the centre," reports Astec HR head Michelle Norris. "The Manger Care Centre is doing exceptional work in restoring dignity and hope. We are proud to support them as they continue changing lives," she added. ■

Condra seeks the company's oldest working crane

Crane manufacturer, Condra, is running a competition to find the company's oldest working crane, showcasing product durability and offering cash prizes for the three longest-working machines discovered. The contest is part of the run-up to diamond jubilee celebrations, aiming to reinforce a core company concept of delivering value over time. Open to hoists, original cranes and refurbished machines (to highlight the viability of upgrading veteran cranes to modern, fit-for-purpose standard), entry is free.

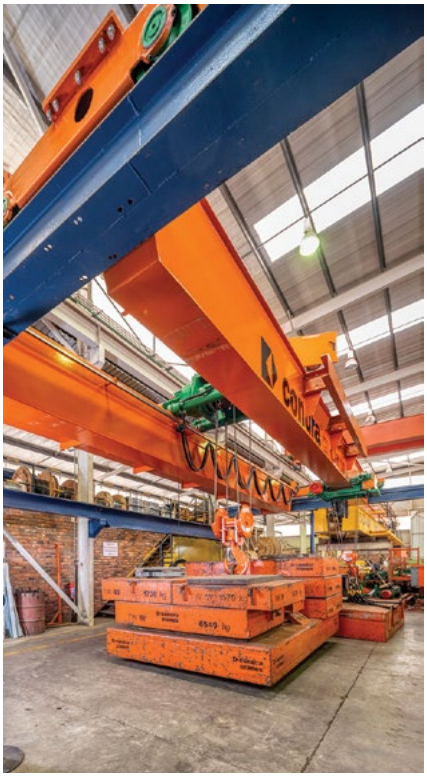
Managing director Marc Kleiner said that buying new is not always the best option.

He listed the two principal advantages of crane refurbishment – an immediate realisation of cost savings, and the continued use of an as-new machine already familiar to operators. This avoids any need for retraining, he said. Production can continue as before, with no change to established procedures.

"We need about three weeks to refurbish to top standard," said Kleiner. "The cost is almost always less than buying a new crane, and we can upgrade to incorporate any kind of modern technology the customer wants.

"By refurbishing, we deliver back to the customer a crane much faster and lighter than before, and we can automate it, too, upgrading the mechanicals to work with new electrical equipment.

2026 will mark sixty years since Condra's formation as a general engineering company offering a range of locally made competitively priced hoists. Crane manufacture began in 1971. Today the company is headquartered at a 22 000m^2 factory site in Germiston, with a second factory in Cape Town. There are subsidiary companies in Bulgaria and Chile. ■



Condra seeks the company's oldest working crane.

Allied Crane Hire takes delivery of first Liebherr LTM 1650-8.1 crane in Africa

Having over the years become the recipient of several 'firsts' in terms of new Liebherr crane models in South Africa and even in Africa, Allied Crane Hire, a South African-headquartered mobile crane specialist that operates across sub-Saharan Africa, has taken delivery of the very first Liebherr LTM 1650-8.1 mobile crane on the continent.

Allied Crane Hire officially welcomed a new addition to its ever-growing Liebherr mobile crane fleet, the LTM 1650-8.1 – the first of its kind in Africa. The milestone marked yet another 'first' in the history of the company, having previously been the first in sub-Saharan Africa to receive an LTM 1110-5.1, an LTM 1150-5.3 and an LTM 1230-5.1.

André Engelbrecht, General Manager Africa at Allied Crane Hire, says the company is proud of the latest milestone. "The goal, however, is not necessarily to always be the first recipient of every new model. In most cases, these new models become available at exactly the moment we were looking for a crane that fits certain job requirements, which is an important criterion in every procurement decision," says Engelbrecht. Since its arrival in early September, the LTM 1650-8.1 has largely been deployed in mining. "The crane has performed beyond expectations. We have been particularly impressed by the quick assembly time and the functionality of the crane as a whole," says Engelbrecht. ■

Allied: Allied Crane Hire takes delivery of first Liebherr LTM 1650-8.1 crane in Africa.

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