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IN THIS ISSUE

- Value of gold demand rockets with price
- Kal Tire's solutions target safety and lower costs
- Cora Gold takes assets up the value curve
- SEW-EURODRIVE expands footprint with new repair centre
- Antimony: With supply restricted by China, what options remain?



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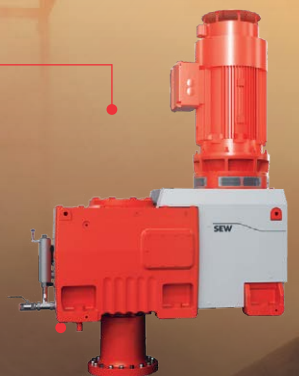
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ON THE COVER

In 2024, the mining industry, which contributes 7.53% to GDP, saw the majority of its commodities, barring gold, under pressure.

Ready for Dezemba vibes

Welcome December, welcome holidays.

2024 has been an eventful year. It has delivered many 'shocks', from the ANC losing its parliamentary majority to the formation of the GNU, Donald Trump taking office for a second term and snow in the Saudi Arabia desert – the first snowfall ever recorded in the Al-Jawf region in the northern Al-Nafūd desert.

For Mzansi, 2024 has been a challenging year with non-stop retrenchments, countless business closures and ends-not-meeting for most households.

As we wrap up this year, South Africa's mining industry, which contributes 7.53% to GDP, saw the majority of its commodities, barring gold, under pressure, leading to a drop in both revenue and profits.

According to PwC's Beyond Mining: SA Mine 2024 report, the industry has been dominated by retrenchments, falling stock prices, restructuring for efficiency and efforts to become more fit for purpose. "Mining companies have had to look beyond mining to survive the downturn, position themselves for the future and evolve with the changing regulatory and social landscape."

Meanwhile, the GNU, which was well received by the markets with the rand subsequently strengthening, has been called upon to prioritise substantial reforms, including those that revitalise the mining sector, to ultimately stimulate broader economic growth and job creation.

But, as Donald Trump takes office as the next US President, the question going into 2025 is, what will his stance and policy on Africa mean for the continent and South Africa? How will the move to 'Make America Great Again' influence trade with South Africa – will it open or close doors?

South Africa's mining industry going forward

Aside from eagerly anticipating the implementation of the long-awaited cadastral system, which Minister Gwede Mantashe advised would be ready in July 2025, the revised MPRDA is also scheduled for release next year, which industry hopes will galvanise the sector and exploration, and be the impetus for investment.

According to Minerals Council South Africa's Grant Mitchell, South Africa has

incredible mineralogy with much of it still unexplored and several previously abandoned early-stage exploration initiatives still an option for development.

On the topic of investment, the Junior Mining Exploration Fund received an unexpectedly high number of applicants interested in accessing the fund. "The fact that there has been such massive interest illustrates the groundswell of small companies keen to enter into exploration," said Mitchell.

The first round of funding was restricted to minerals in the critical metals/energy metals space including copper, nickel, graphite, lithium and rare earths elements. Expectations are that once the first round has been successfully completed, a second round will be tabled, with the funding partners expected to consider a new set of commodities to promote (for more on this story keep an eye out for our February 2025 edition).

In this edition

Our commodities focus takes a look at two key metals – antimony, which continues to gain momentum, as the importance of critical minerals rides the clean energy wave (pg 8) and gold, which has seen its value surging as the precious metal's price rockets (pg 12). On the topic of gold, West African gold developer, Cora Gold remains upbeat as it takes its assets up the value curve (pg 14).

For our feature on West Africa, several companies share their growth strategy, including SEW-EURODRIVE South

Africa, which is expanding its presence and capabilities in the African market with a new 17 000 m² Service and Repair Centre (pg 20) and mining consultants, SRK, which discuss the pressure to foster new skill sets as mining in West Africa grows (pg 22).

The Materials Handling feature saw Modern Mining chat to Kal Tire as it discussed its range of solutions targeting safety and lower costs (pg 26) and Tru-Trac, which chatted about its game-changing innovations for bulk materials handling (pg 28).

Modern Mining would like to wish its readers, contributors, and advertisers a restful break and a joyful festive season.



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Minerals Council South Africa commits to new milestones related to zero harm.

Minerals Council South Africa commits to new milestones related to Zero Harm

The Minerals Council South Africa is fully committed to supporting the third iteration of health and safety milestones agreed by the Department of Mineral and Petroleum Resources, organised labour and the Minerals Council as the industry strives to realise its ambition of Zero Harm. The first milestones to improve mineworkers' health and safety were agreed by the tripartite Mine Health and Safety Council in 2003 to deliver step-change improvements in the working environment for all people working in the mining industry. The second set of milestones was revised and agreed in 2014. Since 2014, incidents of occupational diseases in the mining industry have decreased by 72%. The number of fatalities related to safety incidents have declined by 35% between 2014 and 2023. The three stakeholders have agreed on the next set of milestones to be achieved by December 2034, including mental health screening and interventions to improve safety of women in mining including personal protective equipment specifically designed for women, as well as reducing gender-based violence and femicide in the workplace. "We commit ourselves to achieving the new milestones that we have collectively set to accelerate our quest for Zero Harm in our industry," said Dr Nombasa Tsengwa, President of the Minerals Council. ■

Mine blast viewing, a highpoint for MJT trainees



Mining Journalism Training attendees at Canyon Coal's Mpumalanga-based Gugulethu Colliery.

A highlight for Mining Journalism Training (MJT) attendees this year was experiencing a controlled live blast at Canyon Coal's Mpumalanga-based Gugulethu Colliery. Menar's MJT programme began with robust discussions about mining and concluded with an impactful moment as trainees got to witness a blasting procedure at Gugulethu's central pit. The annual mining literacy programme took place on 23-25 October, starting with a seminar hosted at Menar's Sandton headquarters and followed by a tour of the coal mining operations on the second day. Previously MJT was reserved for journalists, but this year the programme welcomed professionals and students from various fields of study for the first time since it was established in 2017. The aim was to enrich the conversations and give other individuals with an interest in mining literacy an opportunity to participate. It is crucial for young professionals to have access to mining literacy, given the vital role of mining in South Africa's economy and society. Furthermore, encouraging conversations about the sector could inspire innovative ideas that could take the economy forward. The lineup of speakers at the seminar included Co-Director at the WITS University, Prof Susan Webb, who touched on South Africa's geology and the country's mining history, while Minerals Council SA Chief Economist, Hugo Pienaar, spoke about the challenges and opportunities within the mining sector. ■

Eastport Ventures finalises its senior management team

Canadian and African mining house, Eastport Ventures, has finalised its senior management team with the appointment of a highly accomplished capital markets Chair, David Minchin (MGeol), who joins as Non-Executive Chairman and brings over 20 years' experience in both exploration/mining geology and corporate finance. As Director of Geology for African Minerals Exploration & Development Funds, Minchin was responsible for allocating and monitoring a \$450m investment into exploration projects at

various developmental stages and in various commodities across Africa. Eastport Ventures is focused on critical metals projects spanning copper, uranium, REEs, nickel and diamonds in Botswana – Africa's premier mining jurisdiction – and boasts six mineral projects that have benefitted from strategic exploration and historic development expenditures of over \$17m. With full permits secured, Eastport is ready to engage on an aggressive 25 000m drilling and exploration campaign at its flagship Matsitama copper project. ■



Bruce Boytim named new CEO of Quor Group

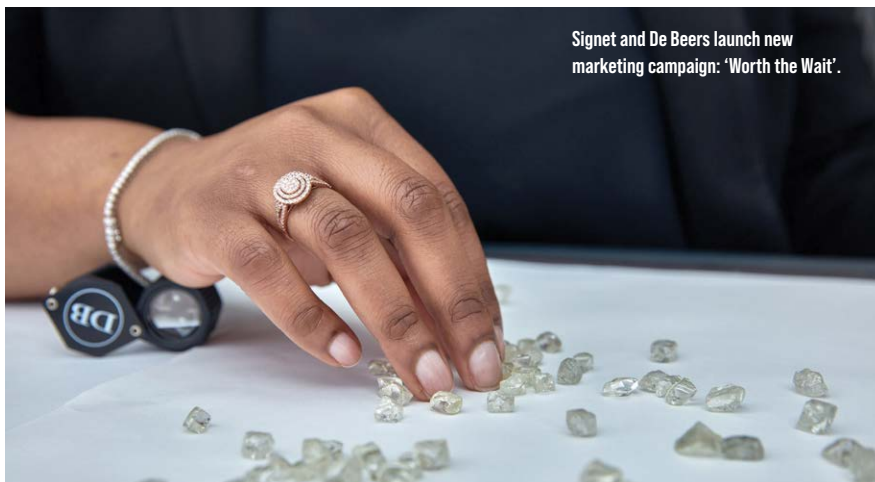
Quor Group, a global provider of commodity trade risk management (CTRM) software, has appointed Bruce Boytim as its new Chief Executive Officer. Boytim will lead the company in its mission to deliver cutting-edge, customer-centric CTRM and supply chain solutions to its clients worldwide. With a robust background in the financial services and technology sectors, Boytim brings over 20 years of experience in growing technology companies and delivering for their customers. His expertise spans SaaS, enterprise software, data solutions, and brokerage services, making him uniquely qualified to drive Quor's strategic vision while placing its customers at the forefront of the company's initiatives. ■



Bruce Boytim is the new CEO of Quor Group

Signet and De Beers launch new natural diamond marketing campaign

Diamond miner, De Beers Group and Signet Jewelers, the world's largest retailer of diamond jewellery, whose iconic retail brands include Kay Jewelers, Zales and Jared, recently launched 'Worth the Wait', a new natural diamond campaign focused on the themes of modern love and evolving relationship dynamics, targeted at soon-to-be-engaged Zillennials. Worth the Wait is the first major activation of the recent collaboration between Signet and De Beers to re-introduce the unique attributes of natural diamonds to a new generation of US couples. It comes after months of intensive training for Signet's 20 000 sales associates to equip them with the deep knowledge to communicate the unique features of natural diamonds to their customers. With Signet's proprietary data showing an expected uptick in engagements over the coming years following a post-pandemic lull, the insights that informed the campaign also reflect the key milestones that Signet tracks as a couple progresses along relationship milestones, such as moving in together, merging finances or even breaking up and then getting back together. Sandrine Conseiller, CEO of De Beers Brands, said: "...The premise of the campaign is to celebrate the individual, challenging and rewarding journeys that couples go on before making the momentous decision to get engaged, which is perfectly mirrored by the journey of a natural diamond formed deep within the Earth's surface. True love, like a true diamond, is forged by fire. Just like each couple's unique journey to find 'the one', a natural diamond is worth the wait." ■



Signet and De Beers launch new marketing campaign: 'Worth the Wait'.

Akobo Minerals reports nearly 3 kg of gold produced in October

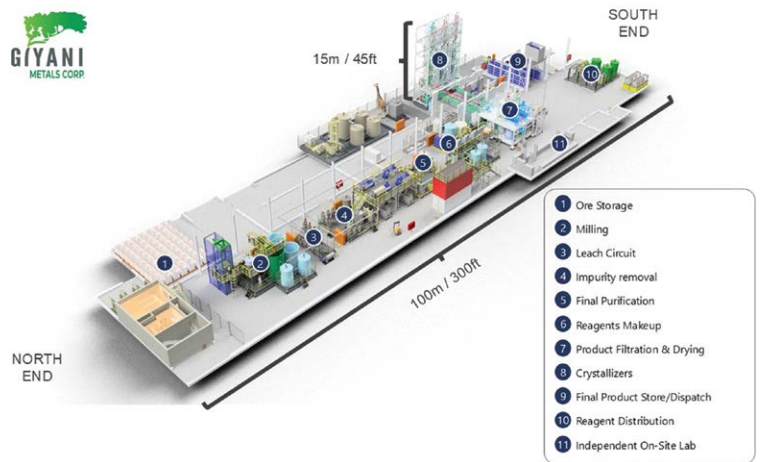


Akobo Minerals produces close to 3 kg of gold in October.

Akobo Minerals, a gold exploration and mining company, announced a total production of 2 833 grams of gold in October. This achievement marks a significant milestone in ramp-up and commissioning activities, underscoring its operational capabilities. In October, production included its second gold bar, weighing around 1.5 kg with an estimated grade of 15 g/t, highlighting the potential of the Segele operations as it transitions to regular production. "As we move into November, we anticipate increased throughput, drawing us closer to covering operational costs. Our Head of Mining Operations, Helge Rushfeldt, has been on-site to guide efforts, reporting a highly focused and efficient team. With a robust optimisation strategy in place, our team is committed to maximising both tonnage and production. Additionally, we have significantly strengthened our team by bringing specialists in mining operations and supply chain and support services on board. We believe that this will translate into higher efficiencies supporting our production goals. In this matter we are supported by Sutton Global, an internationally recognised mining and processing services provider," the company said. ■

Giyani's demonstration plant commences commissioning

Giyani Metals, developer of the K.Hill Battery-Grade Manganese Project in Botswana, has announced that its Demonstration Plant is moving into the commissioning phase. CEO Charles FitzRoy commented: "Giyani's Demo Plant is now entering the commissioning phase, in keeping with our target to deliver first production of battery-grade manganese in Q4 this year. The superiority of the demo plant in kind and size establishes a strong foundation for Giyani to engage with potential offtake partners, and offers Giyani many advantages that would not be available with other smaller or non-continuous facilities. In particular, the continuous process flow of the Demo Plant will allow the team to target steady-state operations over extended periods, consequently proving Giyani's ability to produce consistent battery-grade manganese and satisfy offtake requirements. Similarly, continuous operation at pre-commercial scale provides critical information for understanding how the commercial plant will respond, significantly de-risking the project. The successful construction and operation of the demo plant is, therefore, a crucial step in not only demonstrating the fundamental value of the project to investors and potential offtake partners, but also in the company's trajectory to becoming a leading producer of high-purity battery-grade manganese for the EV battery market."



Giyani's demonstration plant commences commissioning.

Highlights:

As the demo plant is a smaller scale, direct copy of the proposed commercial plant, Giyani will better understand how the proposed commercial plant (to be built in Botswana) will respond in advance of construction, commissioning and ramp-up of that facility, planned for 2027. The commercial plant will be constructed adjacent to Giyani's extensive 100% owned manganese oxide ore sources in Southern Botswana. The demo plant remains on track for commissioning and production of up to 600 kg a day of battery-grade manganese (HPMSM) in Q4 2024. HPMSM produced from the demo plant will be provided to off-takers for testing and qualification. ■

Harmony awarded gold at Eco-Logic Award



Harmony awarded gold at Eco-Logic Awards.

Gold miner, Harmony Gold was recently awarded gold in the Water Conservation Category at the Eco-Logic Awards – held in Cape Town on 30 October – for refurbishing three municipal Wastewater Treatment Plants (WWTPs). Access to secure water supply is critical to mining and the development of people,

communities and the economy, especially in water-scarce jurisdictions. Where Harmony has mining operations in South Africa, municipalities have been unable to maintain and operate state-owned WWTPs. To address this issue, and to contribute to a cleaner and more stable ecological environment around its mines, Harmony refurbished three WWTPs on behalf of the Matjhabeng, Matlosana and Merafong municipalities. "We have partnered with our municipalities to increase sewage treatment capacity by around 30 million litres per day. We have invested more than R35 million in refurbishing all three WWTPs and all three projects have been delivered on time, on budget with zero injuries," said Dr Urishanie Govender, Chief Sustainability Officer at Harmony. ■

Lotus completes drill programmes at Letlhakane uranium project

ASX-listed Lotus Resources recently reported results from the final 21 holes drilled at its large-scale Letlhakane Uranium Project in Botswana. Letlhakane's Mineral Resource Estimate (MRE), constrained by pit shells based on reasonable prospects of eventual economic extraction (RPEEE), is 155.3 mt at 345 ppm U3O8 for 118.2 mlb U3O8, of which 34.4 mlb (or 29%) are Indicated Mineral Resources. Lotus CEO Greg Bittar commented: "Our infill programme at Letlhakane has delivered terrific results, with 162 out of 164 holes drilled intersecting uranium mineralisation. This confirms the continuity and grade of this substantial uranium resource, which is located in a world class mining jurisdiction, Botswana. We are also excited about our exploration drill programme delivering mineralised intercepts across all holes drilled. We are now focused on updating the MRE, while also progressing metallurgical testing and evaluating the potential for ISR extraction for the deeper portions of the orebody." ■



NextSource Materials completes first shipments of graphite concentrate

TSX-listed NextSource Materials has completed its first commercial shipments of SuperFlake® graphite concentrate from its Molo Graphite Mine in southern Madagascar. Full container loads of high-quality, coarse flake graphite concentrate were exported from the Port of Tulear, Madagascar to Germany and to the US under existing offtake agreements. The initial container shipments of SuperFlake® graphite were destined for key demand markets for higher value graphite products, including refractory materials and graphite foils for consumer electronics and fire-retardant applications. Craig Scherba, CEO commented: “We are delighted to announce our first commercial shipments of SuperFlake® graphite from Molo to European and American customers. This is an important step in NextSource’s development as a supplier of critical materials to global markets and a contributor to economic development in Madagascar.” ■



NextSource Materials completes first commercial shipments of SuperFlake® graphite concentrate to the US and Germany.

SRK celebrates its 50-year legacy



SRK celebrates 50-year legacy.

As part of the group’s global 50th anniversary celebrations, SRK Consulting South Africa recently held a commemoration event at the Wanderers Club in Johannesburg— with memories and inspiration from local and overseas dignitaries. The memorable occasion brought together clients, industry participants, current and former SRK leaders, and members of the media to reflect on the groundbreaking journey of SRK’s past five decades. The evening’s high-profile speakers looked back on the legacy of SRK’s founders and looked ahead to the bright future this heritage promised. The event highlighted the role SRK plays in the mining industry, with SRK Consulting SA chairman Vis Reddy acknowledging the great achievement. The common theme of the event was the hope to continue working alongside industry partners and stakeholders with the same degree of success achieved in the past. ■

Omnia Holdings continues to enhance mining segment client value proposition

Omnia Holdings (Omnia) recently announced the rebranding of Protea Mining Chemicals (PMC) under its mining segment, BME. This strategic move consolidates Omnia’s global mining offering under a unified brand, delivering a comprehensive range of solutions spanning from mining to metal processing.

The rebrand closer aligns PMC with BME’s existing operations, enhancing Omnia’s ability to offer a broad value proposition that combines mine blasting and chemical processing solutions. This shift reflects Omnia’s commitment to an integrated, cohesive approach across its business units, further strengthening its support for customers’ sustainability, quality, and supply security needs.

As part of this transition, Omnia’s mining business will focus on two refreshed client value offerings: BME Blasting Solutions, providing explosives and initiation systems, and BME Metallurgy, dedicated to mining chemicals and metallurgical solutions.

“Omnia is a global company with a unique customer value proposition, coupled with best-in-class infrastructure.

This rebranding and focus on two distinct client value propositions will enhance our ability to deliver innovative and sustainable solutions that meet our customers’ needs across the entire mining value chain,” says Seelan Gobalsamy, CEO of Omnia.

The mining business’ Managing Director, Ralf Hennecke emphasised that this closer alignment builds on BME’s international stature, leveraging the technical expertise, production infrastructure, and supply chains to grow BME’s offering throughout the mining value chain.

“We continue to enhance our contribution to more aspects of the mining cycle — not only in breaking rock through advanced blast design but also in enhancing mineral processing, which improves performance efficiency for our customers,” Hennecke explains.

“This offers exciting opportunities for our customers, who will now have enhanced access to a fully integrated value proposition and solution,” he adds.

BME also continues to expand its global footprint beyond its traditional SADC markets, with significant operations in



Ralf Hennecke, Managing Director of BME.



Seelan Gobalsamy, CEO of Omnia.

Australia, Canada, Indonesia, West Africa, and growing interests in the US. This global reach, combined with BME’s expertise in blast and chemical engineering, ensures the company continues to deliver value to customers worldwide. ■

Africa is making slow progress towards energy security - PwC

In PwC's newly released Africa Energy Review 2024: Driving energy access through collaboration report, the company takes a closer look at some of the key developments influencing change across Africa's energy landscape.



Africa's energy snapshot

In 2023, clean generation capacity increased by 7.1%, fossil fuel generation by 0.1% and total generation by 1.8%.

Andries Rossouw, PwC Africa Energy Utilities and Resources Leader, says: "We anticipate that clean power generated in Africa will increase to 25% by 2025 as growth in solar, wind capacity and hydro generated power continues. While Africa has seen an overall increase in clean energy generating capacity, actual power generated in 2023 increased by less than 1% from the previous year. Power generated over the past decade has increased by 12.5%, which is four times less than the increased capacity. This is due to ageing fossil fuel plants – particularly coal-fired power stations – with declining availability factors and weather-dependent non-dispatchable solar PV and wind replacing that supply with lower efficiency factors."

North Africa's energy landscape is evolving with a strong oil and gas sector alongside a growing emphasis on renewable energy sources that include wind, solar and green hydrogen. Key players like Egypt, Algeria and Morocco are using their resource wealth to transition towards renewables while maintaining their positions as natural gas exporters.

In **East Africa**, countries like Kenya,

Ethiopia and Tanzania are making strides in expanding renewable energy and improving rural electrification. With major projects like the Lake Turkana Wind Farm, Kenya has achieved over 75% electricity access and aims for 100% renewable generation by 2030.

Meanwhile, **Southern Africa** has positioned itself as a leader in renewable energy development—particularly in solar and wind, with South Africa dominating the region's investments. Namibia is focusing on renewable buildout to support green hydrogen production, capitalising on its abundant solar and wind resources, with its oil and gas finds likely to make it a new regional energy hub.

"Despite significant advancements across these regions, challenges remain in infrastructure and financing, underscoring the need for continued investment and collaboration to meet growing energy demands and a transition to sustainable energy systems," says Pedro Omontuemhen, PwC Africa Oil and Gas Leader.

Key development across Africa

South Africa: South Africa has made considerable progress toward liberalising its energy sector, with a major update being the signing of the Electricity Regulation Amendment Act in August

2024. This act introduces sweeping reforms designed to create a competitive electricity market and modernise the sector, aligning with the country's goals to end load-shedding and secure long-term energy stability.

Egypt: Progress continues with the construction of the 4.8GW El Dabaa Nuclear Power Plant—the country's first nuclear plant.

Uganda: Construction progresses on the 1 443km East African Crude Oil Pipeline (EACOP) transporting crude oil to Tanzania. The entire operation is expected to be completed in 2025, boosting regional energy security and economic growth.

Senegal/Mauritania: Phase 1 of the Greater Tortue Ahmeyim (GTA) Project, an LNG project, is set to begin operation at the end of 2024, with the project expected to produce 2.5 million tons of gas annually from 15 trillion cubic feet of gas reserves.

Mozambique: Mphanda Nkuwa Hydropower Project, a \$5 billion initiative generating 1 500MW of hydroelectric power for clean and affordable electricity, is set to begin construction by the end of 2024.

Namibia: Significant oil and natural gas discoveries and a government advancement of its \$10 billion Green Hydrogen Initiative are positioning Namibia as a key player in Africa's energy transition. ■



Stibnite mineralisation from underground.

Antimony: With global supply restricted by China, what options remain?

With the global push towards a zero-carbon future gaining momentum, the importance of critical minerals has risen significantly. Antimony has emerged as a key player on this stage, and as the world accelerates its efforts to shift to sustainable energy sources, antimony has proven indispensable in various technologies that are pivotal for the green transition. From advanced energy storage systems to flame retardants in renewable energy infrastructure, antimony is essential in reducing our reliance on fossil fuels and is proving vital in the quest for a more sustainable planet.

Industrial applications

Antimony is a metalloid, meaning it exhibits properties of both a metal and non-metal. Primarily extracted from the mineral stibnite, antimony has a relatively low abundance in the Earth's crust; however, this low supply is offset by increasing demand due to its diverse applications spanning a range of sectors. Antimony salts are used in medicine, paints and pigments, fireworks, glassmaking, and in the rubber and textile industries. However, its main applications are within the energy sector, such as lithium-ion and liquid metal batteries.

Antimony demonstrates a high charging capacity, high discharge voltage, and the ability to withstand extreme temperatures, making the mineral a positive anode material for high performance batteries. The speed at which liquid metal batteries recharge is faster than conventional solid-material battery systems, facilitating the potential for these to



Aerial view of Hillgrove's above ground infrastructure.

be used as part of large energy storage systems.

The proliferation of grid-scale battery storage systems is gaining traction due to the push away from fossil-fuel-derived energy sources. According to the International Energy Agency's Net Zero Scenario, grid-scale storage capacity will need to increase from 86GW in 2023 to 970 GW by 2030, in order to keep up with demand. Unlike traditional batteries, liquid metal and lithium-ion batteries are designed for long-term, large-scale energy storage with a lifespan that extends over several decades. This makes them ideal for balancing the intermittent nature of renewable energy sources, such as solar and wind, by storing excess energy during periods of high generation and releasing it when demand exceeds supply. The cost to develop antimony-based liquid batteries is also significantly lower than other types, such as lithium-titanate and gel-batteries, due to lower material costs, a less complex manufacturing process, and a longer lifespan. This makes antimony-based batteries an affordable alternative.

Another critical application of antimony is its use in the production of flame retardants. As renewable energy

infrastructure such as wind turbines, solar panels, and electric vehicles expands, the need for safety measures also increases. Antimony trioxide is widely used as a synergist in flame retardant formulations, particularly in plastics and textiles. This not only enhances the safety of renewable energy installations but also contributes to the longevity and reliability of these systems, ensuring they can operate safely under a wide range of conditions.

Mapping the antimony supply chain

Antimony's crucial role in modern technology has earned it the title of a critical mineral in the US, Europe, Japan, and Australia, according to the International Antimony Association. However, its supply has become a strategic concern for many countries.

China currently dominates global antimony production and, according to critical materials intelligence firm, Project Blue, has accounted for over 70% of the world's supply since 2022. As of 2023, the US Geological Survey reported that China had the world's largest antimony reserves totalling 640 000 metric tons: about 30-55% of the world's total deposits. Additionally, China's resources accounted for 48% of antimony mine production in 2023 (S&P Global) – a concentration of supply which poses risks to the stability of global markets, particularly as demand is expected to continue to grow.

China's recent decision to impose export restrictions on antimony is therefore poised to have significant international ramifications. The new legislation is expected to cause substantial disruptions in global supply chains, likely causing price surges and intensified competition for antimony sources. Global dependence on Chinese antimony has created vulnerabilities in the market, and these export restrictions underscore the risks associated with over-reliance on a single producer. Countries and companies that rely heavily on antimony for their manufacturing processes are now facing a pressing need to secure alternative supplies.

One such region is Africa – a continent rich in mineral resources yet underexplored for antimony. Whilst African countries are not currently major players in the global antimony market, the continent's potential is significant.

South Africa has a history steeped in antimony production, with the 50 km Antimony Line hosted along the Murchison Greenstone Belt commencing operation during the 1930s. The orebody represents the second-largest deposit in the world, according to the Department of Mineral Resources, however, it is no longer in production. All major mines in the area were shut down in 2014, and most processing facilities closed in 2015 after they were acquired by Chinese investment firms from 2015-2017.

Known for its rich mineral wealth, Zimbabwe also has



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Antimony ingot price



Note: dollar per metric ton
Source: LSEG

Antimony price forecast (Source: Reuters).

considerable antimony deposits, particularly in the Kadoma region. Small-scale mining has been ongoing, although significantly hindered by limited infrastructure and funding.

Morocco is another African nation with promising antimony resources. The country's deposits, primarily located in the Anti-Atlas Mountains, have attracted attention from international investors such as Critical Mineral Resources, which acquired 26 permits in January 2024 for prospective areas thought to contain antimony.

Despite prospective mineral reserves, developing antimony mining in Africa faces several challenges. The continent's mining sector is often hampered by inadequate infrastructure, political instability, and regulatory uncertainty.

These challenges also present opportunities. With proper investment in infrastructure, technology, and governance, Africa could position itself as a powerhouse in the global antimony market.

Larvotto Resources: strengthening global supply

Amidst this backdrop, Australian mining company Larvotto Resources emerges as a pivotal player in the antimony market. With its flagship project approaching near term production, Larvotto is poised to attract significant investment and become a new, low-cost global antimony producer that will supply about 7% of world production.

Amongst its portfolio is the Hillgrove Gold-Antimony Project – a world-class antimony deposit encompassing a significant area of historically productive mines. Being the largest antimony deposit in Australia and one of the top 10 in the world, the project has already demonstrated high-grade antimony reserves through extensive drilling and exploration activities. According to the updated Mineral Resource for the PFS Ore Reserve, Hillgrove boasts a deposit of 7 264kt at 4.4g/t gold and 1.3% antimony. Being a gold mine that produces antimony as a secondary product, Hillgrove's operations



Inspecting and preparing the core.

provide a dual revenue stream for the company.

Only seven months after acquiring the project in December 2023, Larvotto Resources released a positive PFS at the start of August 2024. The results position Hillgrove as a technically and economically viable project, yielding low operating costs with a significantly high-margin production target profile.

On average, Larvotto is targeting 5.4kt base annual production of antimony, with an estimated 37.7kt to be recovered across the



Diamond and RC drilling programmes underway.

initial seven-year mine life. As more resources are converted to reserves, the potential exists to increase the mine life substantially. Given that Australia's total antimony output in 2023 amounted to only 2.3kt, this highlights the significance of Hillgrove and

demonstrates the company's ability to contribute substantially to global supply chains. What's more, the overall measured, indicated, and inferred resource totals 93kt antimony, and financial forecasts at a conservative antimony price of US\$15 000/t confirm the high-margin potential of the project. Hillgrove's pre-existing infrastructure requires far less funding than most new mining projects at an expected development cost of under \$80 million. This makes it an attractive investment prospect at a time when uncertainty is rife, and many are looking for a diverse antimony supply chain to reestablish itself.

As the implications of China's export ban continue to unfold, Hillgrove is well-placed to fill the void and offer a high-quality source of antimony that could redefine global supply chains. For investors, this presents an opportunity to participate in a project that is not only economically promising but also crucial to the future stability of critical industries worldwide.

Additionally, there is upside potential at the project with multiple exploration programmes underway as part of the DFS programme, which is targeted for completion by the end of 2024. This would see the project produce antimony well beyond the current seven-year mine life.

With production targeted for 2026, Hillgrove's advanced stage of development and upside potential places Larvotto in a prime position to meet the growing demand that will arise from the widening global supply gap. As the world grapples with the implications of a reduced antimony supply, Larvotto's strategic positioning and resource potential make it a critical alternative to Chinese dominance in the market. ■



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Value of gold demand rockets with price

The World Gold Council (WGC) recently announced that total gold demand (inclusive of OTC investment) gained 5% y/y to 1 313 t – a record for a third quarter. This strength was reflected in the gold price, which reached a series of new record highs during the quarter. The value of demand jumped 35% y/y to exceed \$100 bn for the first time ever.

Global gold ETF inflows (95 t) were a major driver of growth; Q3 was the first positive quarter since Q1'22, with a y/y swing from hefty (-139t) Q3'23 outflows.

Bar and coin investment (269 t) was down 9% y/y, from a relatively strong Q3'23. Much of the decline was specific to two or three key markets, counterbalanced by a very strong quarter in India.

Gold jewellery consumption (459 t) sank 12% y/y despite strong growth in India. Although consumers bought reduced quantities, their spend on gold jewellery increased: the value of demand jumped 13% y/y to more than \$36 bn.

The pace of central bank buying (186 t) slowed in Q3, but y-t-d buying is in line with 2022 and remains widespread.

AI continued to support the use of gold in technology (83 t); it grew 7% y/y albeit from a fairly low base and the outlook remains cautious.

Outlook

Central bank buying remains on track for a strong year as jewellery buying steps back amid high prices. Bar and coin investment is set to remain solid while supply rises with a big push from producers for a record year.

Key factors guiding our outlook for Q4 and the full year (FY) are:

- Gold prices continue to climb as participation from investors broadens amid increasing media attention on the stellar y-t-d returns
- Geopolitical uncertainty, stemming from both an escalation in Middle East tensions and the highly polarised US presidential election, is supporting increased investment interest and lower-than-predicted recycling
- The shift that is underway in global interest rate policy should promote further interest in gold investment as the opportunity cost of owning gold drops.

Investment

Bar and coin demand was weaker than the WGC had anticipated for Q3 but the y-t-d total remains solid at 859 t vs the 10-year average of 774 t. Geopolitical risk, concerns of economic slowdown and the gold price surge are fuelling these strong numbers even as record prices might keep some buyers at bay.

“We expect more of the same in Q4, but the potential for volatility post the US election means a broader set of outcomes for the FY must be considered compared to a traditional year-end close



Total gold demand gained 5% y/y to 1 313 t – a record for a third quarter.



Bar and coin demand was weaker than anticipated for Q3.

Jewellery has been quite resilient on a value basis.

with one quarter remaining. Western-listed gold ETFs have finally started to stir, leading to the first quarter of global inflows since Q1 2022. As for the rest of the investment outlook, US politics will likely stir up volatility in Q4, making it just as tough to predict gold ETF outcomes as it is to call the election. That said, should the Federal Reserve deliver on its projected rate path, then all else being equal, we would expect interest in ETFs to continue with the added catalysts of elevated fiscal deficits and richly valued equity markets,” the World Gold Council said.

Speculative futures exposure via managed money net long positions look extended. However, overly bullish positions have historically been a weaker contrarian signal for prices than overly bearish ones.

Mine supply Broad-based increases in production in Q3 move us closer to a new annual record. Although all-in sustaining costs (AISC) have increased, softer energy prices and a soaring gold price have helped maintain very healthy margins. It may therefore be expected that this will translate into further gains in Q4, slightly bumping up the FY outlook.

Recycling has been slow to respond to high prices, and reports of a depletion of near-market stocks in both China and Western markets should put a lid on a ramp up in recycled supply in Q4. We see more downside than upside risk to recycling and have revised down our full-year forecast.

Central banks

The slowing of Q3 demand can likely be attributed to the sharp rise in prices prompting a pause in buying by some central banks combined with limited tactical selling by others. However, evidence suggests that the higher price has not dented a longer-term desire to increase allocations. We expect buying for the full year to remain strong but below the last two years, and leave our FY expectations virtually unchanged from last quarter’s estimate.

Fabrication demand

Jewellery has been quite resilient on a value basis this year but high prices have taken their toll on tonnage, producing one of the weakest y-t-d totals in our quarterly dataset back to 2000. Jewellery buyers will require one of two things to pick up the pace of their buying: a stabilising price or a meaningfully brighter economic outlook.

That said, our prior forecast was quite pessimistic and Q3 was meaningfully stronger in India, which leads us to slightly revise up our FY forecast. Technology demand was slightly better than we had anticipated in Q3, supported by the continued AI boom. But demand in the sector faces some risks and we retain the full-year forecast from last quarter.

The World Gold Council recently announced that total gold demand (inclusive of OTC investment) gained 5% y/y to 1 313 t – a record for a third quarter.

Cora Gold takes assets up the value curve

By Nelendhre Moodley

Exploration and development company, Cora Gold, used the time the Malian government took to make changes to its mining codes to ramp up its exploration portfolio, which consists of its Madina Foulbé exploration permit in the Kenieba Project Area – located in east Senegal – and its Sanankoro Gold Project in south Mali, CEO Bert Monro, tells *Modern Mining*.



Cora Gold CEO Bert Monro.

The government of Mali placed a moratorium on exploration permits when it began the process of initiating changes to its mining laws in November 2022.

Prior to the moratorium, Cora Gold was in the process of advancing its flagship asset, Sanankoro Gold Project, which would have seen the explorer pouring first gold at the end of 2025.

The new mining code was passed in July this year and miners with existing projects have been the first in line for permit conversion while gold exploration and development companies, like Cora Gold, are in the waiting line for permitting approval. A mining permit will allow the company once again to get the ball rolling on its flagship asset.

The new code allows the government to take a 10% stake in mining projects and the option to buy an additional 20% within the first two years of a mine's commercial production. A further 5% stake could be ceded to locals, taking state and private Malian interests in new projects to 35%, from up to 20%.

According to Monro, several operating mining companies have already come to agreements with the Government since the new code has been put in place. "Given that we have several contiguous exploration opportunities on our tenement, our plan is to amalgamate them into a single 100 km² permit. We are currently in discussions with the Malian government and hope to have our mining permit in place in 2025."

Resource upgrade Madina Foulbé'

Cora Gold recently completed a reconnaissance Reverse Circulation (RC) drilling programme at the Tambor gold anomaly - one of four key target areas within the company's Madina Foulbé exploration



Cora Gold team inspects the site.

permit that lies in the Kenieba Project Area.

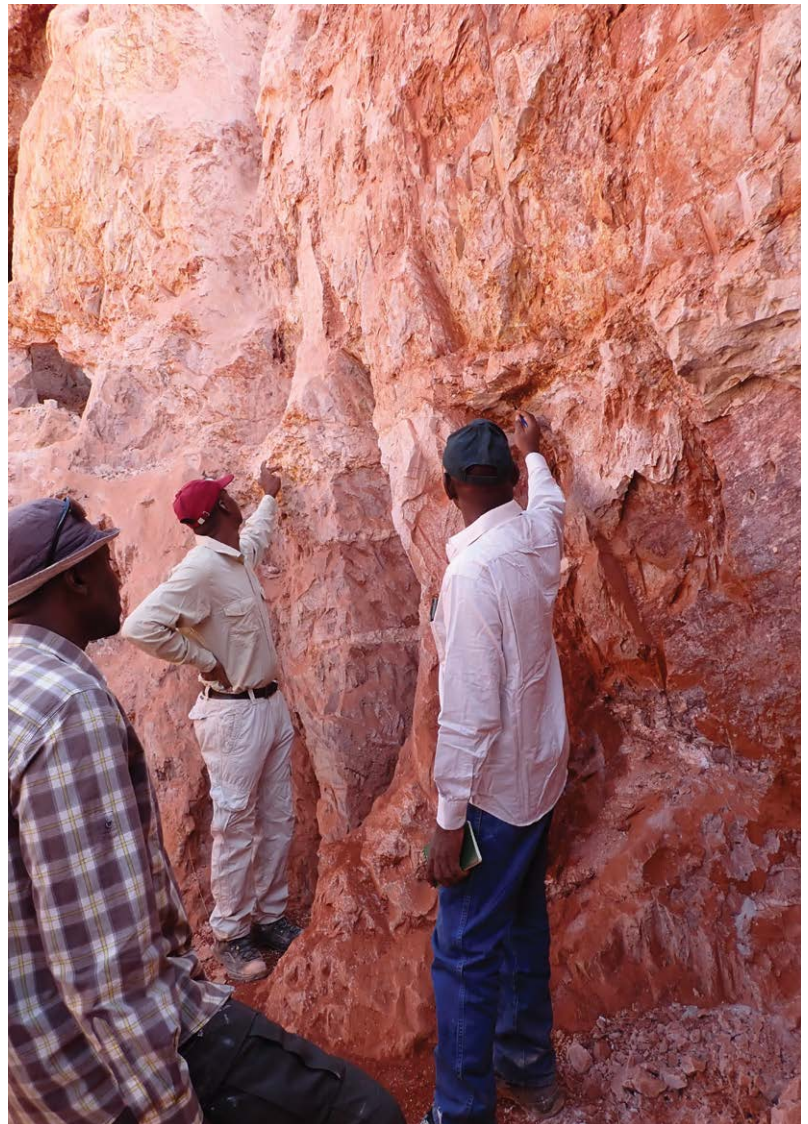
The permit is close to several Tier 1 gold deposits located within the Mako Geological Belt of the Kédougou-Kéniéba Inlier, including Endeavour Mining's Sabodala-Massawa gold mine and the high-grade open-pit Massawa Gold Project jointly owned by Barrick Gold (83.25%), Compagnie Senegalaise de Transports Transatlantiques Afrique de l'Ouest (CSSTAO) (6.75%), and the Government of Senegal (10%).

According to Monro, forty shallow holes were drilled at 10 prospective targets within the large 3 km long +1 km wide Tambor gold soil anomaly.

This year's drill programme was designed to test for in-situ gold mineralisation beneath the soil and termite anomaly to understand the broader exploration potential of the gold system that generated the large and high-grade gold-in-soil anomaly at Tambor.

Six of the 10 targets drilled were successful in returning anomalous to economic intercepts.

Now that the company has proved the potential for widespread mineralisation of economic widths



and grades at Madina Foulbé, it will be looking to refine future exploration plans to follow up on the positive results.

“Up until this point Madina Foulbé has been largely untested, so with six of our ten high priority targets confirming gold mineralisation, we are pleased with the results received from what was a first pass reconnaissance programme. We have been able to identify multiple broad zones with elevated gold and some economic intercepts, including 10m @ 4.41g.t au, with over half the holes ending in mineralisation from a shallow programme designed to test a wider area. This gives us confidence that, with further exploration, we could define resources in the future. In support of this, the project is close to several operating mines and is serviced by excellent infrastructure within a mining friendly jurisdiction.”

Sanankoro Gold

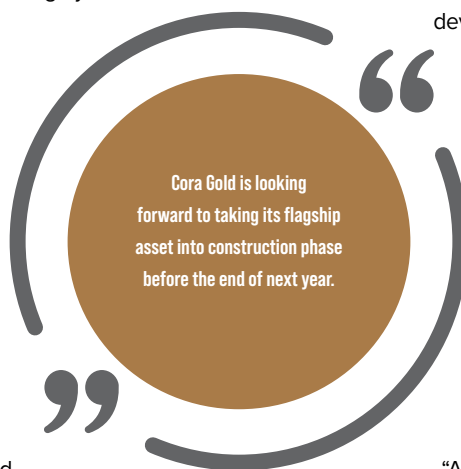
The AIM-listed precious metals explorer has continued to expand

its flagship asset firming up the resource with an eye to growing the project in the future.

“Although we were not able to advance development of the Sanankoro Gold Project during 2024, we shifted focus towards showing the wider potential of expanding the resource to deliver a much larger project in the future. The highlight of 2024 is the positive exploration success at Sanankoro, where we discovered an additional 20 exploration targets in and around our existing deposits, which is really exciting.”

Gearing for construction on Sanankoro gold

“As a result of the moratorium, the commencement of the project was delayed, which is frustrating. However, we have used the time wisely and engaged in resource drilling to take the assets up the value curve and have also built a much stronger team and firmed up relationships with our lenders and potential debt financiers,





Cora Gold is busy ramping up its exploration portfolio

and continued to unlock exploration success. As it stands, we have a debt arrangement in place with Atlantique Finance and an extremely supportive share register.”

Anticipating the reception of its mining permit in 2025, Cora Gold is looking forward to taking its flagship asset into the construction phase before the end of next year.

According to Monro, the construction timeline of 18 months for project development remains unchanged, given that the project is a “straightforward

open pit oxide mining operation with free digging oxide from surface”.

“This will be a straightforward and reasonably quick construction process that will be accompanied by lower-than-average operating costs when compared to other mining operations.”

The upside to developing the project at a time when the gold price is trading at an all-time high of above \$2600/oz is that Cora Gold will revisit project development costs in line with the new greatly appreciated gold price.

Even better, gold bulls remain upbeat

that the price of gold will be trading at \$3,000/oz by 2026. According to Swiss bank, UBS, the gold price is expected to break through \$3,000/oz sometime next year.

“The gold price has jumped significantly from when we published our definitive feasibility study (DFS) in 2022, using the price of \$1650/oz for our reserves and \$1750 for our economics. The gold price is now more than \$800 higher than it was and delivers significant upside to the project going forward. As the studies are a couple of years old, we will need to refresh the DFS ahead of getting Sanankoro ready for construction.”

Further to this, the highly favourable gold price should significantly reduce the payback period on the project which was initially 1.2 years using US\$1,750 gold price.

“While we can’t control the price of gold, we are able to control our cost of production, and, like all miners, we will target gold production at the lowest cost. As a low-cost project, the soaring gold price remains extremely positive for us.”

CSI initiatives

The gold explorer’s CSI initiatives are aligned with a three-pronged approach, which entails philanthropic endeavours related to improving healthcare and education, a focus on promoting initiatives around alternative livelihoods,

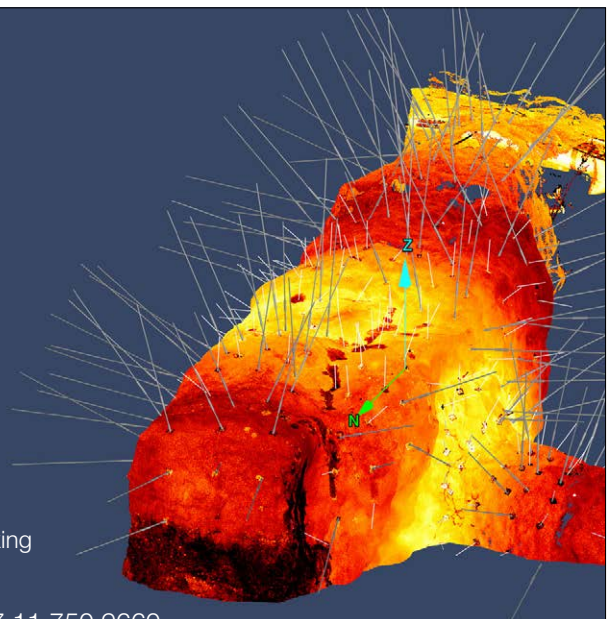


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Soil sampling and weighing underway.



such as setting up micro businesses and programmes related to agriculture and upskilling the local community to meet the needs of the mine during the construction phase and in mining operations.

As the company is looking to create an estimated 1 000 jobs, it is focused on identifying relevant training programmes and training colleges that will allow it to access a wider range of roles for its mining operation.

“We supported the local clinic with, amongst others, a maternity birthing bed which, just four hours after its arrival

at the clinic, was used to deliver its first baby. Aside from the focus on healthcare and education projects, we also consider the bigger picture, which includes helping the community unlock alternative livelihood opportunities, such as setting up vegetable gardens and chicken and fish farming. Importantly, we are looking into investing in apprenticeship programmes aligned with upskilling local community members to become integral in both the construction of the mine and the workings of the mine itself. The intention is to source local workers living within a 25 km radius of the mine,” concludes Monro. ■

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Critical Minerals Summit scheduled for robust discussions

Following the inaugural African Critical Minerals Summit held in Johannesburg last year, organisers are gearing up for another successful event, targeting stakeholders at decision making level and close to 500 delegates, Tshegofatso Motsoenyane, who is spearheading the event, tells *Modern Mining*.



Scheduled to take place on December 2-3, 2024, at the Sandton Convention Centre, the summit will bring together leaders from government, industry, and civil society to explore the role of Africa's critical minerals in global energy transition and sustainable development.

As the world transitions to a clean energy system, there is need for critical metals, such as copper, lithium, nickel, cobalt and rare earth elements, to support clean energy technologies.

Policy developments

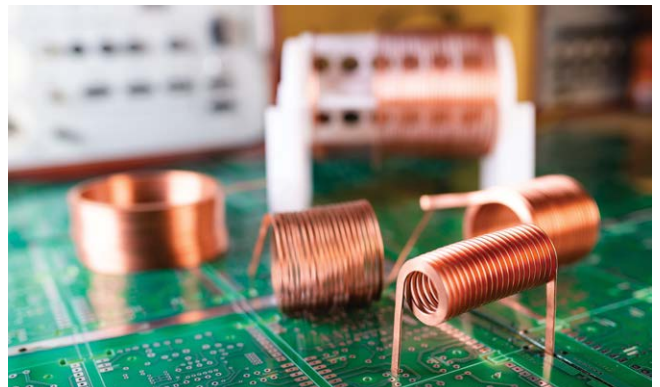
Discussing how African countries are progressing policy developments relating to critical minerals, Motsoenyane says African nations are making notable progress in advancing their agendas on critical minerals, recognising the continent's vast mineral wealth and importance in the global shift towards green technologies.

"Several countries are formulating policies and strategies to harness these resources responsibly and maximise economic benefits, while also addressing environmental sustainability and social concerns."

Motsoenyane points to the African Union's Africa Mining Vision (AMV), adopted in 2009, which remains a central framework guiding Africa's mining policies.

Aiming to transform Africa's mineral wealth into sustainable development, the AMV promotes resource-based industrialisation. "While the AMV covers all mining activities, its principles are increasingly being applied to critical minerals such as lithium, cobalt, and rare earth elements."

She adds that the African Continental Free Trade Area



Critical metals include copper, lithium, nickel, cobalt and rare earth elements.



Lithium is used in batteries for electric vehicles, energy storage systems, and portable electronics.

(AfCFTA), launched in 2021, is also an important framework.

“By eliminating tariffs and reducing barriers to intra-African trade, the AfCFTA is set to enhance the movement of goods – including critical minerals – across borders, and strengthening Africa’s position in global supply chains.”

Further to this, South Africa, a key player in the critical minerals space due to its significant reserves of platinum group metals (PGMs), manganese, and vanadium, which are crucial for hydrogen energy and other clean technologies, has several policy developments that include among others:

- **Hydrogen Strategy (2021):** South Africa launched its Hydrogen Society Roadmap, aimed at leveraging the country’s mineral wealth (especially PGMs) for hydrogen energy development. “The strategy is designed to position South Africa as a global leader in the production and export of green hydrogen, a clean energy source that relies on critical minerals.”
- **Beneficiation Policies:** South Africa continues to promote mineral beneficiation, ensuring that more value-added processes occur domestically rather than exporting raw minerals. “This policy extends to critical minerals, with the goal of developing local industries around battery production, hydrogen fuel cells, and other clean energy technologies.”

Critical Minerals Summit 2024

While some governments are proactive in developing policies related to critical minerals, Motsoenyane says that more can be done, which is why the vision and mission of the African Critical Minerals Summit aims to initiate and drive conversations that will encourage governments to:

- Implement a combination of legislative, regulatory, and policy frameworks that boost investment, ensure sustainability, and promote value addition;
- Establish clear, transparent, and stable legal frameworks that govern the extraction, processing, and export of critical minerals;
- Establish policies that encourage local beneficiation and processing of minerals, rather than just implementing and enforcing strong environmental and social regulations to ensure that the development of critical minerals is sustainable and beneficial for local communities;
- Invest in or facilitate public-private partnerships to build essential infrastructure—roads, energy supply, and water

access—necessary for mining and processing activities;

- Collaborate at a regional level to develop shared policies and infrastructure that support the critical minerals sector;
- Streamline licensing procedures for mining and processing projects and move towards digitising these processes;
- Strengthen anti-corruption measures and increase transparency in the awarding of mining contracts, resource extraction processes, and revenue management;
- And support R&D in mineral processing technologies, exploration, and the development of alternative materials to reduce dependency on external sources for critical minerals.

Critical mineral influences

The supply and demand fundamentals for critical minerals are influenced by a combination of factors, including their essential role in clean energy technologies, geopolitical considerations, and the challenge of securing sustainable supply chains, says Motsoenyane.

Lithium, a cornerstone of the global transition to renewable energy, is driven primarily by its use in batteries for electric vehicles (EVs), energy storage systems, and portable electronics.

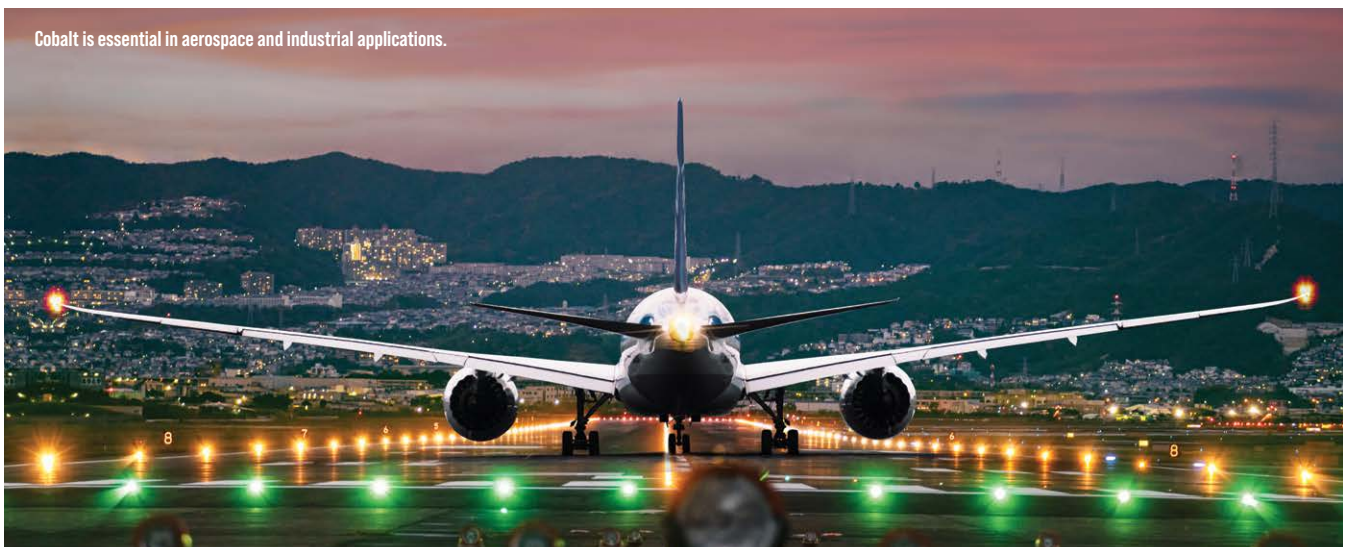
According to Motsoenyane, lithium is abundant, but the supply chain faces challenges. Most lithium production comes from a small number of countries (Australia, Chile, and China, and more recently Zimbabwe, Namibia and the Northern Cape province of South Africa).

“The extraction process, particularly in brine-based deposits, can take years to develop and expand, leading to potential supply bottlenecks. Increasing mining capacity and processing facilities is essential to keep pace with demand.”

Cobalt is another critical component of lithium-ion batteries, especially in stabilising energy density and extending battery life. The push for EVs and renewable energy technologies has intensified the demand for cobalt. Besides batteries, cobalt is essential in aerospace and industrial applications.

“Over 70% of the world’s cobalt is sourced from the Democratic Republic of Congo (DRC), which presents significant geopolitical and ethical concerns, particularly around child labour and environmental degradation. This concentrated supply creates a risk of supply disruptions, and there’s a growing shift toward cobalt-free battery alternatives, but scaling these technologies will take time,” concludes Motsoenyane. ■

Cobalt is essential in aerospace and industrial applications.



SEW-EURODRIVE expands its service footprint in africa with new repair centre

SEW-EURODRIVE South Africa, a leader in drive and control technologies, is expanding its presence and capabilities in the African market with a new 17 000 m² Service and Repair Centre, built to enhance the service offering for planetary gearboxes across the continent. This facility will be the cornerstone of SEW-EURODRIVE's strategy to 'close the loop' by offering comprehensive repair services within Africa, minimising downtime and extending the life of vital equipment in sectors such as mining, manufacturing and heavy industry.



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



Jonathan McKey, National Sales and Marketing Manager at SEW-EURODRIVE South Africa.



The SEW PPK planetary gearbox's compact design is ideal for space-limited applications requiring high torque at low speeds.



The SEW P2.e series planetary gearbox is ideal for continuous heavy-duty applications.

Investing in service excellence

Following its move into a modern 26 000 m² headquarters in Aeroton, Johannesburg, in early 2022, SEW-EURODRIVE South Africa has committed to Phase 2 of its expansion. With an investment of approximately R384 million, construction of the new Service and Repair Centre began on 2 September 2024, with the goal of opening in early 2026.

Managing Director Raymond Obermeyer emphasises that this facility fills a critical need in the African market. "As the only facility of its kind in the region, it positions SEW-EURODRIVE South Africa as a comprehensive service provider, both for our own products and for the repair of competitors' equipment, giving us a strong edge in the gearbox repair market," says Obermeyer.

Comprehensive repair and service capabilities

The new centre will feature advanced repair capabilities from sandblasting and spray painting



This facility will be the cornerstone of SEW-EURODRIVE's strategy to 'close the loop' by offering comprehensive repair services within Africa.

to product stripping. It will also include a full motor repair department, with facilities for motor rewinding, burnout ovens and rotor balancing. The centre's fabrication section will manufacture components like baseplates, guards and other steelworks needed for robust assembly and repair.

With a 30-bay assembly area, SEW-EURODRIVE South Africa can handle over 300 repairs per month, ensuring quick turnarounds for customers. A storage facility onsite will support streamlined operations, while a larger DriveAcademy training centre will address the region's technical skills gap, training specialists in gearbox repair and maintenance.

"This expansion allows us to maintain rigorous quality control and deliver a seamless customer experience throughout the lifecycle of our products, especially crucial for mining customers focused on reducing total cost of ownership," Obermeyer explains.

Introducing new planetary gearbox solutions

The expansion aligns with SEW-EURODRIVE's drive to bring its global expertise to the African market. Jonathan McKey, National Sales and Marketing Manager, highlights that the addition of the SEW PPK and SEW P2.e planetary gearbox ranges offers tailored solutions for the unique demands of African industries.

"Drawing from our global production capabilities, we can now provide robust tested products to sectors across South Africa and beyond," McKey notes.

Developed in Brazil for the sugar industry, the SEW PPK planetary gearbox delivers torque from 2 to 18 kNm with a wide ratio range. This compact design is ideal for space-limited applications requiring high torque at low speeds. The SEW P2.e series offers even greater flexibility with higher torque ratings from 24.8 to 124 kNm and multiple stages to support applications demanding high power and durability.

"We are now well-equipped to meet specific needs with minimal modifications, allowing us to remain competitive in

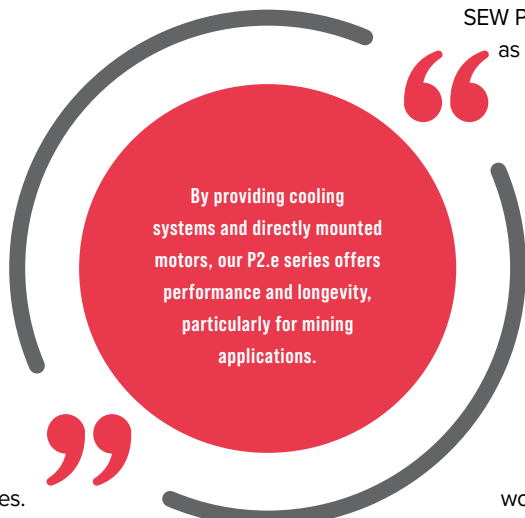
planetary gearbox offerings and simplify the sourcing process for our customers," adds McKey.

Unique design and upgrade options

SEW-EURODRIVE's commitment to innovative design is exemplified by the SEW P2.e which is one of the few planetary gearboxes globally that allows direct motor coupling and includes a cooling solution for superior thermal performance.

According to McKey, the SEW P2.e series includes options like the AD adaptor and AMS adaptor, making it easy for customers to integrate these gearboxes into existing setups.

"By providing cooling systems and directly mounted motors, our P2.e series offers performance and longevity, particularly for mining applications," he says. He adds that both the SEW PPK and P2.e ranges offer features such as radial labyrinth sealing, essential for harsh environments with high exposure to dust and corrosive materials.



Contributing to job creation and skills development

SEW-EURODRIVE's new facility will create an estimated 80 to 100 jobs, in addition to the 100 positions generated during the Phase 1 expansion. The new DriveAcademy will play a critical role in equipping local talent with the skills required for advanced gearbox repair, enhancing workforce capabilities to meet industry demands.

As the largest investment by SEW-EURODRIVE in South Africa post-COVID-19, the new Service and Repair Centre reflects the company's confidence in the growth potential of African markets. "This is more than just a facility; it's a hub for long term sustainable development in drive technology, meeting industry needs for both performance and cost efficiency," Obermeyer concludes.

With its investment in state-of-the-art service capabilities and advanced gearbox technology, SEW-EURODRIVE South Africa is setting a new standard for reliability and innovation in the African market. ■



Ivan Doku, partner and Ghana country manager for SRK Consulting.



SRK Consulting South Africa chairman Vis Reddy.

Pressure to foster new skill sets as mining in West Africa grows

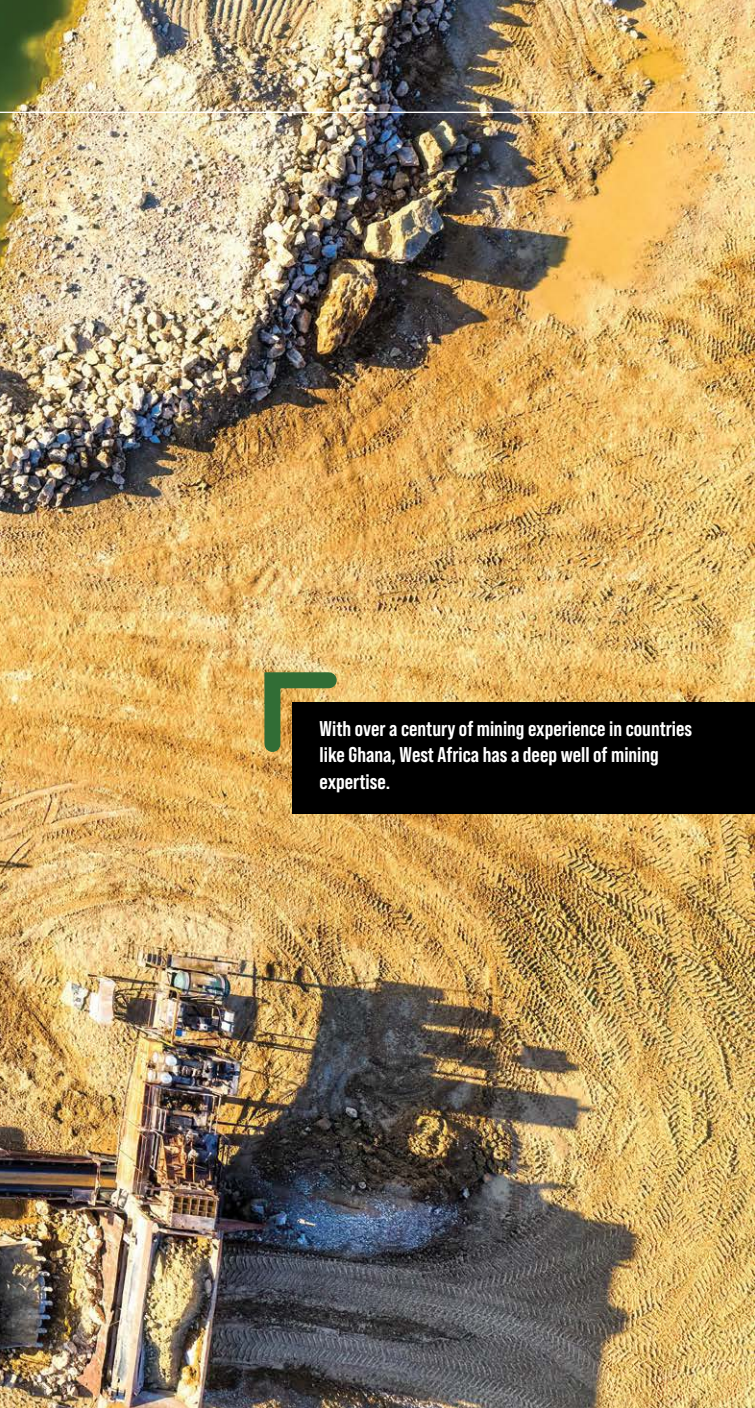
Building on the depth of mining expertise in West Africa, developed over more than a century of mining in countries like Ghana, the region is needing to foster local skill sets in response to changing standards and requirements both from government and clients.

Among the recent industry benchmarks, for instance, has been the Global Industry Standard on Tailings Management (GISTM) – published in 2020. According to Ivan Doku, partner and Ghana country manager for SRK Consulting, the breadth of the GISTM requirements means that many more disciplines now need to be adapted or developed.

“The world’s leading mining companies have

embraced the GISTM, and have been very busy aligning themselves to the standard,” said Doku. “Irrespective of their host nation’s legislation, they are working towards standardising their compliance globally – so operations in West Africa are also having to come up to speed.”

This is straining the limited global skills pool in tailings management, and more specifically in GISTM compliance. One of the GISTM



With over a century of mining experience in countries like Ghana, West Africa has a deep well of mining expertise.

requirements that is difficult for local companies or service providers to fulfil from in-house expertise, for instance, is dam break analysis for a tailings storage facility (TSF). This requires specialised – and scarce – experience, insights and modelling to track where tailings could flow in a simulated dam breach.

He notes that SRK's current tailings projects in West Africa – which include projects in Ghana and Burkina Faso – have to factor in the GISTM requirements. Tailings management, already a highly specialised field presenting a range of technical complexities, now also has to draw on experts in other disciplines – from environment, social and governance (ESG) to disaster management.

Opportunities for young professionals

"The global shortage in these critical tailings-related skills does make it difficult for the mining sector at the moment, but at the same time it presents great opportunities for young professionals in our region," he said. "Especially with the growing focus on local content in mining services and products, there is an urgent need to develop these skills locally."

Part of the challenge, he acknowledged, is time. While the basic building blocks of degrees and other qualifications can be earned relatively quickly, it is the gathering of professional experience – with the right quality of mentoring and supervision – that takes longer. Standards and regulations may then also demand minimum levels of experience for professionals to act as Engineers of Record.

SRK Consulting South Africa chairman Vis Reddy highlighted that identifying and nurturing local expertise has always been part of SRK's business philosophy – and in fact is built into its business model. The company is owned by its staff, and its country practices also aim for majority ownership and management by local professionals.

In terms of the exact requirements of the GISTM, SRK is continuing to build in-house capacity to meet the growing demand for tailings-related services. As an indication, the tailings team in South Africa has grown to around 100 staff over the past six years, said Reddy.

Sharing knowledge

"Our strategy has always been to leverage our global footprint by sharing knowledge and expertise between our practices worldwide," he said. "Our tailings experience is therefore being passed from senior professionals to the younger cohorts. The demands placed on the industry by the GISTM create significant career opportunities for young geotechnical and civil engineers, for example, as well as for scientists and engineers in fields such as ESG, water management and mine closure."

He said the company's focus in West Africa was on building the capability of the Ghana practice, which was first opened in 2011. It is vital to find and nurture talent across the age demographic, by exposing them to the latest trends and demands at a practical level – while guided by experienced professionals. This, he says, is a business imperative that underpins the future success of the practice.

Doku pointed out that the inter-practice collaboration had recently allowed one of SRK's South African tailings experts to spend time on site with the Ghana team, sharing insights and honing skills. At the same time, two members of the Ghana office spent time the company's offices in Australia and South Africa, working with colleagues and gaining a deeper perspective into tailings design and management.

Sustainable practices

There are also a range of other disciplines being developed or drawn into mining to meet evolving global concerns, said Reddy.

"Mining worldwide – like other industries – is moving towards more sustainable practices, responsible sourcing and decarbonisation, and the West African sector will be no different," he explained. "Stakeholders in the global minerals value chain will be looking closely at miners in this region to ensure that sustainability imperatives are met."

Another way that SRK is promoting collaboration as a platform for mentoring and experience-building is through its Africa-Asia initiative. As in countries like the Democratic Republic of Congo (DRC), the west African mining sector has also seen interest from China-based companies. SRK's practices in Ghana, DRC, South Africa and China form joint multidisciplinary teams to bridge cultural, language and spatial gaps in ways that streamline exploration and development in the mining sector. ■



Mark Gibson, RSK's Africa ESG Director.



Emphasis on ESG is becoming more prevalent.



As of January 2024, the Zimbabwe Stock Exchange has adopted the Global Reporting Initiative (GRI) Standards.

ESG disclosures have become a *de facto* requirement

By Mark Gibson, RSK's Africa ESG Director

Disclosing information that covers a business's operations and risks in environmental stewardship, social responsibility and corporate governance (ESG) plays an important part in how it is seen by investors, customers and clients. ESG disclosures are becoming mandatory in many places, both in Zimbabwe and overseas, and RSK's Africa ESG Director Mark Gibson explains how mining houses can leverage their alignment with ESG standards for an advantage in business and investment.

ESG reporting has been gaining ground worldwide for some time. It effectively measures performance across three key areas: environmental sustainability, social responsibility and corporate governance. This reporting is typically done using predefined key performance indicators and metrics. It isn't driven by finance or accounting concerns – the goal is to disclose the information that investors and regulators need to make decisions about the company's ESG performance to compare it with other businesses. In other words, ESG disclosures are made alongside financial ones.

On the environmental side, metrics such as the amounts of materials used in manufacturing, total energy consumption, waste generated, and greenhouse gases produced are expected. For social, some requirements include recruitment and turnover, health and safety incidents, gender diversity of employees and average hours of training per employee. Governance reporting



includes the composition of the board and the split by gender and roles – executive, non-executive and independent, as well as the company’s compliance with laws and regulations and any non-compliance incidents, litigation or fines incurred by the organisation.

Those seeking investment internationally may well have come across ESG reporting already. Foreign investors increasingly want to see ESG pre-qualifications as investor confidence is now tied to ESG credentials. Indeed, this type of reporting is already required for many subsidiary companies. Subsidiaries of EU-based parent companies are required to follow the EU Sustainable Finance Disclosure Regulation (SFDR) and those whose parent companies operate in International Financial Reporting Standards (IFRS) compliant jurisdictions must follow the Corporate Sustainability Reporting Directive (CSRD) and upcoming IFRS global sustainability and climate disclosure.

Recently, the Reserve Bank of Zimbabwe has been encouraging adoption of the Sustainability Standards and Certification Initiative (SSCI). The central bank issued climate risk guidelines for the banking sector and, as of January

2024, the Zimbabwe Stock Exchange has adopted the Global Reporting Initiative (GRI) Standards and developed core sustainability metrics as a minimum starting point, making environmental, social and governance disclosures mandatory for all companies listed on the Zimbabwe and Victoria Falls Stock Exchanges. Currently, there are only a few Zimbabwean mining companies that are listed on those two stock exchanges; however, this does not mean that privately owned mining groups can ignore ESG reporting.

In capital markets where prospective borrowers might go to find investment, such as London, Toronto or Sydney, where much investment for the mining sector comes from, ESG reporting is increasingly of interest to prospective investors. While reporting is not yet compulsory for private capital, there are guidelines in place, and it is increasingly the case that investors are preferring to invest in companies that do disclose ESG information.

Institutional lenders, however, are duty bound by rules and regulations where they are present, so where there are requirements in relation to reporting, they must act accordingly. Where a lender must report against, for instance, the Task Force on Climate-related Financial Disclosures, or where there is a Stakeholder Action Group, pressures are placed upon the institution to let the world know what they are investing in and who they are lending to. For these sources of funding, ESG reporting from their investments will be crucial both to maintain compliance with their obligations, but also in making their choice of who to lend to or invest in. Companies with good ESG ratings are likely to be preferred.

And it is no longer just about investments. The Corporate Sustainability Due Diligence Directive, a piece of EU legislation, will require importers in the European Union to declare information about their supply chain and take steps to ensure that modern slavery or child labour are absent. So even for those businesses for whom investment is not a concern, they may find that ESG reporting becomes necessary to do business with overseas clients.

All of this is significant. It shows a clear direction of movement towards concern over sustainability in the international arena. At home too, emphasis on ESG is becoming more prevalent. In the 2023 National Budget Statement, Professor Mthuli Ncube called for miners in Zimbabwe to make ESG a priority, echoing prior statements from President Mnangagwa; hardly a surprise, given the importance of Zimbabwe’s mineral sector to the economy.

ESG is no longer an option. It has become a requirement nationally and needs to be considered by companies doing business or seeking investment internationally. Among other things, it means establishing and implementing an ESG strategy; identifying the key people who will be involved in the process; gathering, compiling and analysing data; identifying where gaps or challenges exist and what steps are being taken to address those; and making a standalone report or incorporating the information into an annual report. Mining houses that make a start with ESG in the short term will avoid having to play catch-up as requirements tighten and pressure increases. Being ahead on this will mean they have access to a larger set of potential investors, lenders and clients in the near future than they would if they had waited. ■

Kal Tire's solutions target safety and lower costs

By Nelendhre Moodley

The cost of tyres for giant mining equipment is among the top ten outlays, with miners turning to specialists, such as Canadian tyre expert Kal Tire, for innovative tyre solutions. Kal Tire's Mining Tire group manager, Christian Erdelyi, tells *Modern Mining*.



Kal Tire's pioneering solutions not only help to reduce costs but also to enhance safety in the mining environment.

Tyres, an integral component in the mining mix, carry a hefty price-tag. According to Erdelyi, a 63-inch tyre, for instance, costs in the region of \$60 000-\$80 000 per tyre for a rigid dump truck such as a CAT 797, which requires six tyres.

"Apart from the massive price tag, some tyres have limited availability, which means that miners are eager to extend the life of existing tyres as far as possible."

Speaking to *Modern Mining* from the company stand at Electra Mining, where Kal Tire showcased its range of its innovative offerings, Erdelyi highlighted the benefits of Kal Tire's KalPRO TireSight autonomous tyre inspection offering, which combines thermography (thermal imaging cameras) and artificial intelligence (AI) from its partner Pitcrew AI, to monitor OTR tyres in mining operations.

The autonomous tyre inspection solution is a game-changer for the industry as it assists mines to keep trucks running safely and productively while delivering the best in tyre performance.

Explains Erdelyi: "TireSight inspection stations are placed in strategic positions on the mine, such as on the haul road, rom pad or close to fuelling stations, to ensure that equipment inspection takes place at regular intervals. TireSight helps with

remote tyre monitoring and identifies aspects such as hotspots on a tyre, which signal a damaged tyre, and allows the operator to schedule corrective maintenance actions. It is important to understand that hotspots in tyres can lead to larger damage on the machine from tyre fires to rapid deflation, which translates to a larger rebuild cost and longer downtime for that machine. Further to this, we have a team of condition monitoring analysts that work with the output of the system and of our Tire & Operation Management System (TOMS) to ensure the health of the tyre at all times."

Since the introduction of TireSight in 2021, it has since been launched into 12 mine sites globally, including Canada, Chile and Colombia, though not yet in South Africa.

The tyre service provider is currently in talks with several local customers, with expectations that the TireSight system will soon be implemented at one of the mines.

Unpacking the advantages of TireSight, Erdelyi points to a mine in Chile, which adopted the technology in 2022, at a time when trucks were required to leave the production area for tyre inspections; explaining that with the adoption of TireSight downtime for tyre inspection has been reduced by a whopping 20%, which translates to increased time in the production line.

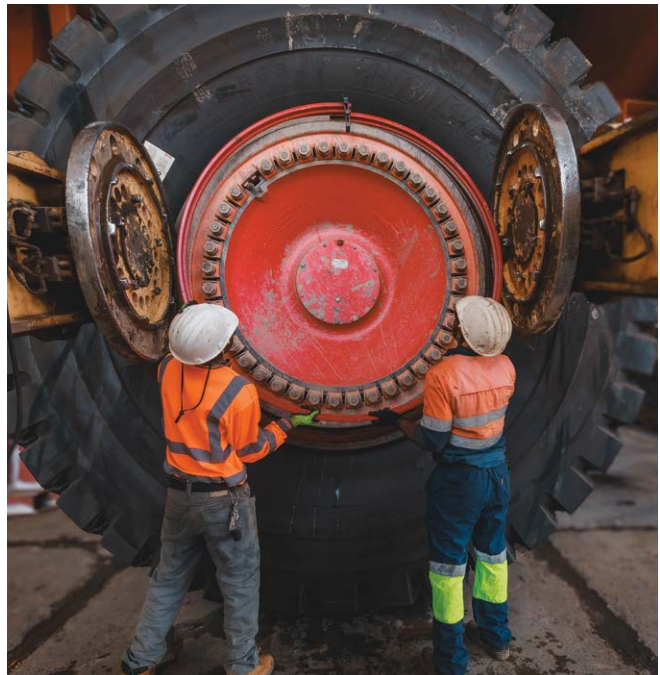
"Before Kal Tire's autonomous tyre inspection was set up, each



TireSight inspection stations are placed in strategic positions on the mine.



An image of Kal Tire's WheelJaws.



Kal Tire at work.

International Manufacturing Innovation: New Product Award at the Electra Mining Africa 2024 event, held on September 5th.

of the mine's 33 trucks had to stop for at least 30 minutes every time the trucks needed inspecting, with inspectors only able to observe about half of the earthmover's tyre given the sheer size of the machine. TireSight allows us to zoom in and remotely monitor issues undetectable to the human eye. Moreover, customers have actionable summaries at their fingertips while TireSight and our tyre experts work to maintain safe productivity and reach goals."

KalPro WheelJaws

At Electra Mining Africa 2022 Kal Tire's KalPRO WheelJaws innovation was at final design stage. This year, however, the innovation has already been commercialised, says Peter Nilsson, Innovation and R&D manger.

WheelJaws are secure, remote-controlled clamps that enable safe tyre removal and ensure the technician is safely located away from the dangerous activity. The technology is designed for wheels and rims from 51 to 63 inches.

"The unit on display at Electra Mining Africa is the first commercial unit built, which according to Nilsson, is earmarked for a copper mine in Zambia.

Given the benefits associated with the innovation, such as safety, appetite for the product is extremely robust, says Nilsson.

Unsurprisingly, the ground-breaking innovation won the

Recycling facility

Since Kal Tire opened its mining tyre recycling facility in northern Chile in 2021, with the express purpose of converting scrap OTR tyres into reusable products, the tyre specialist has taken the project a step further and is currently adding an upgrading facility to refine one of the key recycling outputs, carbon ash, into recycled carbon black (rCB) using proprietary technology.

Kal Tire's recycling technology uses heat in the absence of oxygen to convert tyres into their base elements (fuel oil, steel and carbon ash, and almost 100% of the tyre can be reused.

"After the primary thermal conversion process, we are left with a carbon ash that has a certain level of impurities. This requires a further step in order to process it to a grade where it can be used in compounds," says Terry Galvin, Vice President Recycling Services at Kal Tire's Mining Tyre Group. "We are currently expanding the facility to incorporate this stage."

The expansion is expected to be up and running by the last quarter of this year.

What this means for Kal Tire, which remains firm on its agenda, is generating products of the highest and best use.

"We are seeing growing demand for our rCB with tyre manufacturers and compounders already waiting for supply of the refined product," concludes Galvin. ■



Jonathan Rogoff, CEO at Tru-Trac.



Shaun Blumberg, COO at Tru-Trac.



Tru-Trac's belt trackers effectively resolve misalignment issues, ensuring smooth and reliable conveyor operation.

Tru-Trac's innovations: a game-changer for bulk materials handling

By Nelendhre Moodley

Time is money according to Benjamin Franklin, one of the founding fathers of the United States, and as mining houses remain committed to meeting production objectives, plant stoppages are a costly endeavour and a reason why both miners and suppliers alike target preventative measures to ensure a smooth flow in operations.

“**L**ow commodity prices continue to place pressure on miners who remain keen for their operations to run optimally and why Tru-Trac is driven to innovate and bring to market solutions that meet and surpass industry needs,” Jonathan Rogoff, CEO of Tru-Trac, tells *Modern Mining*.

Tru-Trac manufactures specialist conveyor components for the global mining and bulk material handling industries.

According to Shaun Blumberg, COO of Tru-Trac, the company focuses on the working life of critical components to ensure operational efficiency of the conveyor system.

“The conveyor system forms a key component in any plant and inefficiencies on the conveyor system impact the overall productivity of bulk materials handling. One of the biggest contributing factors to unplanned stoppages, is misaligned conveyor belts. Given this challenge, Tru-Trac has a line of conveyor belt trackers that automatically keep the conveyor belt on-track, thereby preventing damage to the

conveyor system and, subsequently, unplanned stoppages as a result of belt misalignment.”

Innovation and technology

Tru-Trac's drive for developing innovative products is underpinned by the company's focus on manufacturing products that are reliable and align with industry needs.

Prior to the launch of a new product, the product is tested extensively, undergoing stringent quality assurance testing programmes and prototype testing procedures to ensure there is full confidence that the products being taken to market will perform in the required application.

According to Rogoff, two sets of ethos pervade the company's innovation drive – simplicity in innovation and optimisation of existing designs.

“We believe simplicity is a sign of quality and thereby design our products with simplicity in mind. An overly complicated product design often lends itself to greater failure in the



Tru-Trac belt scrapers keep conveyors running smoothly and are essential for reducing misalignment caused by material carryback.

working components. We strive to design and build components that incorporate the greatest simplicity in design, but deliver maximum functionality. Secondly, we maximise innovation around our existing technology – in other words, we evaluate how we can improve existing designs without the need to outsource the process, and in so doing, ensure greater in-house control of component production, which ultimately leads to improved product quality and production processes.”

Over the past two years the company has developed a number of breakthrough innovations, with multiple patent applications filed.

“We remain excited about the products we have brought to market recently, including our Apex series of trackers, which builds upon our successful tracking systems and elevates it to an entirely different level in terms of performance, longevity and additional features that ensure ease of installation and maintenance,” adds Blumberg.

In keeping abreast of the latest digital innovations, the company’s adoption of the Internet of Things (IoT) two years ago has gone a long way in enhancing its existing customer offering.

Tru-Trac developed remote monitoring software to aid customers’ access critical data, such as live reports to help optimise production.

“IoT is vital in assisting service teams to undertake inspections and surveys of conveyor systems at customer sites. Our

technicians produce digital reports that provide meaningful data on performance, the condition of various components on customer conveyor systems and critical action required to fend off imminent failures. Further to this, we constantly push the digital boundaries, as we look to expand our existing offering.”

Heavy investment in R&D

Tru-Trac’s objective is to manufacture products efficiently and provide customers with economically priced components.

According to Blumberg, the responsibility of stockholding rests with suppliers who are required to be agile in aligning with customer needs.

“Customers today are not interested in extensive stock holding for preventative maintenance or planning months in advance and depend on their suppliers to have the requisite products in stock as and when needed. As a company, we support this sentiment and drive efficiencies in production, support quick turnaround times and do not compromise on quality. Over the recent past, we made significant investment in capital equipment and in-house process improvements – an integral part of our R&D strategy.”

Given its extensive presence in South Africa and most major mining regions in Africa, Tru-Trac’s team “works closely with its customers to identify industry’s most pressing problems”, using this insight to design and develop innovative products for the sector.

“We visit customer sites across the country and the continent daily, and garner first-hand knowledge, related to technical support and on-site maintenance services, amongst others. Ultimately, our customers benefit from the solutions we develop, which drives further value for them, such as facilitating rapid installation and maintenance procedures. Secondly, our

products are designed with performance in mind, which means they offer high performance, longevity and total cost of ownership,” says Blumberg, adding that miners seek to run their plants for longer while minimising timelines on shutdowns and unplanned downtime and for faster product maintenance.

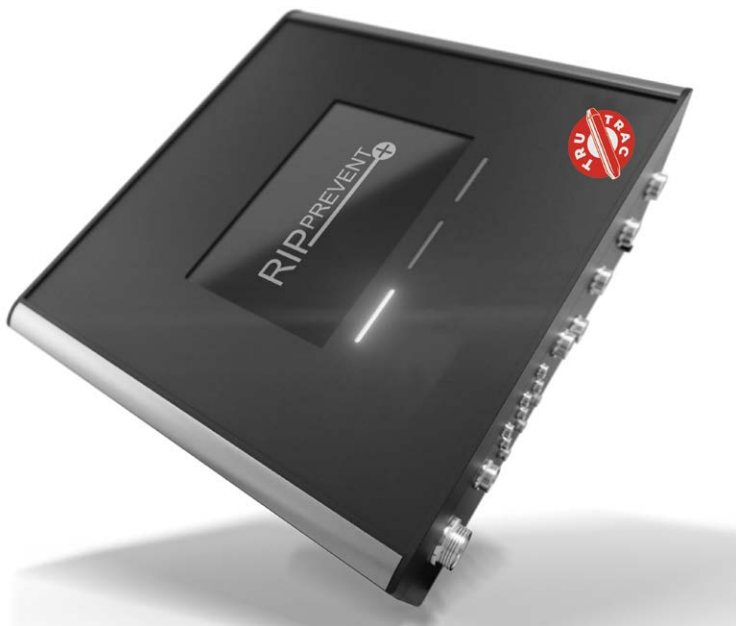
“As such, our design teams seek ways for quicker maintenance. For instance, our impact solutions have been designed with a sliding mechanism that allows us to speedily strip, replace and reassemble the components. Moreover, we have developed a quick release system for our scrapers, which enables us to replace components much more efficiently.”



Tru-Trac drives the sustainability agenda

Tru-Trac’s sustainability agenda sees the company looking to its production process to unlock opportunities for waste reduction. A case in point has been the company’s ability to reduce waste during the manufacturing of its rubber lining, where it now realises savings of roughly 30% in material waste.

“We evaluated how our product designs can extend the life of our belt trackers, amongst others, to ultimately aid in reducing the total cost of ownership and design products that extend the life of our components or reduce number of components



Tru-Trac launched the Rip Prevent+ system at Electra Mining Africa, a cutting-edge solution for detecting and mitigating conveyor belt anomalies, boosting efficiency and productivity.

required - all which talks to sustainability. For instance, we recommend installing True Trac's trackers every 50 metres, sometimes even up to 100 metres apart – a feat that competitive solutions struggle to achieve. We realised the same level of sustainability with our scrapers, where through innovative design, we minimised on component wear,” explains Rogoff.

Rip Prevent+ system

Following the launch of its innovative system at Electra Mining Africa, the Rip Prevent+ system for the early detection of potential issues on conveyor systems, appetite for the product has been phenomenal, with the company already in talks with several miners for the adoption of its technology at local mines.

The Rip Prevent+ system analyses the conveyor system and provides early

detection of possible rip events.

Tru-Trac's Rip Prevent+ system is unique as it analyses power consumption on the drives and flags the area of instability before a rip occurs, unlike the several rip prevent products on market that signal conveyor-belt damage often after an impairment has occurred.

“Before a rip can occur on a conveyor-belt system, there is a spike in power consumption which signals an alert that a problem is being encountered at a particular point on the conveyor system. Although there are a few instances where the belt will rip immediately, for the most part the system is able to provide an alert which gives the belt maintenance crew time to isolate and fix the problem before major damage occurs,” explains Rogoff.

By flagging potential problems early on, the customer is able to save both on

time and engage in early preventative measures.

“If left untreated, a rip on the conveyor-belt can incur damage that can ultimately cost millions of rands in downtime, and the cost of a new conveyor belt. If a mine is able to extend the working life of the conveyor-belt by preventing any premature failure, wear or damage to the belt, it can realise cost savings and operational efficiencies. Tru-Trac's products are designed to facilitate extended component life and optimal performance of the conveyor system.”

Given the benefits associated with early rip detection on a conveyor-belt system, the positive reception to the product both locally and internationally, has been tremendous.

Internationally, the Rip Prevent+ system has already been installed at mines owned by Blue Chip companies in Europe, Australia as well as in other parts of the mining world.

“This disruptive technology is the first of its kind and is backed by credibility from multiple successful installations at Blue Chip customer sites. The interest from the local market has been really encouraging, and we have already closed multiple deals successfully and are set for product installation in the coming weeks,” says Blumberg.

To encourage the uptake of its Rip Prevent+ system, Tru-Trac is offering a three month free trial, which allows customers the opportunity to test the cost-competitive product.

“The free trial, with its quick and easy installation process, offers potential customers the opportunity to test the product and, thereby, instil confidence in acquiring the product for the long-term,” concludes Rogoff. ■

DEVELON
THE TITANS OF TRANSFORMATION

SCAN ME

MY DEVELON wins much heralded Red Dot Design award

MY DEVELON, the new digital platform for managing construction equipment launched in April 2024 by Develon, formerly Doosan Construction Equipment, has won in the Brand & Communication Design category of the 2024 Red Dot Design Awards.

One of the most respected design accolades in the world, the Red Dot Design Awards is an annual international competition that recognises excellence in design and business. With around 20 000 entries per year, it is one of the biggest design competitions in the world.

Commenting on winning the award, Develon Europe stated: "We are delighted that the user-friendly and all-embracing set-up used in our new MY DEVELON system has been recognised with a Red Dot Design award. MY DEVELON offers an integrated digital solution for customers, allowing them to easily check equipment operation information and request product consultations or maintenance through



MY DEVELON wins Red Dot Design award.



the website and mobile app."

Using the MY DEVELON app or on a web browser, customers and dealers can access and manage maintenance and operation data for their DEVELON construction equipment. Customers can remotely monitor the performance, health and utilisation of their equipment,

using this information to maximise productivity.

Develon will continue to actively incorporate feedback from the owners of their products into digital solutions to make MY DEVELON a communication channel that maximizes customer satisfaction. ■



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A bifurcated Weba chute in an iron ore application, expertly designed to handle different material streams efficiently.

How chutes can deal with faster conveyor belt speeds

It is common for a robust chute design to accommodate reasonable variations in material throughput, but raising the speed of the conveyor belt may require certain design adaptations to the chute.

“Our mining customers will often need to adjust the volumes of mined material they transfer to the plant, and our chutes are designed for these increases, within reason,” says Dewald Tintinger, Technical Manager at Weba Chute Systems. “Mines will vary the loading on their conveyors for operational reasons, as long as the increase is within the load specifications of the conveyor belt and system.”

Tintinger explains that a chute’s design capacity is generally based on the width of the conveyor belt that feeds it, irrespective of the level to which the belt is loaded with material. There will therefore be variations and surges in the volumes, depending on the percentage loading. With the right design, he says, gravity will ensure material coming in faster will be discharged faster.

However, when the speed of the conveyor belt is increased substantially, this can have a direct impact on the trajectory of material as it leaves the conveyor and enters the chute. While a relatively modest speed change from, say, 2.5 m/s to 3 m/s may not really be significant, the doubling of the speed will certainly create challenges. He highlights that, at twice the belt speed, the chute is also having to receive, and discharge double the volumes.

“Weba is well known for our customised transfer point designs to suit each application, and the material trajectory is a very important part of this bespoke chute design,” he explains. “Working from the initial velocity of the material leaving the conveyor belt, we predict the location of the impact point on the inside wall of the chute.”

The company’s design engineers then apply calculations

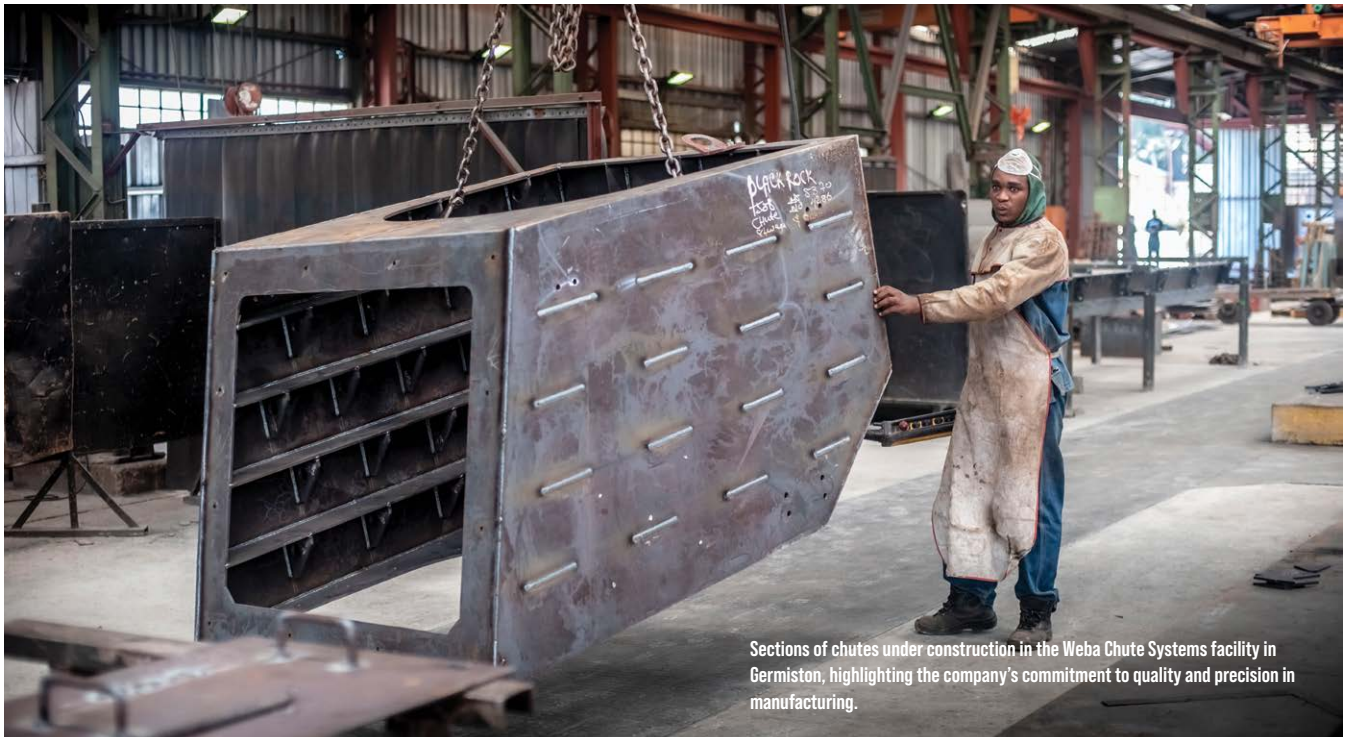
and modelling to measure the resultant velocity – the material’s speed after first impact – and to track how the material will move through the chute. When considering a change of material velocity, the impact point might change and the potential consequences of this then need investigation.

“For instance, if the impact angle approaches 90 degrees, the material flow could stall and start backing up, rather than travelling smoothly through the chute,” he says. “To address this, many chute suppliers try to design a bent trajectory using curved metal plates – but this can cause considerable wear, which in turn demands frequent maintenance.”

Weba Chute Systems rather relies on a solid dead box design, which optimises the material-on-material flow to reduce wear on the chute itself. The dead-box is a highly effective way of reducing the impact and speed of incoming material, while also minimising the dust created. Tintinger emphasises that, with a higher speed conveyor, it is important to design a greater distance between the head pulley and the impact point.

“Our designs allow us to create full cascade chutes with dead box sections reducing the impact and speed,” he says. “The key difference in our design is that we generally avoid bending the trajectory of the material; consider that the run-of-mine material could be travelling at 4-6 m/s, so this option creates a source of considerable wear and tear.”

The dead-box principle is an important part of Weba Chute Systems’ designs, and the placement of the first dead-box in the chute – at the point of first impact – may change if the conveyor speed is increased significantly. This might require an addition lip



Sections of chutes under construction in the Weba Chute Systems facility in Germiston, highlighting the company's commitment to quality and precision in manufacturing.

under the impact point as well, and possibly also wearing plates at strategic points. Different sizes of lip liners are available to address this wear – from 80 mm wide and 16 mm thick, up to 150 mm wide by 50 mm thick.

While this change of angle onto the first dead-box will not necessarily change the flow pattern, it is likely to affect the speed of material through the chute, says Tintinger. It is therefore important to check the chute's capacity to allow enough material still to pass through smoothly.

"Conveyor speed also has an impact on the discharge of material, as there are potential risks such as dust creation and spillage when material leaves a chute faster," he says. "Here, the material speed needs to be matched as closely as possible to the outgoing belt speed."

To achieve this goal, there are adjustments that can be made to the bottom section of the company's chutes – to change the discharge angle. This flexibility at the outlet side can minimise the impact of material as it lands on the outgoing belt, reducing wear, dust and spillage.

Tintinger highlights that decades of experience at Weba Chute Systems gives it the ability to add considerable value in solving customers' materials handling challenges. Where a mine had already reached its maximum conveyor capacity but was still needing to load freight wagons faster, Weba Chute Systems was able to propose solutions.

"This customer was looking at options such as wider conveyor belts and upgraded feeder design, and we were able to contribute our insights to ensure that the chutes complemented the new arrangement," he says. ■



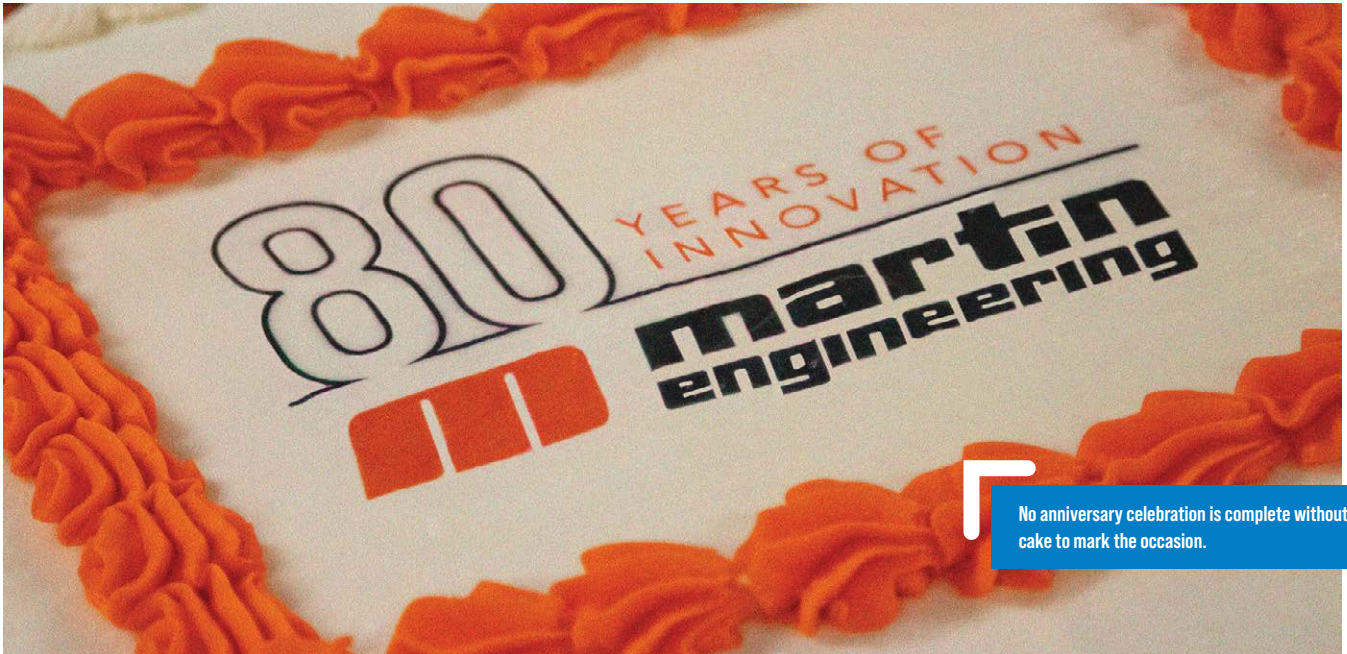
Chutes being manufactured in the Weba Chute Systems facility in Germiston, where each design is customised to specific applications.



A technical advisor from Weba Chute Systems measures belt speed to ensure optimal material flow and minimal impact on the transfer chute.

80 years of innovation and growth celebrated at Martin Engineering

A leader in bulk handling solutions, Martin Engineering is marking 80 years of product innovation, engineering expertise and global growth.



No anniversary celebration is complete without a cake to mark the occasion.

During a month of celebrations in September 2024, the firm invited customers, local communities, and employees' families to its flagship Center for Innovation in Neponset, Illinois to see for themselves the extent of Martin's investment in engineering research and technological advancement over eight decades.

Martin Engineering has become synonymous with the development and manufacture of innovations that deliver cleaner, safer and more productive bulk materials processing. The company holds dozens of patents for engineering designs that have revolutionised workplace safety and production efficiency in foundation sectors like mining and quarrying, cement and steel production, as well as resource recovery and recycling.

Focused primarily on conveyor belt performance and bulk flow technologies, Martin products are proven to eliminate blockages, prevent spillages and reduce dust emissions – a commitment that's reflected in the company slogan "Problem Solved - Guaranteed".

According to Martin Engineering Marketing Manager, Seth Mercer, visitors to the Center for Innovation were impressed by what they saw: "People commented that the research facility was much bigger than it looked from the outside and more impressive than they anticipated, and they were amazed by the scale of the operation and breadth of our product range. Even those who were familiar with Martin were surprised and impressed with how much the company had grown in recent years." The Martin Engineering story began in the midst of World War II when Edwin F. Peterson, the son of Swedish immigrants,

followed in his father's footsteps and took a job as a pattern maker at Demmler Manufacturing, a steel foundry and fabrication business in Illinois, USA.

Edwin witnessed his co-workers using sledgehammers to beat on core machines, loosen the sand and release steel components from their moulds. Troubled by the health and safety risks, equipment damage and loss of productivity, he was convinced there must be a better way and began working on a solution.

This led to the development of the Vibrolator® – a compact ball vibrator that used compressed air to propel a ball bearing inside two steel raceways. The resulting vibration was enough to dislodge the sand and empty the core machines without the need for manual beating.

It soon became clear that the device could be used for numerous other manufacturing operations handling loose materials. Edwin started the business in September 1944 with the backing of investor Charles H. Waller and friend Jim Martin – who gave his name to the business as Edwin felt 'Martin' had better name recognition than 'Peterson'.

The Vibrolator® soon went into production and was patented in 1949. Still available and in use 80 years later, the Vibrolator® was the first in a long line of product innovations introduced by Martin to solve problems in bulk materials handling.

Edwin's son, Edwin "Ed" H. Peterson, started working for the business whilst still in high school. Ed worked with his father on numerous innovations and new products through the 1950s and 1960s, gradually assuming the leadership role in the company as it developed its international business.

By the 1970s, Ed had firmly placed his personal stamp on the

company, implementing bold plans for worldwide growth to accelerate Edwin's legacy of developing innovative products to solve problems in bulk materials handling. Martin continued to expand both organically and through acquisition, taking the business into new corners of the globe.

Meanwhile, the development of high-performance components for conveyors catapulted Martin Engineering into a new market-leading position with a comprehensive line of belt cleaners, dust-control products, transfer-point solutions and other patented innovations to improve safety, efficiency and productivity.

With patents and established distributors and licensees for their products in a rapidly expanding network of countries, Martin Engineering turned its attention to the knowledge and skills of workers responsible for operating and maintaining processing plants to help them improve safety and productivity.

That gave rise to major investment in education and training for Martin customers – a defining moment that led to the development of the firm's internationally recognized Foundations™ series of reference books and training programmes. First published in 1991, more than 22 000 print copies of the books are now in circulation around the world.

Today, Martin Engineering employs more than 1 000 people worldwide in offices and factory facilities across six continents. The business has a network of partners and distributors that gives Martin an enviable global footprint, most recently across Africa, the Middle East and Southeast Asia. Yet, despite its global presence, Martin remains family-owned – Ed H. Peterson is still Chairman, and the company's culture is one of strong family values and a spirit of 'better together'.

Martin Engineering's extensive product portfolio includes the pioneering CleanScrape® conveyor belt cleaning system – the most durable, flexible and versatile belt cleaner on the market – as well as next-generation Air Cannons with SMART™ Series Nozzles that improve safety and maintenance efficiency. And among the latest innovations is the game-changing N2® remote monitoring system that reduces physical inspections, saves time and effort, lessens safety risks and helps control costs.

Martin Engineering CEO Robert Nogaj said: "80 years of innovation and growth is an important milestone for Martin Engineering. Our enduring success is a testament to the founding legacy of Edwin F. Peterson and the vision and ambition of Ed H. Peterson to drive that legacy forward. Above all, our longevity is a reflection of the good people we have working for Martin the world over, whose expertise and commitment is unmatched."

"We have always been proud of our ability to deliver quality solutions that address specific bulk handling problems, and investing heavily in research and development has always been



Martin Engineering Field Support Supervisor Sue Griffith talks to visitors about the company's long history of innovation.



Colleagues, customers and members of the local community gathered for Martin Engineering's 80th anniversary celebrations at the company's headquarters in Neponset, Illinois, USA.



Members of the original Martin Engineering team at The Foundry Show in Atlantic City in 1952.

a key component of that. We are continually working on ways to solve our customers' problems, and we're excited about the next generation of solutions we'll bring to market."

"Further, our hands-on approach to improving knowledge and skills among our customers' workforce through on-site, web based, and online training courses has helped us to build loyalty. It is rewarding to know we're helping to improve knowhow and expertise as well as safety and productivity for producers of essential materials." ■



Unfettered resource extraction funds formal wars.

Catching **the US cold**

By Dr Ross Harvey, director of research and programmes at Good Governance Africa (GGA)



Dr Ross Harvey, director of research and programmes at Good Governance Africa (GGA).

By the time this column goes to print, Donald Trump will be firmly re-established in the White House. The day before the election, *The Economist* predicted a Kamala Harris win, but its model appeared to be overly sensitive to small-sample polls and insufficiently sensitive to Trump's popularity in the swing states. Most pundits and western media are horrified at the prospect of Trump in the White House. How is it that the leader of the free world is again a man who lacks moral fibre, integrity and compassion for the poor? At the same time, some policies pursued by the Biden Administration have been equally suboptimal, especially for sub-Saharan Africa.

It is of course easy to point fingers at the US. The rest of the world has depended on it for too long to maintain the so-called post-Cold War multilateral rules-based order. This order has fractured severely since the global financial crisis of 2008. China has become less open, and Xi Jinping continues to tighten his iron grip over a Chinese Communist Party increasingly committed to rewriting history and suppressing civil liberties. China has also supported Russia's disastrous territory-expansion grabs. US and European support for Ukraine's defence has been laudable, but as Richard Haas recently

pointed out, the current strategy makes for an unwinnable war. Growing domestic fractiousness within the US and across the EU, combined with the extensive opportunity costs of funding expensive wars, has rendered Russia bolder than ever. This is not helped by Iran now openly supporting Russia, at the same time as funding Hezbollah and aggravating geopolitical disorder in the Middle East.

While Israel has broken the back of Hamas and Hezbollah, the destruction of Palestinian and Lebanese societies through the process has left support for Israel in tatters. Western media outlets appear to have been guilty of severely biased reporting, too, which does not help to reduce polarisation. US support for Israel has also cost the country soft power capital even while it has spent a fortune on hard power capital in arming Ukraine.

Within the US, the domestic landscape is fractious. AI-driven disinformation poses a serious threat to national harmony and is being weaponised by rogue players not only to sow discord in the US, but to drive down trust in democratic institutions all over the world. Democratic backsliding paves the way for populist autocrats everywhere to gain traction.



Africa's importance to U.S. foreign policy and strategic interests is rising and will only continue to grow.



Project 2025 – a document produced in 2023 that provides policy guidance to what the then Trump presidency envisaged.

Democracies have historically not gone to war with each other. Autocrats care less about who they go to war with. In the current moment, they don't have to go to war with anyone explicitly, as they can achieve many of their nefarious ends without it. Russia epitomises this approach – unaccountable at home and, through sub-state agents such as the Wagner Group, it can extract resources in the wake of sowing discontent against the status quo. Mali is just one example. Unfettered resource extraction then funds formal wars, like the one against Ukraine.

If the US is to reverse its domestic and international decline, it will have to engage in the realpolitik of the current geopolitical moment. A document produced by a range of conservative scholars in 2023 – called project 2025 – provides policy guidance to what was then an envisaged Trump presidency (now materialised). To understand what US policy towards sub-Saharan Africa might look like, this document likely provides the most reliable source of information. The opening paragraph is telling:

“Africa’s importance to U.S. foreign policy and strategic interests is rising and will only continue to grow. Its explosive population growth, large reserves of industry-dependent minerals, proximity to key maritime shipping routes, and its collective diplomatic power, ensure the continent’s global importance. Yet as Africa’s strategic significance has grown, the U.S.’s relative influence there has declined. Terrorist activity on the continent has increased, while America’s competitors are making significant gains for their own national interests. The

PRC’s [Chinese] companies dominate the African supply chain for certain minerals critical to emerging technologies. African nations comprise major country-bloc elements that shield the PRC and Russia from international isolation for their human rights abuses—and African nations staunchly support PRC foreign policy goals on issues such as Hong Kong occupation, South China Seas dispute arbitration, and Taiwan. The new Administration can correct this strategic failing of existing policy by prioritizing Africa and by undertaking fundamental changes in how the United States works with African nations.”

Five key foreign policy recommendations follow:

The first emphasises growth instead of perpetual aid dependence. Recognising that aid itself can be a curse, something that Djankov and other World Bank scholars recognised as far back as 2008, development assistance will likely be curtailed to humanitarian relief and building institutions that attract private sector investment. While some will balk at the insistence on ‘free markets’ as a priority target, at least everyone knows where they stand.

The second explicitly recommends promoting US company interests as part of the process of reversing growing Chinese influence across the continent. There is no mention of Russia per se, but the explicit goal of helping to protect African countries from malicious Chinese influence, especially espionage and the repression of free speech, is clear and hard to argue with even if the language is terse and undiplomatic.

Third, the document calls for efforts to fight terrorism – groups like Boko Haram – under the banner of protecting US security interests. It has to be said that the US has a pretty poor track record in its ‘war against terror’, and perhaps it would be better served through strengthening institutions that can simultaneously grow labour-absorbing economies and disrupt extremist groups.

Fourth, it recommends rationalising federal aid resources - to limit them only to those countries that are explicitly likely to be of mutual benefit. This is hard-nosed realism and may backfire if not handled with diplomatic care. We don't want to return to the days of African countries as proxy battlefields under a renewed Cold War.

Fifth, the document calls for abandoning ideological impositions on African nations that are birthed in US culture wars. I doubt anyone will quibble with the view that imposing abortion (dubiously titled ‘reproductive rights’) access and LGBTQ+ ideology through foreign aid is a questionable endeavour. Instead, say the authors, “the United States should focus on core security, economic, and human rights engagement with African partners and reject the promotion of divisive policies that hurt the deepening of shared goals between the U.S. and its African partners.”

One massively worrying element of the 900-page document, however, is that there is no mention of the Minerals Security Partnership (MSP) that had been established to try and secure ‘critical minerals’ from Africa through mutually beneficial partnerships with the US. The overriding policy sense that emerges is that a ‘conservative’ US administration should be committed to attaining energy security, and if that be in the form of fossil fuels, so be it. This is not a world we want to return to, and if this approach is pursued in Africa, there will be plenty of stranded assets and environmental disasters to show for it. ■

Astec's ESD initiatives fight unemployment and skills deficit

Reflecting on its commitment to empowering South African businesses and contributing to the country's fight against unemployment, Astec Industries recently launched two significant Enterprise and Supplier Development (ESD) initiatives, one with SteelTech Trading, an Edenvale-based supplier of structural steel, sheet steel, plate, pipes and tubes and the other is with Boksburg-based Delflow. Astec's Johannesburg-based Africa Middle East (AME) division has partnered with SteelTech Trading to help it grow and build its customer base, in addition to developing and upskilling SteelTech to enable



Astec empowers South African businesses.

it to become an Astec supplier. Delflow, a supplier of hydraulic and pneumatic systems, is the second business that Astec AME will develop as part of its latest Enterprise and Supplier Development programme. An important apprenticeship programme that will help to address South Africa's high youth unemployment and the skills deficit forms part of this partnership. ■

Multivariable modelling study wins Maptek Geology Challenge 2024

First prize in this year's Maptek Geology Challenge has been awarded to Miguel Aliaga Oblitas, who showed how Maptek DomainMCF improved model consistency and reduced processing time in advanced multivariable geological modelling. Senior Geomodeller with Newmont Mining Corporation, Oblitas receives a personal prize of \$500 and a 6-month DomainMCF subscription for his company. Entries displayed a range of modelling techniques and applications, and judging was tight, resulting in a tie for second place awarded to Ed Lynch, Superintendent Exploration Geology, SIMEC and Danielle Karbishev, Senior Resource Estimation Geologist, Fortescue. Oblitas highlighted the chance to work with real data from an active mine and apply innovative methodologies to enhance geological modelling. His report defined the challenges of accurately predicting vein behaviour at depth, especially with limited data, and noted significant improvements in model accuracy and efficiency. Now in its fourth year, the Maptek Geology Challenge provides an opportunity to experiment with cutting-edge technology to create models directly from raw data, that are accurate and transformative for resource modelling and production applications. ■



Metso LT300HP cone crusher clocks 30 000 hours and counting

In a competitive contracting business landscape, for Danoher Group the extended lifespan of equipment is essential for maintaining a



Metso LT300HP cone crusher clocks 30 000 hours.

competitive edge. In line with its focus on equipment longevity, another one of its machines, a Metso LT300HP, has just amassed 30 000 hours, and counting. Acquired in 2012, the Metso LT300HP mobile cone crusher is currently deployed at a job in Mbombela, Mpumalanga, where Danoher Group is contracted to produce 350 000 tonnes of road stone for the rehabilitation and upkeep of the N4 Toll Concession. In the past 12 years, the machine has been in Botswana on four occasions, where it executed some major projects at flagship mines such as Debswana's Orapa Diamond Mine and Khoemacau, a long-life copper-silver mine located in the Kalahari Copper Belt. In addition, it has also been deployed at Danoher's own Kgale Quarry in Gaborone. With just over 30 000 hours on the clock, the machine is one of the several Metso units in Danoher's crushing and screening fleet with such a long lifespan. By sticking to a trusted brand like Metso and Pilot Crushtec as well as implementing proactive maintenance strategies, Danoher Group not only extends the operational lifespan of its capital assets, it also optimises equipment performance, minimises downtime and reduces costs to ensure smooth and efficient operations. ■

Babcock committed to safety, health, environmental and quality

Equipment supplier, Babcock, has reaffirmed its commitment to safety, health, environmental and quality (SHEQ) with the company's successful retention of ISO certification. Each Babcock Africa business unit, including Equipment, Engineering, Transport Solutions and Plant Services, has ISO standard certificates for Quality; Environment; and Health and Safety management systems [ISO9001:2015, ISO14001:2015 and ISO45001:2018]. Maintaining ISO certification demonstrates Babcock's continued dedication to operational excellence against set objectives and targets, collaborative working and improvement. "As a company that is trusted to deliver critical support services to our customers, ISO certification validates that Babcock not only complies with industry standards, but also continually strives to improve on our systems and processes, performance, leadership and management of our SHEQ policies," says Duncan Gooch, Head of SHEQ at Equipment. ■

Component sales are up at crane company Condra

Crane manufacturer, Condra Cranes MD, Marc Kleiner, says pre-assembled components sold to other manufacturers now account for 12% to 15% of annual revenue. Some 70% of these are sold into South Africa, the rest to export markets. "We've sold end-carriages and other components into England and Spain where the big European crane brands dominate," Kleiner said, explaining that customers use Condra components to lower input costs and simplify manufacturing processes. "It saves them the time and trouble of transacting and liaising with many different suppliers, enabling a better focus. We see pre-assembled components as a major growth opportunity despite the high cost of electricity and raw materials here in South Africa," he said. Kleiner pointed to Condra's factory in Bulgaria, which he said is actively pursuing additional opportunities across Europe as it drives component sales into that continent. He added that there are also opportunities in the Americas. Last month, Condra took an order for a hoist unit from Santiago-based Mantex, a machinery company in Santiago, Chile. Sales through Canadian



Component sales are up at Condra Cranes.

agents remain steady. All Condra components are available on short lead times direct from the company's main factory in Germiston, a 22 000 m² site with an under-roof area of 8 000 m². Some 200 different constituent parts are stocked there, ready for assembly into completed components ahead of rigorous testing and despatch. Local manufacture accounts for about 90 percent of these components, with Condra itself accounting for some 30 percent of the volume. ■

WearCheck team celebrates diagnostic milestone



WearCheck's John Evans, diagnosed his 3 millionth used oil sample at the company's Durban laboratory.

Condition monitoring specialist company, WearCheck, celebrated a noteworthy milestone recently when diagnostic manager, John Evans, diagnosed his 3 millionth used oil sample at the company's Durban laboratory. WearCheck's scientists analyse used samples of oil and other machinery fluids, like coolants, greases, fuel and more, using high-tech laboratory equipment and techniques to assess the condition of the engine or component being tested, and predict whether mechanical problems are imminent. Evans joined WearCheck in 1989 in Durban, after starting his career in the oil analysis world in 1983 with Caterpillar in Botswana. He has worked in the tribology sector for more than 40 years, and holds a BSc in chemistry from Southampton University. In addition to used oil analysis, WearCheck is a hub for many alternative condition-monitoring services, including water analysis, transformer oil analysis, asset reliability care (ARC), lubricant-enabled reliability and advanced field services (non-destructive testing, rope testing and technical compliance). ■

Pump donation revives Nama Khoi water infrastructure



KSB Pumps and Valves donated an Etanorm pump to help revive the Nama Khoi water infrastructure.

A private sector collaboration among residents, companies, Nama Koi Municipality, and KSB Pumps and Valves to restore water supply to parts of the Nama Koi municipality brings desperate relief to the affected residents. The Northern Cape municipality was experiencing challenges with regards to the pump repair, which is when local pump supplier, KSB Pumps and Valves, a major supplier of pumps and equipment for water infrastructure, played a pivotal role in alleviating the problem by donating an Etanorm pump to the Nama Khoi Municipality. According to KSB Pumps and Valves' Upington branch manager, Andre Jonker, the donation was part of a collaborative project to restore the Overberg potable water pump station after a pump failure and other issues almost caused the station to grind to a halt. The remaining pump had been struggling to operate at full capacity, leading to water shortages across the community. The donated pump, a KSB Etanorm pump, is renowned for its efficiency, reliability and ability to handle a wide range of applications, including drinking water supply. The pumps are designed for longevity and energy-saving and have proven to be a versatile solution for municipalities across the country. ■

Mark Bedford is MD of Develon South Africa



Mark Bedford is the new MD of Develon South Africa.

Mark Bedford has been appointed Managing Director of Develon South Africa, part of Invicta Holdings Limited's Capital Equipment Group (CEG). Bedford has had over 34 years' experience in the heavy equipment industry, with particular focus on customer service and aftersales support in the construction and mining sectors. Bedford's technical knowledge, after-sales experience and leadership skills will be instrumental in guiding the company to even greater success in his role as MD. Develon SA is the official distributor of Develon excavators, articulated dump trucks (ADTs) and wheel loaders in Southern Africa. The company also supplies and supports a wide range of Tonly and Everdigm mining and construction equipment and attachments. ■

Concor's Kendal ADF Project wins Best Projects Awards

Construction and mining services company, Concor, won two prestigious Construction World Best Projects 2024 Awards for its impressive work, undertaken in joint venture with Lubocon Civils, on the Ash Disposal Facility (ADF) expansion at Eskom's Kendal Power Station near Ogies, Mpumalanga. Placed as the winner in the AfriSam Innovation Award for Sustainable Construction Category, the project also secured a Highly Commended in the Civil Engineering Contractors Category. These awards highlight Concor's commitment to environmentally responsible engineering and infrastructure innovation, especially within the power generation sector. The project is notable for its sheer size and complexity, covering approximately 2.5 km by 3 km. The construction scope included a new 65-hectare ash disposal site, two lined dams for clean and polluted water, a 16 km V-drain water channel system, silt traps, access roads and a significant 3 km stream diversion. ■



Dynapac launches Rhino Soil Compactor range



Dynapac launches Rhino Soil Compactor range.

Engineering company Dynapac recently unveiled its highly anticipated Rhino range of soil compactors – the CA50, CA55, CA65 and CA70 – during an event at the organisation's Jet Park headquarters in Johannesburg. The new CA50 model is a purposefully designed and engineered 16-ton model for South African and wider African markets, underscoring Dynapac's dedication to meeting local industry needs and advancing infrastructure development in the region. Bob Kegelaers, Regional GM – Dynapac International and Dynapac South Africa, said: "The Rhino range embodies the evolution of Dynapac over the past nine decades. Built on our legacy of innovation, these compactors are tailored to meet the unique environmental challenges of the African continent." ■

Spillage control equals cost control

Brelko Conveyor Products, a Level 1 BEE company, designs and manufactures conveyor belt cleaning equipment for a trouble-free flow of materials at transfer and load points. This is backed by an installation and maintenance package serviced by 40 service teams.

Brelko has served as a supplier and advisor on spillage control to the bulk materials handling industry since 1987 and offers proactive and ongoing maintenance for preventative spillage control and optimum belt cleaning. The training needs of its customers, agents and staff are accommodated at the company's fully equipped training centre.

Brelko is accredited with ISO 9001:2015, ISO 14001:2015 and ISO

45001:2018 certification and is a member of the SA Institute of Materials Handling and the Conveyor Manufacturers Association.

The company has branches in the UK and the US, master distributors in Australia, Chile, Europe, Greece, and agents located in more than 40 countries.

Its product range and service include: belt cleaners, angle and 'V' ploughs, chute sealing, belt support and belt tracking systems, and nip guard safety devices.

2D and 3D CADD drawings are available, which significantly reduces design time by direct insertion into existing designs. ■



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