CROWN PUBLICATIONS

MODERN QUARRYING

QUARTER 3 | 2025

JMH EQUIPMENT
(PTY) LTD

SOOSAN

JD-800E

SOOSAN Surface drill rig

Drilling Diameter	ø65~102mm
Drifter	22hp / 17kw
Air Flushing	5.5 m^3 / min
Drill Steel	T38, T45

JMH Equipment (Pty) Ltd | Office: +27 87 135 1097 | **Mobile:** +27 82 448 8002
Web: www.jmhequipment.co.za | **Email:** mholtzhausen@gmail.com

CONTENTS

COMMENT

A GRITTY AND CLEVER **QUARRYING INDUSTRY**

In 2025, South Africa's quarrying sector is proving it can be both gritty and clever. Faced with rising power costs, load-shedding headaches, tighter regulations and the constant pressure to do more with less, operators are rolling out tech and ideas that would have seemed far-fetched a decade ago. The result? Smarter machines, better blasts, cleaner sand and safer sites.

One of the biggest shifts has been in crushing plants. Instead of massive, over-specced rigs chewing through diesel, more quarries are turning to compact, modular setups like Pilot Crushtec's new dual-power jaw units. They're small enough for nimble moves between sites, can run on either diesel or electricity, and keep costs per tonne far more predictable. It's a perfect fit for anyone juggling erratic Eskom supply with the need to keep tonnages flowing.

Autonomy is also edging its way from trade-show curiosity to real-life production tool. Bell Equipment, South Africa's own ADT specialist, has been fine-tuning autonomous-ready trucks, and while we're not yet at the point of driverless fleets tearing through local quarries, the building blocks are here. Collision avoidance, geo-fencing and automated loading/staging systems are quietly making cycles safer and more consistent, especially where experienced operators are in short supply.

Upstream, digital blasting is changing the game. Electronic initiation systems from companies like BME are bringing pinpoint timing, better fragmentation and fewer complaints from neighbours about vibration or noise. The benefits flow all the way down the process line: loaders burn less fuel, crushers run smoother, and maintenance intervals stretch just that little bit longer. It's the kind of hidden saving you only notice once you've seen the before-and-after.

Then there's the sand squeeze. Natural sand is harder to come by, water licences are stricter than ever, and no one wants to waste fines. That's why compact, high-efficiency wash plants are popping up everywhere. Weir Minerals' Sandmaster range, for example, blends pumps, screens, rubber lining and cyclones into a package that cleans up the product, keeps more water in the loop, and makes even inland operations a bit more sustainable.

Safety and compliance tech is becoming a fact of life too. Proximity detection systems that spot hazards in every direction, 360-degree cameras on heavy equipment, and engineered dust suppression are fast becoming standard. Not only does this tick the "zero harm" box, it also keeps machines running longer and neighbours happier - two wins in a business where relationships matter.

All of this is playing out against a cautiously optimistic backdrop. Mining output ticked up earlier this year, hinting at more civil and infrastructure work in the pipeline. Industry events like IQSA's annual conference and African Mining Week are buzzing with talk of compact kit, digital tools and smarter ways to handle compliance. Even policy shifts on the horizon could make life easier for smaller surface operations, giving them more certainty to invest.

At the end of the day, the quarries leading the pack aren't necessarily the ones with the deepest pockets - they're the ones combining practical tech with everyday know-how. Pairing precise blasts with right-sized crushers, retrofitting wash plants to recover fines, testing operator-assist features before going fully autonomous, and taking dust suppression seriously are all moves that add up. In 2025, it's not just about moving rock - it's about doing it cleaner, safer and sharper than ever before.

PUBLISHED QUARTERLY BY:
Crown Publications
P O Box 140
Bedfordview, 2008
Tel: +27 11 622 4770
Fax: +27 11 615 6108
www.crown.co.za

TOTAL CIRCULATION
Q2 2025: 6 940

EDITOR AND PUBLISHER
Wilhelm du Plessis
quarrying@crown.co.za

ADVERTISING
Erna Oosthuizen
ernao@crown.co.za

DESIGN
Ano Shumba

CIRCULATION
Karen Smith

MANAGING DIRECTOR
Karen Grant

PRINTED BY:
Tandym Print

Wilhelm du Plessis – Editor

quarrying@crown.co.za

Helping miners move less rock, use less energy, use water wisely and create less waste.

Weir is a global leader in mining technology. We recognise that our planet's future depends on the transition to renewable energy, and that transition can only happen with the metals and minerals our mining customers deliver.

With signature brands including ESCO®, WARMAN®, ENDURON®, GEHO®, CAVEX®, LINATEX®, and MOTION METRICS™, we combine our deep customer insights, world class engineering, materials science expertise and intelligent automation to deliver innovative end-to-end mining technology solutions that help our customers move less rock, use less energy, use water wisely and create less waste — accelerating the path to smart, efficient and sustainable mining.

global.weir

Mining technology for a sustainable future

LOADRITE'S L5000 SMART SCALE: REVOLUTIONISING BULK MATERIAL HANDLING

Accurate, real-time data is key to strategic decision-making. Traditional methods-tally sheets, spreadsheets, and manual systems are often unreliable and slow, making it hard to manage large data sets or adjust operations mid-shift. The L5000 changes that.

Built for performance and ease of use, the L5000 provides unparalleled weighing accuracy and instant access to critical production data, empowering managers and operators to make smarter decisions in the moment.

In an increasingly competitive landscape, precision and efficiency in bulk material handling have never been more critical. The Loadrite L5000 advanced weighing system stands apart from standard loader scales, offering innovative features and integration capabilities that enhance productivity on the job site.

Distinguishing features of the Loadrite L5000 Smart Scale

The L5000 is not just another loader scale but represents a significant advancement over standard systems. Unlike conventional scales that may provide basic weight measurements, the L5000

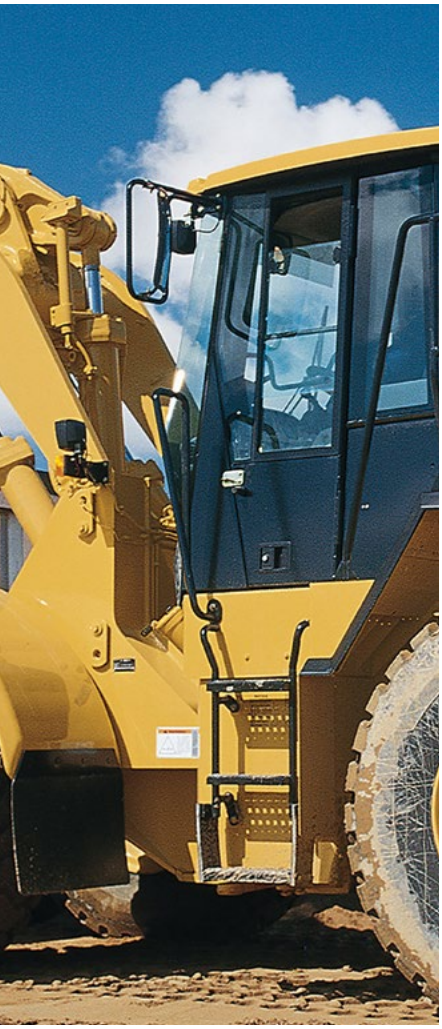
SNAPSHOT

L5000 provides unparalleled weighing accuracy and instant access to critical production data, empowering managers and operators to make smarter decisions in the moment.

The Loadrite L5000 advanced weighing system stands apart from standard loader scales, offering innovative features and integration capabilities that enhance productivity on the job site.

The L5000 achieves consistent precision through its advanced angle sensor technology and low accuracy variance statistics (between1-3%).

The system offers real-time data reporting that can be integrated with site management platforms, such as Loadrite's InsightHQ.



incorporates sophisticated sensors and algorithms that ensure accuracy across a broad range of conditions. Its robust construction and advanced calibration methods allow it to maintain precision, even in harsh environments, setting it apart in the market.

Consistent precision in real-world conditions

In bulk material handling, accuracy is crucial. The L5000 achieves consistent precision through its advanced angle sensor technology and low accuracy variance statistics (between1-3%). Other key features enable the system to account for variables such as machine movement, surface irregularities, and varying material densities. As a result, operators can trust the data they receive, which translates to better decision-making, reduced material waste and shorter loading times.

In bulk material handling, accuracy is crucial. The L5000 achieves consistent precision through its advanced angle sensor technology and low accuracy variance statistics (between1-3%).

Easy installation

The installation of the L5000 is typically straightforward and does not require extensive modifications to the loader. The system is installed directly onto the loader's existing

Loadrite L5000 advanced weighing system has proven to deliver significant cost savings across various operations such as:

- **Reduced material waste**
- **Lower transportation costs**
- **Accurate loading**
- **Decreased fines and penalties overloading**
- **Increased productivity**
- **Enhanced operator efficiency**
- **Longer equipment lifespan**
- **Improved data-driven decision making**

> **With accurate load data at their fingertips, operators can make informed decisions quickly, reducing the time spent on each loading cycle and preventing trucks needing to turn around from the weighbridge for under or over loading.**

framework, ensuring that it aligns with the hydraulic components.

The L5000 utilises pressure transducers that can handle up to 400bar of pressure that are strategically placed in the loader's lift arms. These sensors measure the weight of the load in real time as the bucket lifts.

The system connects to the loader's hydraulic pressure lines, allowing it to monitor the hydraulic pressure applied when lifting loads. By analysing this pressure data alongside weight measurements, the L5000 achieves enhanced accuracy, compensating for variables such as the loader's load distribution and movement.

Operators receive immediate feedback, allowing them to make more informed decisions about the load size and distribution. The L5000 is designed to integrate with the loader's existing controls, meaning operators can use the same controls they're accustomed to. This minimises the learning curve and enhances user experience.

Data sharing is done automatically via Loadrite's cloud based data distribution centre named InsighHQ and can be viewed in real time from any smart device or PC with internet connectivity. Daily overview reports are also generated displaying data such as load weights, running time, average bucket sizes and operational metrics, making it easier to manage overall site productivity.

Reducing productivity bottlenecks

Many construction and mining sites encounter productivity bottlenecks, especially when it comes to loading trucks efficiently. The L5000 addresses this challenge by providing real-time weight feedback to operators. With accurate load data at their fingertips, operators can make informed decisions quickly, reducing the time spent on each loading cycle and preventing trucks needing to turn around from the weighbridge for under or over loading. This efficiency translates to faster truck loading, minimising wait times and boosting overall site productivity.

Target loads can be set for each truck and a bucket counter with weight per bucket and a shot total is displayed telling the operator exactly how much product is still needed for optimal loading.

To avoid overloading both the yellow machine and truck, a load limit can be set per bucket. This feature ensures that engine damage is reduced for overloading, which in return will lower maintenance time and repairs cost or costly claims and penalties.

Real-time data reporting and cloud integration

The L5000 doesn't just weigh; it reports. The system offers real-time data reporting that can be integrated with site management platforms, such as Loadrite's InsightHQ. This connectivity allows operators and managers to monitor loading activities remotely, assess performance metrics, and make data-driven decisions that enhance operational efficiency. By feeding data into cloud platforms, the L5000 empow-

The L5000 is designed with user-friendliness in mind, featuring a straightforward interface that allows operators to navigate its functions with ease.

ers teams to stay connected and informed, regardless of their physical location.

User-friendly design and support

Operator training is often a significant hurdle when adopting new technology. The L5000 is designed with user-friendliness in mind, featuring a straightforward interface that allows operators to navigate its functions with ease. Loadrite provides comprehensive training and ongoing support with its trained team of technicians and technical support team on standby any time via mobile support, ensuring that teams can become proficient quickly. This commitment to user education helps alleviate resistance to change and fosters a culture of innovation on the job site.

For ease of use the L5000 offers a quick reference guide for operators and training manual for trouble shooting, loaded onto the tablet hard drive. Software updates are done via the cloud, ensuring timeous updated and up to date information being available at your fingertips at any time.

Icons and a large display with minimal clutter ensures the operator sees what he/she needs with one glance while the day/night setting is a great add one for those operators working at nigh or in pits where light is restricted and concentration levels need to be high.

Compliance with legal weight limits

The Loadrite L5000 advanced weighing system is a crucial tool for contractors and quarry operators aiming to maintain compliance with legal weight limits. Through accurate measurements, targeted load management, comprehensive documentation, and effective training, it empowers operators to avoid costly penalties and ensure regulatory adherence.

The L5000 provides precise weight readings as loads are being lifted. This real-time measurement allows operators to monitor the weight of the load continuously, ensuring they do not exceed the legal limits set by transportation regulations. Operators can make immediate adjustments if they approach the threshold, preventing overloading before the truck leaves the loading site.

Load targeting features

The system allows operators to set specific target weights for different trucks or materials. By inputting the legal weight limit for each truck, the L5000 alerts operators as they approach this limit, enabling them to optimize loads without exceeding legal requirements. This proactive approach helps maintain compliance effortlessly.

Avoidance of fines and penalties

By accurately measuring loads before they leave the site, the L5000 helps operators avoid costly fines associated with overloading. This compliance not only protects the contractor's bottom line.

Comprehensive load documentation

The L5000 records weight data during loading operations, creating a digital log of each load. This documentation can be invaluable for audits or inspections, providing evidence that compliance measures have been followed.

Integration with site management systems

The L5000 can integrate with site management platforms, allowing for centralised monitoring of loading activities. This enables managers to oversee compliance across multiple operators and vehicles, ensuring that weight limits are consistently respected throughout the operation.

Real-time alerts and feedback

Should a load approach legal limits, the L5000 can issue real-time alerts to operators. This immediate feedback helps prevent potential violations during loading, allowing operators to rectify any issues on the spot.

Return on investment and cost savings

Every manager seeks measurable ROI, and the L5000 delivers. Customers commonly report significant cost savings, primarily through decreased material waste, enhanced productivity, reduced labor costs and lowered maintenance times and costs. By optimising loading processes and minimising the frequency of overloading penalties, the L5000 quickly proves its value, often recouping the initial investment in a matter of months.

Operator feedback and success stories

The feedback from operators in the field has been overwhelmingly positive. Many have shared success stories highlighting the L5000's impact on their operations. For instance, one mining operation reported a 30% increase in loading efficiency and a significant reduction in material waste after implementing the system. Other operations pay out bonuses for target tonnes reached, increasing production and enhancing the livelihood of responsible and committed operators.

These testimonials underscore the L5000's capability to transform operations, making it a valuable asset for any bulk material handling application. ●

HARNESSING **THE POWER OF DIGITAL TOOLS FOR ENGINEERING INNOVATION**

With the insights of consulting engineering disciplines being steadily enhanced by the use of powerful digital technologies, SRK Consulting (South Africa) underpins its professional work with an in-house Data Services function.

> **There is great satisfaction in knowing that, whenever I need support, the Powerbit team is just a phone call away. They always go the extra mile to make sure I have no downtime and can always rely on the quality of their products.**

This is delivering valuable results for SRK's consulting teams, leading to the development of specialised digital solutions to streamline workflows and push boundaries of innovation, according to Ansu Louw, Principal GIS Consultant and Data Services Lead at SRK Consulting (South Africa).

"We initially put together a small data services unit in 2020, as part of our interest in digital transformation," said Louw. "This has since grown to a staff of eight, including data engineers, software developers and data scientists".

Automation for efficiency

The Covid-19 pandemic demanded the fast-tracking of online communication and other platforms, but the unit now focuses on data engineering to harness digital technology for more efficient and streamlined data collection, storage, analysis and visualisation.

"This allows our engineers and scientists to deliver greater value to their projects and clients, giving them specialised tools to process big data, for instance, and to facilitate deeper and different insights," she explained. "Being focused on this fast-moving world of technology, we are also able to keep our colleagues abreast of what developments are interesting and available."

Among the custom-developed applications developed by the team is a field logger for rock mass characterisation – for quickly capturing data on core samples, according to William Joughin, SRK Consulting (SA) corporate consultant and one of the country's leading rock engineering specialists.

"This replaces a manual logging procedure which traditionally used a pen-and-paper method to log values; this data would need to be manually transferred to spreadsheets before calculations could be conducted," said Joughin. "The process allowed errors to creep in at different stages – whereas our application places parameters on the input and reduces the room for error."

More accuracy

The system not only avoids these errors and saves time, but provides instant calculations which can alert the user to any anomaly that might require immediate checking. Traditionally, the manual checking of data for errors is time-consuming and difficult, but is essential in achieving accurate results.

"Through applications like these, we can make our work more efficient while ensuring that data is more reliable and accurate," he said.

The team was also involved in the development of KinApp, an application that performs kinematic analysis of a range of slope orientations and angles in a dataset – all within

a single computation. The results can be represented graphically to instantly identify high risk areas and define slope design limits. Again, it has improved efficiency in routine analyses with commercially available software – reducing computational time by up to 60%.

Integrating data

Louw highlighted that the use of digital platforms can also help to integrate data generated by existing technologies. In working with mining clients on applying the Global Industry Standard on Tailings Management (GISTM), SRK engineers have leveraged their in-house data expertise.

"Digital platforms allow us to integrate vibrating wire piezometers and inclinometers, for instance, into a digital framework that enhances data accessibility and usability," she said. "With near-real-time data collection, mining professionals can better monitor TSF performance, identify potential risks and make informed decisions to ensure safety."

Accredited training

To support and empower colleagues with digital insights, the SRK Data Services unit also conducts a training course on digital transformation, including tutorials on programming language Python and analytics tool Power BI. The course is accredited by the South African Council for Natural Scientific Professions (SACNASP) and the Engineering Council of South Africa (ECSA), so participants can also earn continuous professional development (CPD) points by attending.

The unit also presents a shorter course that is targeted at project coordinators and administration staff. Joughin noted that SRK's engineers and scientists turn to its Data Services for specific advice, guidance and coaching on developing their own applications and tools. They also use the unit to conduct the more specialised coding and design of applications, to develop the solutions they require.

New solutions

"Our input on the digital side has contributed to a range of client projects, including automation tools for the processing and analysis of meteorological data such as humidity, temperature, rainfall and evaporation," she said.

Joughin emphasised that – in addition to making studies and project work more efficient – SRK's strategic integration of digital technologies is also aimed at supporting technical excellence that will develop new solutions.

"With larger volumes of more accurate data, and better analytics, we look for ways to reach technical goals that were not achievable in the past," he said. "This allows us to push the boundaries of science through applied research – which is currently particularly important, for instance, in the field of tailings management." ●

Versatile and reliable, the Powertrack PT PRO J-11E is ideal for producing aggregates and for the crushing of both natural and recycled materials.

ATHOS CRUSHING & SCREENING LAUNCHES FULLY ELECTRIC MOBILE CRUSHERS AND SCREENS

Following an extensive testing regime, Athos Crushing & Screening is officially launching a fully electric range of mobile crushers and screens called Powertrack, built by SRHeavy (SRH). Dubbed the Powertrack, the range initially comprises a mobile jaw crusher, a mobile cone crusher, a mobile triple-deck screen and a mobile scalping screen.

Athos Crushing & Screening, sister company to Pilot Crushtec International, was established some five years ago with the mandate to provide mobile and static crushing and screening solutions, focusing on entry-level and mid-tier segments of the market. The overarching intent, explains Sales and Marketing Director Francois Marais, was to create a true "home of crushing and screening" with Pilot Crushtec concentrating on the premium end of the market.

In line with this strategy, Athos is debuting the e-Power Powertrack range in sSouthern Africa. At a launch event held at the company's Jet Park in July, the company introduced the Powertrack PT Pro J-11E jaw crusher, the Powertrack PT Pro C-20E cone crusher, the Powertrack PT Pro ST-08E mobile triple-deck screen and the Powertrack PT Pro SP-08E scalping screen to local customers. Target markets, says Marais, include contractors, quarries and certain mining applications, particularly sites where there is access to grid power or renewable energy sources.

"Ideal for aggregates, mining and recycling, the Powertrack PT Pro J-11E is equipped with an SJC108 jaw crusher with a 1 060 x 700 mm feed opening," explains Marais. "The machine can handle a top size up to 600 mm and typically runs with a closed side setting of about 70 mm. It has the capacity to process between 150 and 500 tonnes per hour (tph), application dependent."

The Powertrack PT PRO ST-08E mobile screening unit features a wide selection of screening media options to control final product granularity and ensure efficient material separation.

Designed for secondary applications, the Powertrack PT PRO C-20E mobile cone crusher delivers high throughput, processing between 150 and 200 tonnes of material per hour.

The Powertrack PT Pro C-20E, which features the SCH2000 cone crusher, is ideal for secondary and tertiary crushing. The machine has the capacity to produce between 150 and 250 tph, depending on application.

The Powertrack PT Pro ST-08E mobile triple-deck screen comes with a 5,4 m x 1 ,5 m screen box and a large 8,4 m² screening area. With its four product conveyors, it can be deployed in 250 tph production capacity requirements.

The Powertrack PT Pro SP-08E scalping screen, which comes with a 4,8 m x 1,5 m screen box, is ideal for pre-screening of feed with excessive fines such as topsoil, recycled waste and gravel, amongst others. The machine is designed to process capacities up to 500 tph.

"A major factor behind the decision to go the fully electric route is that these machines come in at an extremely competitive price point," says Marais. "Manufactured in China, inarguably the global leader in electromobility, the economies of scale for electric components such as electric drives provides for a notable cost advantage, making the e-Power Powertrack range an attractive crushing and screening solution for the local market, especially for cost sensitive, entry-level operations."

The Powertrack PT PRO J-11E mobile jaw crusher is fully equipped with dust covers, a discharge hood, a 1 060 mm x 700 mm jaw crusher, a vibrating feeder and an overband magnet for effective material processing.

Another remarkable advantage of fully electric crushing and screening solutions is the lower cost of operation. These machines are primarily intended to be plugged into grid electricity. Electric drive systems are cost effective and more efficient than their conventional diesel hydraulic counterparts.

"In the absence of an electric plug-in, end-users can power the machine/s with a genset which, unlike in a dual-power setup, is completely separate from the mobile machine. This is a completely new concept in the local mobile crushing and screening market. One of the major benefits of keeping the generator away from where crushing takes place, is the elimination/ reduction of dust ingression into the engine, which tends to be a major challenge for machines that come with an on-board genset," concludes Marais. ●

SNAPSHOT

Athos Crushing & Screening, sister company to Pilot Crushtec International, was established some five years ago with the mandate to provide mobile and static crushing and screening solutions, focusing on entry-level and mid-tier segments of the market.

The Powertrack PT Pro C-20E, which features the SCH2000 cone crusher, is ideal for secondary and tertiary crushing.

The Powertrack PT Pro J-11E is equipped with an SJC108 jaw crusher with a 1 060 x 700 mm feed opening and is ideal for aggregates, mining and recycling.

An advantage of fully electric crushing and screening solutions is the lower cost of operation.

FLS manufactures NexGen media, trommel and screen panels with expert precision to ensure consistent quality and high performance.

FLS EXPANDS DELMAS FACILITY TO SUPPORT NEXGEN POLYURETHANE INNOVATION

FLS has completed a significant upgrade to its polyurethane manufacturing facility in Delmas, Mpumalanga, positioning the site as a key global hub for the production of its advanced NexGen wear -resistant material. This development forms part of a wider modernisation programme by FLS, aimed at strengthening supply chains, increasing manufacturing efficiency and enhancing sustainability across its global footprint.

Brad Shepherd, Director Service Line - Screen and Feeder Consumables at FLS, says the investment at Delmas aligns with the company's global strategy to standardise and optimise production processes.

"This is a milestone for us," says Shepherd. "We are integrating cutting edge technology and modern manufacturing methodologies across all our polyurethane plants, and Delmas is leading the way. The upgrade enables us to respond more quickly and reliably to customer needs across Africa, the Middle East and Europe."

The centrepiece of the upgrade is the introduction of purpose-built infrastructure to produce NexGen screen media - a polyurethane material developed by FLS to deliver extended wear life, reduced maintenance and improved operational efficiency. In on-site trials, screen panels made from NexGen have demonstrated up to three times the wear life of conventional rubber and polyurethane products, making it a gamechanger for industries that rely on high performance screening solutions.

Warren Walker, Head of Global Manufacturing - Polyurethane Operations at FLS, explains that Delmas is the first of the company's five global polyurethane plants to complete this transition. "We have installed new, latest generation polyurethane machines, precision tooling and dedicated preheating ovens for inserts," he says. "This allows us to significantly increase our output while ensuring consistent quality."

The facility now includes two trommel screen media stations and three screen media stations, each tailored to produce NexGen products. One of the standout technologies introduced is a programmable auto-calibrating polyurethane machine capable of adjusting material hardness to suit specific applications.

"The flexibility to produce varying hardness levels is critical," Walker notes. "It means we can tailor our screen media precisely to the customer's application,

Beowolf MINING (Pty) Ltd

MAXDRILL

"Use the Best"

We know the drill!

- Refurbishment of hydraulic drifters
- Management of GET products via app
- Complete refurbishment of hammers on site
- Resharpening of drill bits on site
- Rand/USD contracts per meter on drilling tools

ENERGY-SAVING
ECONOMICAL
EFFICIENT

MAXDRILL ROCK TOOLS
"GLOBAL DRILLING INDUSTRY EXPERTS

Email: riaan@beowolfmining.co.za
Cell: +27 82-576-6349
Website: www.beowolfmining.co.za

Agencies available in Africa

Brad Shepherd, Director Service Line – Screen and Feeder Consumables at FLS.

Warren Walker, Head of Global Manufacturing – Polyurethane Operations at FLS.

A new preheat and post-curing oven has been installed at FLS to boost production efficiency and ensure consistent high-quality curing of polyurethane products.

ensuring optimum performance and longevity."

To complement this, a high capacity polyurethane machine capable of pouring up to 42 kg per minute is in operation at the facility. This system is particularly suited to applications requiring large volume pours, such as flotation spare parts and vertical mill components.

The Delmas facility already benefited from a significant upgrade in 2019, when a state-of-the-art six-axis machining centre was introduced for tooling precision, along with robotic welding systems for manufacturing screen media panel inserts and a CNC controlled spiral welding machine to produce wedge wire products. The latest round of investments builds on this foundation and brings the facility to the forefront of global polyurethane production capability.

Energy efficiency was a key consideration in the new layout and equipment design. "We have incorporated smart energy saving features like individual temperature control on each casting table station," Walker says. "This avoids the need to heat large surface areas unnecessarily and contributes to our carbon reduction goals."

Further supporting these goals is the installation of 300 kW of solar generation capacity at the Delmas site, completed in 2024. Plans are already in place to expand this by another 500 kW in 2026, along with the integration of a battery energy storage system (BESS), enabling greater energy independence and resilience.

FLS's offering from Delmas extends beyond screen media manufacturing. The facility is equipped to handle the complete fabrication of vibrating screens, from raw material processing and in-house machining to assembly and factory acceptance testing. This vertical integration allows the company to deliver customised solutions with tighter control over quality and lead times.

Shepherd emphasises that FLS operates both as an original equipment manufacturer (OEM) and a screen media specialist, supplying screen panels for all types and brands of vibrating screens, feeders and trommel screens.

"We don't just supply products," he says. "We work closely with our customers through our network of on-the-ground specialists to assess site conditions and select the best screening media for their specific needs."

He notes that many older processing plants are treating materials that differ from their original design specifications. In these cases, screen efficiency can often only be improved by optimising the screen media. "This is where NexGen makes a real difference," Shepherd says. "Combined with the correct aperture design, it allows customers to get more life and better performance from their screens."

Unlike injection-moulded polyurethane, which can compromise the structural integrity of screen panels, FLS's proprietary process retains superior mechanical properties, resulting in a tougher more durable product. "We have never used injection moulding because it reduces the quality of the end product," Shepherd explains. "Our process delivers a product that stands up to the toughest operating conditions and offers lasting value."

Walker adds that the expansion at Delmas not only supports FLS's global operations but also contributes meaningfully to the South African economy. "Our commitment to local manufacturing is evident in the scale of our investment and the jobs we have created," he says. "We have expanded our workforce, prioritised local recruitment and significantly grown our apprenticeship programme."

A strong focus has also been placed on developing female artisans. In 2024, six women from the local community were recruited into a three year trade apprenticeship programme, receiving training in welding, fitting and boilermaking.

"Our investment during a period of economic uncertainty underlines FLS's long-term commitment to South Africa and to our customers in the broader EMEA region," says Walker. "We are not just building products – we are building skills, opportunities and partnerships that will power sustainable growth for years to come." ●

Astec FT200DF DELIVERS A POWERFUL CRUSHING PERFORMANCE

An Astec FT200DF mobile cone crusher is delivering a powerful, efficient crushing performance on site at the South African National Roads Agency's (SANRAL's) construction project between Bela Bela and Modimolle in Limpopo.

This versatile, durable machine was supplied by Astec Industries to long-standing customer Lizarox. It is the most recent Astec unit ordered by Lizarox and is proving its mettle on the company's contract that forms part of the SANRAL project to rehabilitate a 26,8km stretch of the R101 national road.

Astec Industries Regional Sales Manager Casper Booyse notes that the FT200DF is purpose-built for productivity in the toughest field conditions. Its mobility and fast setup mean that the crusher is ready to perform from day one, he states.

"Equipped with the proven Kodiak K200+ cone crusher, this machine offers up to 400 tph of production capacity. Its roller-bearing design reduces operating costs by up to 50%, while improving energy efficiency. This unit is your go-to for reliable secondary and tertiary crushing on the go. From remote locations to high-production environments, the FT200DF offers unmatched durability for demanding conditions and a high-quality end product," Booyse expands.

"Backed by Astec Industries' full aftersales support - including spares, technical service and expert advice - this unit is more than just a crusher, it's a long-term performance partner," he asserts.

The FT200DF's other notable features include a variable-speed hydraulic drive; remote closed side setting (CSS) adjustment; interchangeable chamber configurations; field-replaceable base frame tub and V-seat liners; and a hydraulic cone brake. This unit is permanently precision balanced with protected internal counterweights. Its feed hopper features a level sensor and it has a 95l lube oil tank with an immersion heater.

Lizarox Director Michael Crackett (left) and Astec Industries Regional Sales Manager Casper Booyse.

This is the latest in a number of Astec machines chosen by Lizarox. In 2023, the first Astec mobile track unit supplied in South Africa, an Astec GT205 three-deck mobile screen, was successfully commissioned by Astec Industries for Lizarox. Prior to that, a mobile jaw and cone crusher had been supplied.

Lizarox director Michael Crackett says that Astec Industries' long-standing relationship with Lizarox is founded on consistently reliable products and service. "Astec's backup on our equipment has always been excellent. When faced with challenges in the past, they always stepped up to the plate. This remains the case today and provides us with a sense of comfort that we are in good hands when it comes to product reliability and backup service. We are excited about Astec Industries' range of products and hope to continue to expand our current plant mix with more Astec products."

Commenting on the partnership, Booyse says: "We are delighted to add this Astec FT200DF mobile cone crusher to our long partnership with Lizarox, a solutions-oriented company with a wealth of knowledge. We look forward to continuing to partner with them, and helping them to attain profitable production goals, valued benefits and deliver a competitive advantage to their clients through our innovative, world-class equipment." ●

The ENDURON HPGRs are used in crushing applications for fine grinding and use significantly less energy and water than traditional methods.

ENERGY, WATER EFFICIENCY KEY TO MINING SUSTAINABLY IN AFRICA

Achieving Weir's ambitious sustainability goals requires active participation from every region and site across its global footprint, and Africa plays a vital role in this effort.

In fact, according to Chris Mortimer, Weir's Director of Safety, Health & Environment for Europe, Middle East and Africa (EMEA), the continent's limited power availability and often dry climates make it even more critical to focus on energy efficiency and water conservation.

"We understand that building a sustainable future hinges on the shift to renewable energy, and that this shift relies heavily on the supply of essential minerals and metals," says Mortimer. "That's why our solutions and equipment are designed to help our mining customers operate at peak efficiency, enabling them to support the global energy transition while also achieving their own sustainability goals."

As a major contributor to the global mining sector, Weir has pledged to cut its carbon emissions by 50% by 2030. This commitment is being realised through clearly defined targets at site, regional and global levels - all aimed at using less energy, conserving water and minimising waste. In Africa, sustainability efforts include a strong drive toward renewable energy adoption, helping to reduce reliance on carbon-intensive electricity sources such as those prevalent in South Africa.

"Our most energy-intensive operations are our manufacturing plants and foundries, so we are actively working to lower their carbon footprint," says Mortimer. "At our Isando facility, for example, we installed solar power two years ago. This not only reduces our dependence on the national grid but also enhances our operational resilience during power disruptions."

Additional solar generation capacity is currently being installed at Weir's Alrode manufacturing plant, south of Johannesburg, with the goal of eventually running the entire facility on renewable energy. Similarly, the company's Heavy Bay Foundry (HBF) near Gqeberha in the Eastern Cape is also progressing toward greater reliance on renewables.

"The first phase of transitioning HBF to cleaner energy involves installing a solar generation facility," Mortimer explains. "The second phase will introduce wind power, which we plan to procure from the second half of 2026. This will be done in collaboration with other industrial users in the region through an agreement with an independent power producer."

Chris Mortimer, Weir's Director of Safety, Health & Environment in Europe, Middle East and Africa (EMEA).

Mortimer adds that community engagement is a vital part of Weir's ESG commitments, emphasising that the wellbeing of local communities and the company are closely connected, particularly in African countries facing economic challenges. He notes that Weir's service centres and local sites play a key role in driving community initiatives, aiming to make a positive impact wherever the company operates. ●

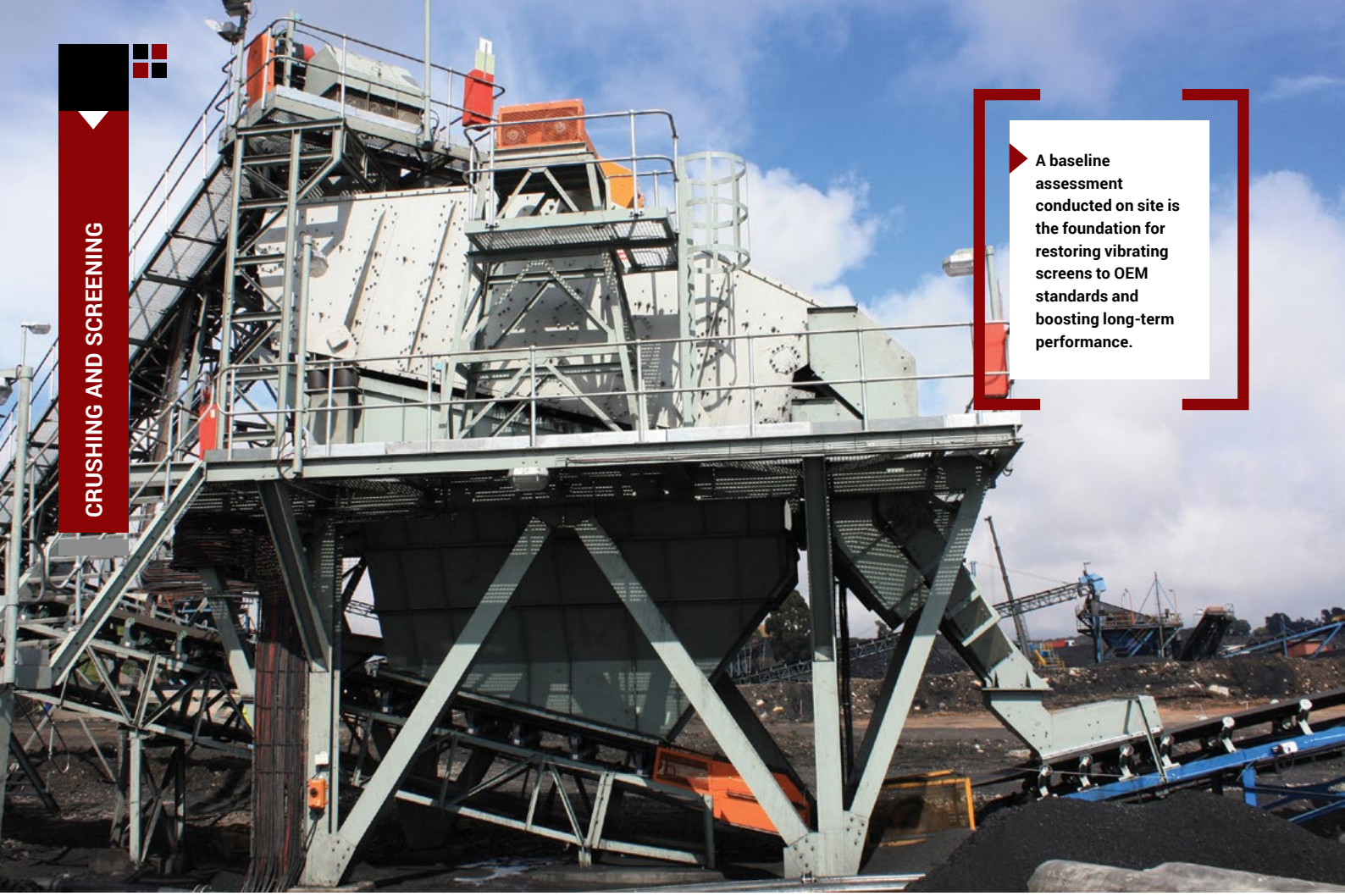
LOW MAINTENANCE SCREEN MOUNTS FOR EFFICIENCY AND SAFETY IN MINING EQUIPMENT

OST-Africa's advanced screen mount system offers the mining industry a maintenance-free alternative to conventional coil spring mechanisms, ensuring improved performance and greater operational safety.

"The OST screen mount design - which is based on the Neidhart Concept, originally pioneered at the University of Pretoria's Laboratory of Advanced Engineering - addresses long-standing reliability and safety concerns in mining vibratory equipment," explains Chantelle Scheepers, Marketing Manager, OST-Africa, part of Invicta Holdings Limited. "This highly efficient system features a mechanically advanced design comprising an outer and inner tube separated by four precision-moulded rubber elements. When the inner tube rotates, controlled torsional forces compress the rubber components, isolating vibratory motion and eliminating lateral displacement. This method overcomes the limitations of traditional coil springs, which are prone to frequency amplification, fatigue-related failure and safety risks during handling and replacement.

"Advantages of OST screen mounts over conventional coil spring assemblies, include simplified installation and greater personnel safety. The rubber-damped design is resistant to corrosion, dust ingress and water exposure, maintaining stable performance in challenging site conditions. Retrofit compatibility is achieved using adapter plates, facilitating easy integration into existing installations, without the need for extensive structural modification."

OST screen mounts are available in several configurations. The Standard Type (AR/CR) supports vibratory equipment and drive systems, eliminating harmful resonant frequencies. The Compact Type (AD/CD) provides high load-bearing capability in constrained installations, ideal for two-mass systems. The Stainless Steel Type (S4) is suitable for operations requiring hygienic or wash-down conditions, while the Suspended Type (AS/HS) is recommended for overhead configurations. ●



A baseline assessment conducted on site is the foundation for restoring vibrating screens to OEM standards and boosting long-term performance.

SANDVIK ROCK PROCESSING'S LIFECYCLE STRATEGY **CUTS SCREEN COSTS PER TONNE**

By embracing a lifecycle management approach with its customers, Sandvik Rock Processing ensures that its vibrating screens meet production targets at the lowest cost per tonne.

The most effective starting point, says Lomave Sukati, Sandvik Rock Processing's Business Line Manager Lifecycle Solutions, is for mines to request a full assessment from their OEM partner.

"This allows for a gap analysis to identify opportunities for improvement, so the equipment can be restored to OEM standards in terms of reliability and performance," explains Sukati. "The customer might also require that operators receive targeted on-the-job training, which helps ensure performance is maintained."

Sandvik Rock Processing's assessments include a visual inspection followed by dynamic testing to measure mechanical performance. Any defects or concerns are then detailed in a report to the customer for action.

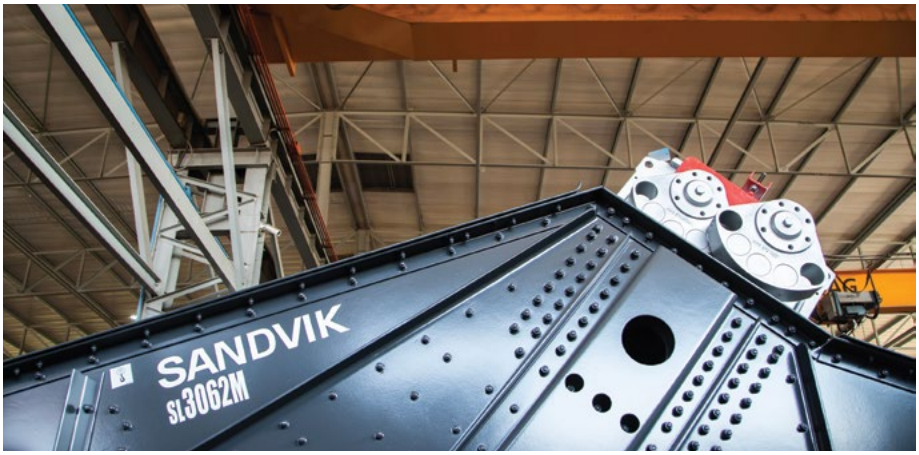
"Our training empowers a customer's team to recognise conditions that need early attention, as part of overall lifecycle management to keep equipment well maintained and productive," she says. "The OEM can't always be on site to conduct daily checks but operators can be trained to do this and a close working relationship with the OEM ensures there are open lines of communication to report issues."

Regular inspections allow the remaining wear life of parts and components to be estimated and logged, enabling maintenance and part sourcing to be planned well in advance. This prevents unscheduled downtime and allows maintenance work to be done during planned plant shutdowns.

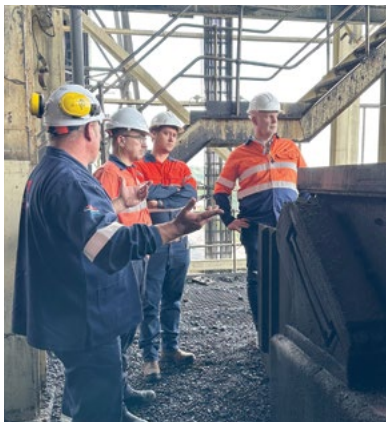
The performance of the screens is also affected by the changing nature of the ore bodies being mined, which requires constant monitoring – as changing geology could result in more abrasive material being crushed and screened.

"This may call for a different choice of wear materials in the screen panels to achieve the required output and wear life," she says. "Screens are specified for certain conditions at the start of a project but adjustments invariably need to be made during the

Lomave Sukati, Sandvik Rock Processing's Business Line Manager Lifecycle Solutions.



Sandvik Rock Processing's lifecycle management approach includes managing parts inventory to ensure availability when it is needed most.



Regular inspections and proactive maintenance planning are key to reducing unplanned downtime and lowering the total cost per tonne.

SNAPSHOT

Sandvik Rock Processing's assessments include a visual inspection followed by dynamic testing to measure mechanical performance.

Regular inspections allow the remaining wear life of parts and components to be estimated and logged, enabling maintenance and part sourcing to be planned well in advance.

Crushers and screens in the same circuit also impact one another, so mines need to work with OEM specialists who understand this relationship.

This is the most direct route to achieving low costs per tonne, especially when done in close collaboration with the OEM.

equipment's lifecycle."

Crushers and screens in the same circuit also impact one another, so mines need to work with OEM specialists who understand this relationship when conducting assessments and making adjustments over time.

"Effective lifecycle management is aimed at achieving the lowest cost per tonne over the life of the screen," says Sukati. "By focusing on where most screen costs are incurred, mines can quickly identify areas to reduce costs as part of broader efficiency and productivity efforts."

She emphasises that this is the most direct route to achieving low costs per tonne, especially when done in close collaboration with the OEM. She also highlights the value of formal agreements between mines and OEMs regarding responsibilities for keeping screens functioning optimally.

"These agreements provide clear roles for each party avoiding grey areas that could lead to oversights in monitoring, service delivery or parts availability," she says. "For mining customers, these agreements are powerful tools to derisk their business by enhancing both equipment performance and reliability."

This gives mines the confidence that they will meet production targets while gaining better control over operational costs through detailed planning and monitoring. Through its service level agreements, for instance, Sandvik Rock Processing places a team of experts on site who is responsible and accountable for the screens and must report regularly on their condition and performance.

"We can also manage inventory to ensure that necessary wear parts and components are available when required to ensure optimal uptime," she concludes. ●

PILOT CRUSHTEC POWERS OVENDEN EARTHMOVING WITH NEW TWISTERTRAC VS350E

Pilot Crushtec's longstanding relationship with leading UK contractor Ovenden Earthmoving Co Ltd has been strengthened with the successful delivery and operation of the latest generation TwisterTrac VS350E mobile vertical shaft impact (VSI) crusher.

SNAPSHOT

As Ovenden Earthmoving looked to boost productivity and enhance environmental performance, the decision to invest in the TwisterTrac VS350E was a natural evolution.

The new machine brings significant advantages including a Stage 5 Volvo engine that reduces emissions and cuts fuel consumption by up to 40%, while increasing production rates by as much as 50% compared to the older AC210.

Maintenance and inspection have also been transformed," says Dolman. The ability to open the crusher housing in under five minutes for rotor inspection without running the diesel engine is a gamechanger.

It is safer, faster and more efficient.

Ovenden Earthmoving, based in Canterbury, Kent, has built a reputation since 1985 as a trusted partner in earthmoving, crushing, recycling and sea defence projects. The company's longstanding trust in Pilot Crushtec's VSI technology goes back more than a decade, with a 2008 TwisterTrac AC210 model still in operation.

As Ovenden Earthmoving looked to boost productivity and enhance environmental performance, the decision to invest in the TwisterTrac VS350E was a natural evolution. The new machine brings significant advantages including a Stage 5 Volvo engine that reduces emissions and cuts fuel consumption by up to 40%, while increasing production rates by as much as 50% compared to the older AC210.

Shane Dolman, Operations Manager at Ovenden Earthmoving, says the TwisterTrac VS350E has already demonstrated its value. "We recently put the machine through its paces processing limestone pebble in wet conditions with moisture content exceeding 6%. The results were exceptional with the machine converting what was previously unsellable material into high-demand sand," he explains. "From 6 mm feed, we achieved 60% under 2 mm product. Even with 10 mm feed, nearly half the output was under 2 mm. This has opened new commercial opportunities for us."

Ease of use was another critical factor. Operators quickly adapted to the TwisterTrac VS350E thanks to its intuitive start-up panel and lack of complex PLC systems. The machine's onboard annunciator display keeps operators informed with clear LED indicators for any faults, while its automatic lubrication system simplifies daily pre-start routines.

"Maintenance and inspection have also been transformed," says Dolman. "The ability to open the crusher housing in under five minutes for rotor inspection without running the diesel engine is a gamechanger. It is safer, faster and more efficient."

The latest generation TwisterTrac VS350E, from Pilot Crushtec, offers major productivity gains and environmental benefits, with up to 50% higher production rate.

Limestone pebbles crushed down for manufactured sand products.

Limestone pebbles prior to crushing for aggregate products.

Pilot Crushtec's Director Sales and Marketing, Francois Marais, highlights that the success of the TwisterTrac VS350E at Ovenden Earthmoving is exactly what the machine was designed for. "We wanted to deliver not just more power and higher production but smarter more sustainable crushing solutions. The load sensing system dynamically adjusts feeder speed to maintain optimal engine load, reducing fuel spikes and improving overall efficiency. And the ability to connect to grid power makes the VS350E even more cost effective and environmentally responsible," he says.

The TwisterTrac VS350E is equipped with advanced rotor balancing for improved stability and longevity and the machine features variable speed control to finetune output sizes and shapes according to the customer's specifications.

The positive pressure system prevents dust ingress into electrical panels, adding further reliability and reducing long term maintenance. Additionally, the machine's hydraulic lift and rotate system for rotor and table access streamlines serviceability.

Marais also points to the versatility of the TwisterTrac VS350E. "This machine is designed for multiple applications from sand manufacturing and shaping of aggregate to recycling and industrial minerals crushing. In addition, the modular design allows customers to adapt easily to different requirements without needing multiple machines," he says.

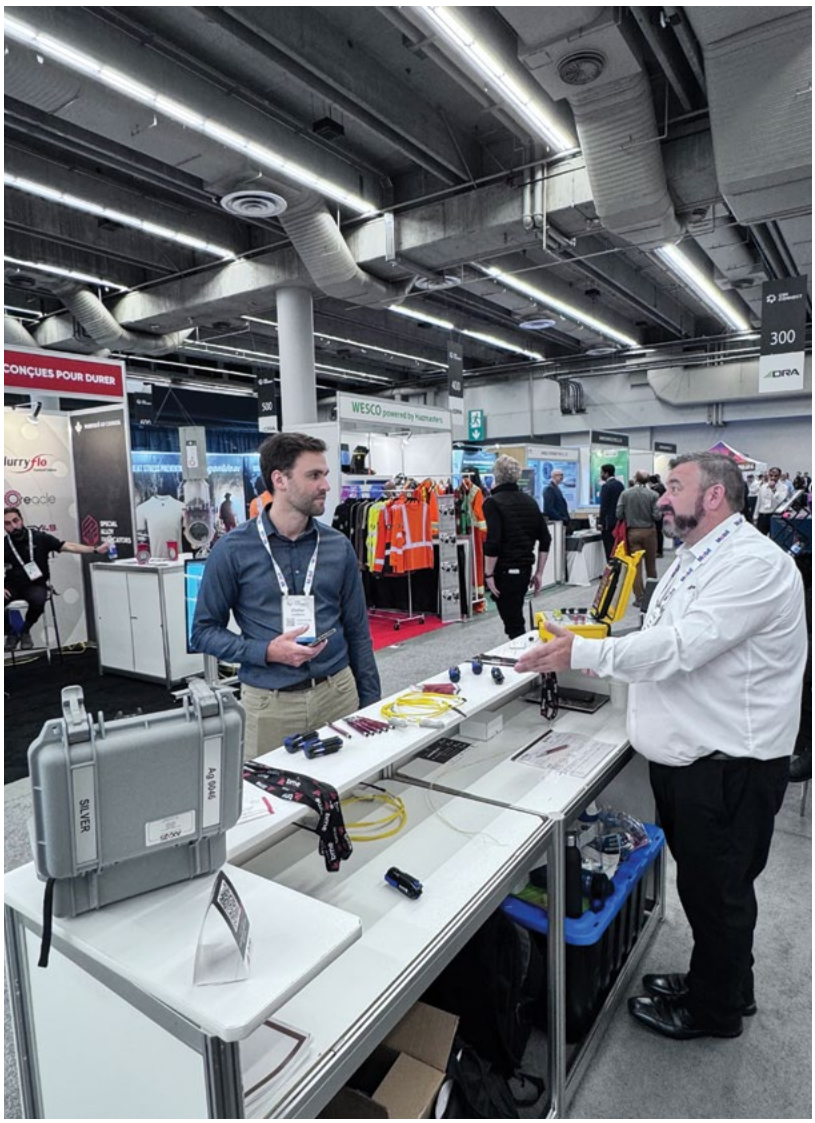
With the successful deployment of the TwisterTrac VS350E, Ovenden Earthmoving has reaffirmed its trust in Pilot Crushtec's innovation and reliability. As the demand for more environmentally conscious cost effective crushing solutions grows, this relationship continues to stand as a testament to forward-thinking investment and technology leadership. ●

BME's DEBUT **AT CIM CONNECT 2025 A SUCCESS**

The mining industry's alignment with global sustainability goals was under the spotlight at CIM Connect 2025 in Montreal in May, with BME Mining Canada attracting considerable attention in its debut appearance among over 600 companies exhibiting at this year's popular industry event.

Hosted by the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), the conference and expo draws thousands of visitors globally – with around 270 technical papers presented. The theme this year was 'Minerals, Innovation and the Energy Transition'. According to Neil Alberts, General Manager at BME North America, the busy event highlighted just how far the mining sector had progressed in its sustainability approach – and how much potential there was for the future.

"The theme of the CIM Connect 2025 pinpointed a vital focus in the mining industry," said Alberts. "What came through strongly in the theme and the presentations was that enabling the energy transition was not just government's role but that of mine operators and their technology partners and suppliers."



Culture of engagement

He emphasised the need for fostering a culture of engagement around sustainability, especially as it affected communities and key natural resources like water. Stronger partnerships are required with community stakeholders, based on efforts by mining industry players to mine responsibly to meet the energy transition's demand for critical minerals.

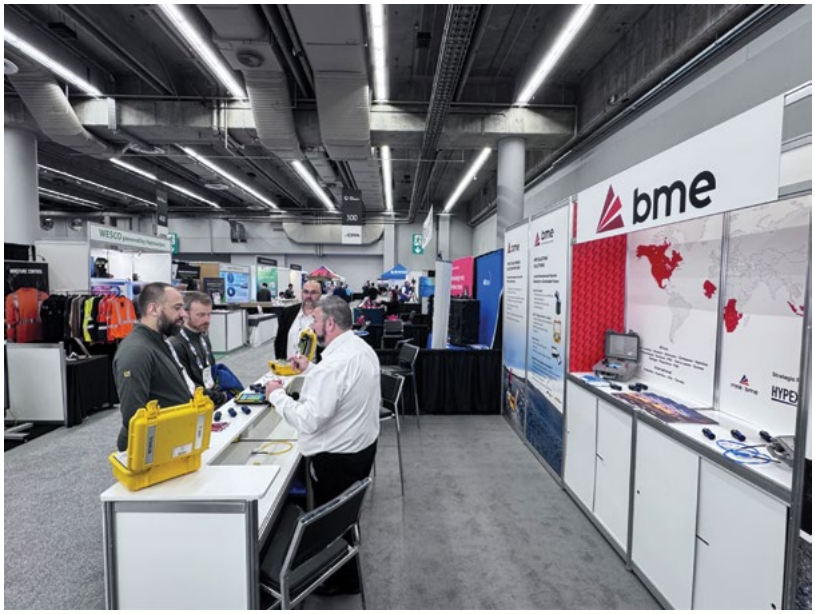
"Speakers on mining best practice highlighted how the sector is using technology – including digital tools and artificial intelligence – to meet both production and sustainability targets," he explained. "It was also acknowledged that mining is sometimes a slow adopter of available technology, and the role that service providers and supply partners could play in helping accelerate this rate of adoption."

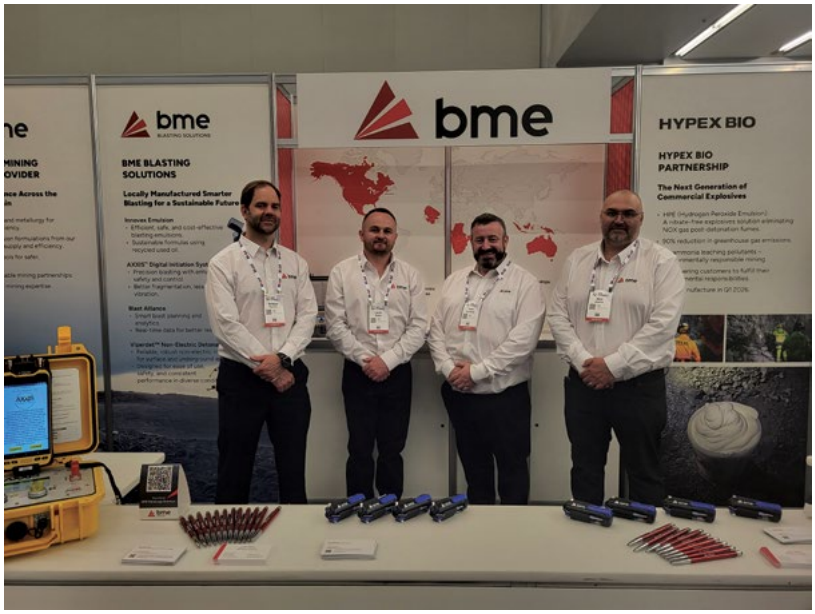
Alberts noted that the ideas and possibilities discussed in the conference sessions quickly found their way to the expo floor, where visitors were on the look-out for practical tools and strategies to pursue the sustainability agenda.

Strong interest

"The level of engagement at our exhibition booth was incredible, with visits from senior executives through to operational professionals – representing potential customers, future partners and even competitors," said Alberts.

Of particular interest was BME Mining Canada's Hydrogen Peroxide Emulsion (HPE) offering, developed by Hypex Bio. As a sustainable explosives solution, HPE represents a significant step forward in delivering enhanced environmental





> **CIM Connect was a great forum to show stakeholders not only how we have invested in manufacturing assets for our Canadian operation, but also the proven quality of the equipment and explosives that those facilities produce.**

benefits compared to conventional emulsion products.

"Visitors engaged with us on how our Hypex Bio solutions help mines drive their performance in terms of energy transition, critical minerals and engagements with communities and indigenous groups," he said.

Demonstrating AXXIS

Tom Dermody, International Technology and Field Services Manager at BME, was also at the BME Mining Canada booth and commented on visitors' enthusiastic response to the company's offerings.

"As one of only four global blasting and explosives companies exhibiting at CIM Connect this year, it was a great opportunity to meet the industry and engage with delegates on how BME Mining Canada is helping to drive mining's performance and sustainability imperatives," said Dermody.

He emphasised the interest that BME's flagship electronic detonation system AXXIS had raised at the event, particularly its robust features, ease of use, and its ability to facilitate more energy-efficient comminution through quality blasting and fragmentation. Such was the level of engagement that Dermody conducted over a dozen hour-long practical demonstration sessions on AXXIS during the two and a half day expo.

Canadian facilities

"While there was great appreciation of our solutions and services, visitors were also pleased to know that BME Mining Canada had a local manufacturing base in Sudbury – showing that we are invested in the local industry and committed to our role here," he explained. "This makes it easier for customers to adopt new technologies and systems, knowing that there is local support and a secure supply chain."

Alberts highlighted the logistical, distribution, costing and pricing benefits of BME Mining Canada's Sudbury facility – currently producing BME's Viperdet detonators and emulsion explosives, with plans underway to also manufacture hydrogen peroxide emulsion, in partnership with Hypex Bio.

"CIM Connect was a great forum to show stakeholders not only how we have invested in manufacturing assets for our Canadian operation, but also the proven quality of the equipment and explosives that those facilities produce," he said. "We were able to communicate the world-class status of these offerings, and the vital technical services through which we support customers." ●

Epiroc is building futures through its dynamic internship and learner programmes.

EPIROC ROCKS YOUTH DEVELOPMENT PROGRAMMES

Epiroc is not just building equipment – it's building futures. Through its dynamic internship and learner programmes, the mining equipment and services specialist is shaping South Africa's next generation of skilled professionals, equipping them with real-world experience, industry knowledge and the confidence to launch successful careers.

"We see these programmes as more than just workplace experience," says Ziyanda Mkhaliphi, Regional Corporate and Social Responsibility Manager at Epiroc. "It's about empowering young people, giving them practical exposure and providing a structured pathway to employment in an increasingly competitive job market."

Epiroc has been providing internships for several years, officially joining the Yes4Youth programme in early 2019. This private-sector initiative is unique to South Africa, tackling youth unemployment by creating opportunities for young professionals to gain meaningful work experience. Over 12 months, participants immerse themselves in hands-on learning, developing valuable industry connections and refining both technical and soft skills essential for career success.

The programme is designed to break the cycle of inexperience that often locks young job seekers out of opportunities. Many participants are stepping into a corporate environment for the first time. To support their transition, Epiroc introduces them to a Work Readiness Course before they engage in practical work aligned with their chosen fields.

"Job adverts often require experience, yet young professionals struggle to gain it," Mkhaliphi explains. "This programme provides them with that essential experience, making them more employable, whether at Epiroc or elsewhere."

The benefits, however, extend beyond individual career growth. Communities gain from participants who return with enhanced skills, driving local entrepreneurship and uplifting those around them. For Epiroc, investing in youth development means welcoming fresh perspectives, fostering innovation and reinforcing its long-term commitment to education, workforce development, as well as sustainable progress in South Africa.

By giving young professionals the tools to succeed, Epiroc is not just filling jobs – it's shaping careers, strengthening communities and building a workforce ready to move the country forward. ●

INNOVATING DRILLING SOLUTIONS

Powerbit Rocktools continues to set the standard in the drilling market with innovative drilling solutions. Their commitment to quality and performance is crystal clear in their range of high-quality drilling tools, including their DTH (Down-the-Hole) hammers and bits and top hammers and bits.

Thomas Chao, Managing Director of Powerbit Rocktools.

DTH Hammers and Bits: precision meets durability

DTH hammers and bits are essential for various drilling applications, from water well drilling to mining. These tools deliver a high-impact force directly to the bit, ensuring efficient penetration through the toughest rock formations. Powerbit Rocktools' DTH hammers and bits are designed with advanced materials and technology, providing durability and reliability in the most demanding conditions.

Top hammers and bits: seamless reliability and versatility

Top hammers and bits are widely used in surface drilling applications, offering high precision and efficiency. Powerbit Rocktools' top hammers and bits are precision-crafted to withstand the rigours of rock drilling, providing consistent performance and longevity. Despite their impressive specifications, however, these tools are more affordable than other brands and are ideal for construction, quarrying and mining projects, delivering the power and accuracy needed for successful drilling operations.

Quality and innovation come together

Powerbit Rocktools' dedication to innovation and quality is unmatched. Their continuous investment in research and development ensures that their products remain at the cutting edge of drilling technology. Thomas Chao, Managing Director at Powerbit, says, "Our commitment to quality and innovation drives us to create tools that not only meet but exceed the expectations of our clients. We believe in delivering solutions that enhance productivity and efficiency in every drilling project."

Powerbit works alongside advanced research centres and technology experts in Taiwan, China and Japan, recognising the need for consistent innovation and growth in the drilling industry. This ensures that Powerbit remains ahead of the game, effectively meeting clients' evolving needs.

Meeting the needs of global water and rock drilling experts

Powerbit Rocktools understands the diverse needs of the drilling industry. Their comprehensive range of DTH hammers and bits and Top hammers and bits are designed to meet the specific requirements of various drilling applications. From water well drilling to rock excavation, Powerbit Rocktools provides the tools that professionals rely on for efficient and effective drilling.

Choosing the right drilling tools is crucial for the success of any project. Powerbit Rocktools' DTH hammers and bits and top hammers and bits offer the perfect combination of power, precision and durability. By investing in Powerbit Rocktools' products, clients can ensure they have the best tools for the job, backed by the company's non-negotiable commitment to quality and innovation.

Experience the power of precision-engineered rock drilling tools and exceptional customer support with Powerbit Rocktools. ●

TRACKED VS **WHEELED EXCAVATORS**

Selecting the appropriate excavator for a construction or mining project is a critical decision for equipment owners in Africa. With diverse working environments that extend from congested urban grids to arduous conditions in mining, choosing between tracked (or crawler) and wheeled excavators has a direct impact on operational efficiency, cost management, safety and project timelines.

So says Johann Viljoen - National Sales Manager, Develon SA - a global leader in earthmoving equipment. "The Develon team works closely with our broad customer base to ensure the correct excavator is selected to suit the geographic and technical factors of each project. We stress the importance of aligning equipment procurement strategies with specific site performance demands, project deadlines and budget restraints.

"Total cost of ownership (TCO) is becoming increasingly important across the industry. When deciding between tracked and wheeled excavators, businesses should consider more factors other than the purchase price. Fuel efficiency, operating hours, wear components, service intervals and dealer support all contribute to lifecycle costs.

"Long linear projects, like road expansions and rail construction, may benefit from a mixed fleet of equipment, where tracked excavators have been developed to handle remote, heavy-duty work and wheeled units efficiently manage accessible segments and urban projects."

Tracked excavators

Tracked excavators - known for stability and traction - are designed for high performance and greater safety in remote or rugged conditions. The continuous track design of these machines provides enhanced grip and greater balance on uneven surfaces, making them particularly well-suited for challenging applications, including mining operations, bulk earthworks and construction in rural or undeveloped areas.

The robust hydraulic system and low centre of gravity allow tracked models to deliver greater digging force and lifting capacity, especially when handling heavy materials or operating on difficult slopes.

Tracked excavators require frequent inspections of track tension, rollers and the undercarriage, particularly in sandy and abrasive environments.

In making important decisions about the investment in capital equipment, decision makers need to appreciate that tracked excavators are slower to relocate between sites, often requiring flatbed transport. Despite higher initial and operating costs, the durability and power of these machines make them a valuable investment in challenging high-impact, off-road applications.

Wheeled excavators

In contrast, wheeled excavators - equipped with stabilisers and specialised buckets - offer mobility and flexibility, making them suitable for urban infrastructure projects. These machines are able to move independently between jobs, without the need for transport vehicles, which reduces downtime and improves scheduling efficiency. With lower ground pressure, they are less likely to damage paved surfaces and are therefore recommended for tasks like road maintenance, utility trenching and municipal upgrades.

Equipment owners need to give special attention to tyres, brakes and hydraulic systems of wheeled excavators, especially when operating on rough surfaces or changing elevations.

Although wheeled excavators are less stable on uneven or loose surfaces and have a lower digging force than tracked models, they offer cost advantages in metropolitan settings, with lower maintenance requirements and more predictable fuel consumption.

A walk around Develon tracked and wheeled excavators

Develon tracked and wheeled excavators offer important features that contribute to each machine's operational reliability in tough conditions in Africa, where uneven terrain,

extreme heat, dust and humidity are challenging.

Notable features of Develon tracked excavators include higher traction force, greater bucket digging forces and increased swing torque, to ensure improved performance and faster cycle times.

A Develon wheeled excavator offers superior agility, with the ability to move faster from one position to another over longer distances. The machine's outriggers and dozer blade provide enhanced stability when operating the work tool, ensuring safe and efficient performance.

These durable machines are built with eco-friendly, high-powered, fuel-efficient engines, a robust chassis structure and advanced hydraulic systems, to maximise performance and reliability in arduous environments. In addition, these excavators boast important features for precision control, enhanced operator safety and greater comfort.

Easy access to all components, including the engine oil filter, radiators and grease inlets, ensures quick maintenance procedures and prevents contamination to the surrounding environment. Develon Connect Telematics enable users to monitor equipment to manage maintenance requirements and reduce operating costs.

Develon excavators can be adapted for special applications by adding attachments for unusually long digging reaches; orange grapples and clamshell buckets for material handlers; rotating crushers and multi-processors for high-reach demolition tasks and straight or V-shape shovel buckets for front shovels tasks.

The company 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.

Develon SA's extensive branch network offers technical support, easy access to quality branded spare parts, a reliable repair and maintenance, as well as operator training services. ●

BABCOCK TAKES **THE WRAPS OFF NEW-GENERATION** VOLVO MACHINES

Amid great anticipation from customers across Southern Africa, Babcock is introducing the new generation Volvo articulated haulers and excavators. The new ranges have been updated with some of the most exciting features, meeting customer needs in areas of productivity, operator comfort, safety and efficiency, resulting in lower total cost of ownership.

Following their global introduction in January this year, the new generation articulated dump trucks (ADTs) and their excavator counterparts from Volvo Construction Equipment (Volvo CE) have generated a buzz across the global earthmoving equipment market. Customers in Southern Africa can finally get their hands onto these new machines, with Babcock set to officially take the wraps off at a grand launch event at the end of June.

"This launch marks a significant milestone in our long-standing partnership with Volvo CE, and in our commitment to helping reshape construction and mining operations across Southern Africa. These new-generation machines are more than just equipment – they are smart, efficient, and aligned to our customers' need for sustainable productivity. We are proud to bring them to market," says Roger O'Callaghan, CEO Africa at Babcock International Group.

The updated ADT models mark a significant technological leap forward thanks to innovations such as the new electronic system and an in-house developed transmission, delivering fuel efficiency improvements of up to 15% depending on model and application.

"We are excited about the arrival of the new-generation, most technologically advanced Volvo articulated haulers to date, which we believe will reinforce our leading position in this market segment. While the range comprises seven models, we are initially bringing to market the updated A40, A45 and the all-new A50. The A30 and A60 will be introduced at a later stage," says David Vaughan, MD of Babcock's Equipment business.

With its ability to identify and remember any slippery road segments, the Volvo drivetrain with Terrain Memory ensures superb fuel efficiency without

The updated ADT models mark a significant technological leap forward thanks to innovations such as the new electronic system and an in-house developed transmission, delivering fuel efficiency improvements of up to 15% depending on model and application.

Genuine large parts like gears ensure optimal performance, reliability and minimal downtime, keeping crushers operating optimally.

SNAPSHOT

The ADT models mark a significant technological leap forward thanks to innovations such as the new electronic system and an in-house developed transmission.

The major talking point on the new A50 is the full hydraulic suspension concept.

The new Volvo excavator range comprises the EC210, EC220, EC260, EC300 and EC360, but initially the EC210, EC220 and EC300 will be available locally.

All excavator models are compatible with Volvo Dig Assist, an optional intelligent machine control system that improves excavation precision and productivity.

David Vaughan, MD of Babcock's Equipment business.

Joakim Arndorw Head of Sales Region International at Volvo CE.

Roger O'Callaghan, CEO Africa at Babcock International Group.

compromising on power. Automatic drive combinations, with 100% differential locks and all-terrain bogie and hydro-mechanical steering, also combine to provide unmatched traction, stability and precision control.

In addition, Volvo Dynamic Drive – with its predictive gear selection – adapts to operating conditions. The downhill speed control function and industry-leading braking systems further enhance efficiency, safety and comfort.

With simplified servicing, longer change intervals and easy component access, servicing is now

quicker and easier than ever before, maximising uptime and reducing costs. Industry-leading greasing intervals of 250 hours also eliminate the need for daily or weekly greasing, boosting productivity and reducing downtime. In addition, Volvo articulated haulers are said to require less fluid volume compared to the competition, benefitting the environment and reducing operating costs.

While all the new models break new ground with key innovations, Vaughan is particularly excited about the arrival of the all-new A50, which not only broadens the model line-up to cover more applications, but also plugs an important gap between the existing 42-t A45 and the 55-t A60.

The major talking point on the new A50 is the full hydraulic suspension concept. Pioneered by Volvo CE in 2007, the full suspension has proved to be a reliable system for the toughest of driving conditions. Many mining and quarrying companies worldwide have praised the unique technology for the benefits it has brought them in terms of productivity and operator comfort, all while being just as durable and dependable as a traditional suspension.

The new Volvo excavator range comprises the EC210, EC220, EC260, EC300 and EC360. However, Babcock will initially bring in the EC210, EC220 and EC300. The range combines cutting-edge technology, robust design and industry-leading efficiency to benefit various industrial applications.

In the 20-22-t market segment, Babcock is launching the 21-t EC210, which replaces the previous EC200DL, as well as the new EC220, which replaces the old-generation EC210DL. The two models are ideally suited for general construction, plant hire and earthworks applications. The larger 30-t EC300 fits the bill for mid-size construction sites, sand works and small-scale quarrying operations.

Each of the models integrates engine-pump optimisation technology, delivering up to 15% fuel efficiency compared to previous models. The new range features increased hydraulic flow for responsive, accurate control in digging and loading operations. Operators benefit from smoother, easier movement when digging as well as travelling and lifting simultaneously, due to the harmonised boom and arm movement.

The revamped cab offers improved ergonomics, intuitive controls and advanced human-machine interface (HMI) systems, providing operators with a comfortable, productive working environment, with enhanced visibility, reduced noise levels and efficient HVAC systems.

In recent tests conducted by Volvo CE, the EC210 delivered an up to 7% productivity edge and 14% better fuel efficiency over competitor offerings in a similar weight class – even when operated at lower RPMs. For contractors in Africa, juggling performance expectations with fuel economy and uptime, the EC210's results suggest it is more than capable of punching above its weight – particularly in applications such as road construction, site prep and utilities.

The new EC220 was tested against the EC210, where it delivered 32% greater productivity, while maintaining similar fuel efficiency at a similar RPM. This highlighted its value in high-volume operations such as materials handling and bulk excavation. The EC220 therefore makes a strong all-rounder, marrying power and precision for work that demands both.

All models are compatible with Volvo Dig Assist, an optional intelligent machine control system that improves excavation precision and productivity. Operators can utilise tools such as real-time weighing, automated digging, and smart monitoring, which enhance efficiency, with Volvo Smart View producing 360° machine visibility. Additional features such as preset depth, height, and swing limits further enhance on-site safety.

"Southern Africa is a key market for Volvo CE, and Babcock is an essential partner in delivering on our customer promise here. The feedback from early global adopters of these models has been exceptional – especially around operator comfort and fuel efficiency. We are confident these innovations will resonate with customers across the region," says Joakim Arndorw Head of Sales Region International at Volvo CE.

The selected models making their debut are immediately available at all Babcock branches across Southern Africa. Equally, all the relevant parts have been stocked throughout all Babcock equipment outlets in the region well ahead of the launch. ●

WACKER NEUSON WHEEL LOADERS - **BUILT TO WORK SMART AND HARDER**

Experienced Rokbak customer support manager Garry Moore has been working with articulated haulers for nearly two decades, and shares his top tips for leveraging Haul Track insights to reduce the impact of fuel on running costs and carbon footprint.

Designed to adapt, perform and deliver in diverse conditions, wheel loaders offered by Wacker Neuson feature standout innovations – such as All Wheel Steering (AWS) and a broad range of attachments – that redefine manoeuvrability, stability, and on-site productivity.

"When efficiency, performance and long-term value matter, these machines rise to the occasion," says Stefan le Roux, Wacker Neuson Managing Director – Sub-Saharan Africa. "They're more than just loaders. With high-flow hydraulics and a quick hitch system, our wheel loaders become true multi-tool carriers." This adaptability enables operators to transition seamlessly between tasks by effortlessly changing attachments to efficiently tackle a variety of tasks such as materials handling, loading and logistics, and site clean-up - maximising on-site productivity. Attachments include brooms, standard and screening buckets, mulchers, mixing buckets, branch cutters, front wood grabs, pallet forks and dozer blades – transforming each unit into a productivity powerhouse. This value-driven versatility also contributes to lowering the total cost of ownership.

Wacker Neuson's wheel loader range comprises seven models. The compact 5035 model starts with a tipping load of 1 140 kg, a bucket capacity of 0,35 m³, and an 18.5 kW power unit. At the top end of the range, the robust 8155L offers a tipping load of 5 600 kg, bucket capacities ranging from 1 m³ up to 2,5 m³ depending on the specific gravity of the material being moved, and engine outputs reaching 100 kW – ensuring there is a solution for every application, from light to heavy-duty tasks. A telescopic version (8145T) is also available.

The All-Wheel Drive (AWD) feature on all loader models provides excellent traction and pushing power across all terrain. Exceptional stability and high payload capacity, even on uneven surfaces, are achieved through a robust one-piece chassis or rigid frame with rear axle oscillation, combined with All-Wheel Steering (AWS). This offers enhanced agility and a significantly smaller turning radius. "The AWS system improves the loaders' manoeuvrability, enabling them to effortlessly navigate the tightest spaces while completing loading and offloading tasks up to 35% faster," highlights Le Roux.

The rigid frame design of these wheel loaders maintains the machine's centre of gravity, even during sharp turns. This ensures even weight distribution and a balanced, secure ride across slopes and rough terrain. Combined with premium components and a rugged frame, the loaders are built to withstand tough working environments – maximising uptime and machine longevity.

Efficiency, both in fuel consumption and environmental impact, is essential for operators striving to meet their economic and sustainability goals. Wacker Neuson's wheel loaders feature fuel-efficient power units designed to optimise fuel use, achieving the perfect balance between performance and cost-effectiveness. Le Roux highlights, "During loading and offloading tasks, the wheel loaders consume up to 60 percent less fuel per day compared to backhoe loaders." He also points out that the continuously variable hydrostatic transmission helps maximise fuel efficiency while preserving optimal performance.

Operator comfort, safety, and productivity are closely linked – and Wacker Neuson's wheel loaders are designed with this in mind. The ergonomic cab features intuitive controls and thoughtful amenities that reduce fatigue and enhance safety – supporting extended, more productive shifts. Features include improved visibility, low vibration and noise levels, and large glass surfaces with narrow cab pillars for all-round visibility. A redesigned side console adds convenience, with multiple storage compartments and strategically placed switches for ease of use. Select models also include powerful heating and ventilation systems, a sun visor, and windscreen wipers to ensure comfort in all weather.

From the compact and powerful 5035 to the high-capacity 8155L and 8145T, Wacker Neuson's wheel loaders are purpose-built to meet the evolving needs of the construction, agriculture, mining and forestry sectors. With an optimal balance of productivity, manoeuvrability, fuel efficiency and operator comfort – alongside their compatibility with a wide range of attachments – these machines are true multi-tool carriers, ready to perform in any environment. ●

TOUGH. EFFICIENT. CONNECTED.

The construction industry in South Africa is constantly evolving, with new technologies and machinery designed to enhance productivity and efficiency. JCB is at the forefront of this development with innovations like the JCB 205NXT Large Excavator - a machine designed to revolutionise the way we approach excavation tasks.

Cutting-edge features

The JCB 205NXT is equipped with a range of advanced and innovative features. At the heart of this machine is the Cummins 6BT 5.9C engine, a powerful and efficient engine that delivers 140 horse-power (104 kW). This engine is designed to provide robust performance while maintaining fuel efficiency, a critical factor in reducing operational costs.

One of the standout features of the JCB 205NXT is its IntelliControl system. This advanced control system provides operators with real-time operational data on a built-in digital display screen. From fuel status and engine speed to operating mode status and health alerts, IntelliControl ensures that operators have all the information they need to optimise the machine's performance. Additionally, the system supports remote monitoring through JCB's LiveLink technology, allowing for GPS tracking, geo-fencing, and machine utilisation reports.

Performance and efficiency

Performance is a key consideration for any large excavator, and the JCB 205NXT does not disappoint. The machine features impressive bucket and dipper tear-out forces, which is essential to ensure that it operates efficiently even under demanding conditions.

JCB's ecoHydraulic technology is another innovative feature, recycling hydraulic oil across the cylinders to achieve faster cycle times and reduced fuel consumption.

The excavator offers three power modes - Eco, Power, and Power Plus - allowing operators to choose the mode that best suits their needs. In Eco mode, the class leading engine powers fuel-efficient operation, delivering up to 32% reduced fuel consumption compared to previous models. This flexibility in power management not only improves fuel efficiency but also reduces wear and tear, thereby extending the machine's operational life.

Ease of maintenance

Maintenance is a crucial aspect of heavy machinery operation, and the JCB 205NXT is designed with this in mind. The machine utilises a JCB hydraulic filtration system to provide class leading component protection and double the oil life, with up to 5 000 hours between hydraulic oil changes and 1 000 between hydraulic main filter changes. This significantly reduces maintenance costs and downtime, ensuring that the excavator remains operational for longer periods.

Operator comfort and safety

Operator comfort and safety are paramount in the design of the JCB 205NXT. The excavator's cabin is ergonomically designed to improve operator productivity, with well-positioned controls and a comfortable seating arrangement. The cabin also features a ducted air conditioning unit with a heater, ensuring a comfortable working environment in all weather conditions.

It also includes a range of safety features, including a double hydraulic lock system and optional cab guards for protection against flying debris. The machine's excellent all-round visibility during digging, loading, and positioning enhances operational safety, allowing operators to work with confidence.

Versatility and applications

The JCB 205NXT is a versatile machine capable of handling a wide range of applications. Its robust design and powerful performance make it suitable for tasks such as digging, demolition and material handling. The excavator's maximum digging depth of 6 140 mm and a maximum horizontal reach of 9 100 mm ensure that it can tackle even the most challenging jobs.

The JCB 205NXT is set to make a significant impact in South Africa's evolving construction industry, with its innovative features able to address the unique challenges faced by local construction companies. The machine's ability to operate efficiently in diverse conditions, from urban construction sites to remote mining operations, makes it a valuable asset.

Moreover, the JCB 205NXT's fuel efficiency and ease of maintenance are particularly beneficial in South Africa, where operational costs and downtime can significantly affect project timelines and budgets. By reducing fuel consumption and maintenance requirements, the 205NXT helps companies optimise their resources and improve overall productivity.

The JCB 205NXT Large Excavator is a testament to JCB's commitment to innovation and excellence. With its advanced features, efficient performance and focus on operator comfort and safety, the JCB 205NXT is poised to set new standards in the world of large excavators. Whether it's large-scale construction projects or demanding excavation tasks, the JCB 205NXT offers the reliability and efficiency you need to get the job done.

The future of excavation is here, and it is embodied in the JCB 205NXT. ●

PREVENTING FUGITIVE MATERIAL FROM CONVEYORS

Most conveyors experience some degree of material loss due to spillage, leakage, dust, and carryback, collectively known as fugitive materials. This loss can range from 3% in poorly operated and maintained systems to less than 0,1% in world-class operations. Although fugitive materials cannot be completely eliminated from bulk material handling conveyors, the issue can be effectively managed, leading to cleaner, safer and more productive operations. By R. Todd Swinderman, President Emeritus/Martin Engineering

A properly structured enclosure is slightly elevated, with dust curtains, an external wearliner, and adequate skirting.

The symptoms of a failure to control fugitive materials include unplanned downtime, excessive cleaning costs, premature equipment failure, regulatory violations, and safety incidents. Addressing these symptoms with workable, long-term solutions will enhance performance, housekeeping and safety, and boost profitability.

When material "goes rogue"

The nature of fugitive material problems from any conveyor is indicated by the location and particle sizes of the accumulations. Fugitive materials are generally categorised into spillage, leakage, dust and carryback.

Spillage escapes the belt and collects under the conveyor in both the loading and discharge zones. Piles of spillage accumulate rapidly and occur due to overloaded belts, mistracking, and insufficiently sealed loading and discharge zones. This is best remedied with a Skirtboard Liner. A wearliner and a canoe liner protect the enclosure from abrasion wear.

Leakage seeps, slowly accumulating in piles. The source of the leakage may not be immediately apparent. Apron-Seal™ dual skirting along the skirt board rides the belt, creating a seal material from dust emissions.

Dust commonly uses turbulent air to escape at the transfer point. In some studies, working in a dusty environment reduces worker productivity by as much as 20%. Combustible dust presents fire and explosion hazards, along with health and safety risks. A modular transfer point kit creates a loading zone, settling zone, and stilling zone, separated by curtains, that control air flow and allow dust to settle back into the material stream.

Carryback refers to fine material that adheres to the belt surface or gets trapped in imperfections after passing the belt cleaners. At the discharge and along the belt's return path, this material falls beneath the system, generating dust and accumulating, sometimes encasing the belt and rolling components.

Best practices for better material control

A common production "upgrade" is to increase the speed of the belt. Fugitive material problems are roughly proportional to the speed of the conveyor (or tonnage). If the belt speed is doubled, the fugitive material problem and cost of operation (clean up, maintenance, equipment replacement, etc.) may also double.

There's an old adage: you can't fit 5 lbs in a 1 lb bag. Careful consideration must be given to capacity calculations, the angle of belt incline, transfer point design, and access for cleaning and maintenance. To enhance control of fugitive materials, it is advisable to derate the capacity to 80-90% of the theoretical capacity and employ slower belt speeds. Loading at an angle of less than five degrees and reducing the incline will help minimize flooding

and material rollback at the tail.

Designing a longer and taller skirtboard enclosure with dust curtains will help control airflow and dust emissions. Access for cleaning and maintenance can reduce downtime by 33% and significantly decrease exposure to hazards. If future capacity increases are likely, they should be planned for in the initial design.

Case study – Western Brazil

A bulk handling operation in Brazil, located near a resort area, was facing public outrage due to dust and spillage that were staining the beautiful sandy beaches a deep red. The mill was confronted with daily fines and the risk of closure if the issues were not resolved.

The main focus was on repairing transfer points, replacing idlers, and alleviating some of the most significant material flow bottlenecks. The benefits were numerous. Spillage decreased from 2,8% to 0,8% of tons conveyed, idler life increased by 30%, belt life improved by 25%, and safety incidents and near misses were dramatically reduced. Operators noticed that most complaints shifted to the need to mow the grass that grew back underneath the structure.

However, the most significant benefit was the improvement in conveyor availability, enabling a 33% increase in production without expanding the raw material yard's receiving and storage capacity.

Conclusion

Managing fugitive material is a more economically and operationally sound choice than merely chalking it up as "the cost of doing business." The effect that spillage, dust and carryback have on an operation is a tangible reminder of unnecessary inefficiency. By working with experts and installing modern solutions to age-old conveyor problems and practicing state-of-the-art maintenance, operators can significantly improve safety in the workplace and dramatically reduce the cost of operation. ●

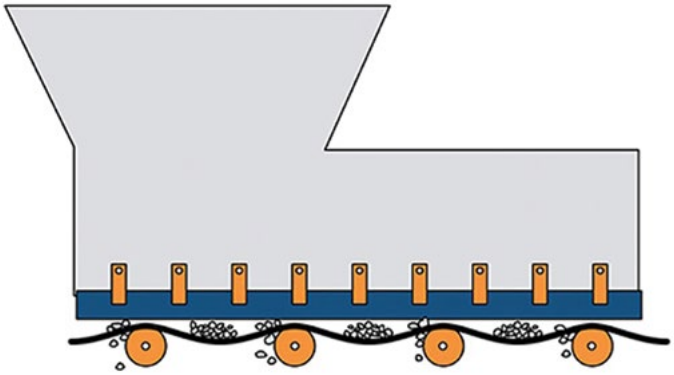
SNAPSHOT

Fugitive materials are generally categorised into spillage, leakage, dust and carryback.

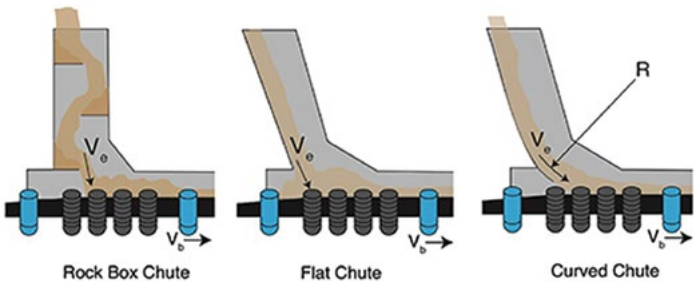
Fugitive material problems are roughly proportional to the speed of the conveyor (or tonnage).

Careful consideration must be given to capacity calculations, the angle of belt incline, transfer point design, and access for cleaning and maintenance.

Managing fugitive material is a more economically and operationally sound choice than merely chalking it up as "the cost of doing business".



Worn or inadequate skirting and wearliners can allow material to escape.



Transfer point chute design with curved and centered loading controls splashing and turbulent air flow, allowing dust curtains to be more effective.

PROVIDING A '360-DEGREE' VIEW TO CONVEYOR SYSTEMS

By taking advantage of Tru-Trac's holistic conveyor audits, which provide a '360-degree' view to all components of their conveyor systems, mining operations can identify common issues early on and get actionable insights to keep their conveyor belt systems running smoothly.

Conveyor belt systems are the lifeblood of mining operations, facilitating a constant and uninterrupted flow of materials. Keeping a close eye on the conveyor systems through holistic audits, such as those provided by Tru-Trac, ensures that operations can stay ahead of common issues such as belt misalignment/mistracking, carryback, off-centre loading and spillages, amongst others.

"Tru-Trac's conveyor system audits are holistic in their approach, going well beyond the surface-level checks provided by traditional conveyor 'inspections' and 'surveys'," stresses AJ van Eyssen, Field Service Manager at Tru-Trac. "The audits entail a broader more comprehensive assessment of a conveyor system, encompassing not just the evaluation of potential problems but also the root causes of the issues at hand as well as the provision of recommendations to get to the bottom of the identified issues."

Using the company's proprietary digital Conveyor Audit reporting system, Tru-Trac's highly experienced technicians can send real-time feedback to customers via email. The innovative digital system provides comprehensive insights into the condition and performance of each component in the system, accompanied by photos showing areas of concern, required maintenance and recommendations on how to optimise the entire conveyor system.

The impact is clear – Tru-Trac's audit recommendations streamlined operations, reduced spillage, and created safer working zones.

This is complemented by the recent integration of the Tru-Trac Rip Prevent+ system, an advanced monitoring technology that analyses data from the conveyor belt using artificial intelligence (AI)-based models and algorithms, which presents an exciting prospect for the audit process.

The arrival of yet another Tru-Trac innovation, the newly-launched intelligent belt scale, which made its debut at bauma 2025, further provides another important technological tool to the auditing process. It integrates AI-driven continuous calibration check and real-time load cell monitoring for the accurate measurement and detection of tonnes per hour, as well as advanced conveyor belt monitoring by integrating AI-driven analytics with traditional belt scales.

"By identifying and addressing potential issues early on, our holistic conveyor systems' audits offer significant benefits, including reduced downtime, improved safety outcomes, enhanced operational efficiency and extended conveyor system lifespan," says Van Eyssen.

In a recent successful project, the Tru-Trac audit was central to addressing problematic conveyor issues for a Democratic Republic of Congo (DRC) mine. The conveyor system was experiencing impact damage on transfer points due to changing operational parameters such as tonnages and belt speeds.

"The impact damage was significant in that the client experienced breakdowns after every two weeks. Following a detailed audit, we recommended the changing of impact beds, chutes and conveyor skating to meet the new operational needs. This has successfully addressed the client's pain points, with the conveyor system having to date gone for six months without any issues," concludes Van Eyssen. ●

PROACTIVE MAINTENANCE **KEY TO EXTENDING CHUTE SYSTEM LIFE**

In many mining and other industrial plants, transfer points are the unsung heroes of materials handling – quietly facilitating the continuous flow of product through the process.

Yet, too often, these critical chute systems are overlooked when it comes to routine maintenance, leading to premature wear, unplanned downtime and costly replacements.

According to Mark Baller, Managing Director of Weba Chute Systems, the long term efficiency and reliability of a materials handling system hinge on the consistent upkeep of its chute systems. When left unchecked even minor issues at the transfer point can escalate, damaging equipment, compromising throughput and raising the overall total cost of ownership.

"Transfer chutes experience high levels of impact, abrasion and wear, making them particularly vulnerable if not properly maintained," Baller says. "Unfortunately, many operations don't allocate sufficient resources to monitor the condition of their chutes, and this is where the cost spiral begins."

To support mines and plants that lack dedicated chute maintenance teams, Weba Chute Systems offers a comprehensive solution. This begins with a detailed on-site audit to assess the current condition of the chute systems and identify areas of concern. From there, the company provides a report outlining what is required to restore each chute to optimal operating condition. Once this has been achieved, a proactive maintenance programme is implemented to ensure the systems remain in top form.

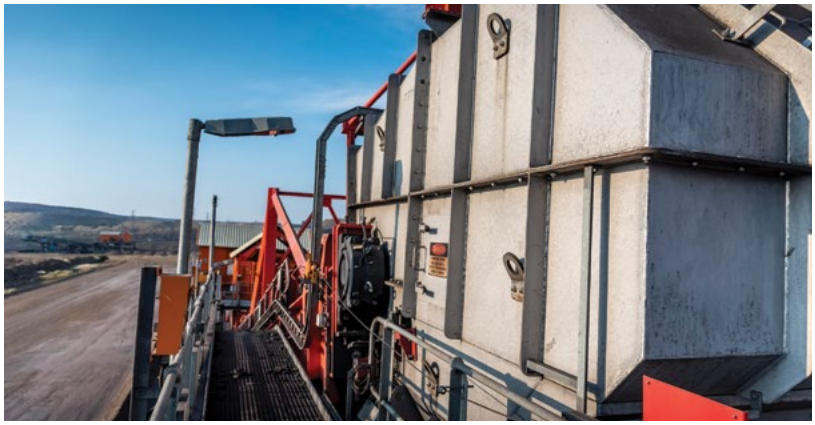
This service-driven approach not only ensures the longevity of the chute systems but also contributes to improved plant performance and reduced operational costs.

"By maintaining the chutes correctly, customers can significantly extend the wear life of their materials handling systems and avoid the capital outlay associated with repeated replacements," he notes. "It's a cost effective sustainable strategy that supports better planning and minimises unexpected breakdowns."

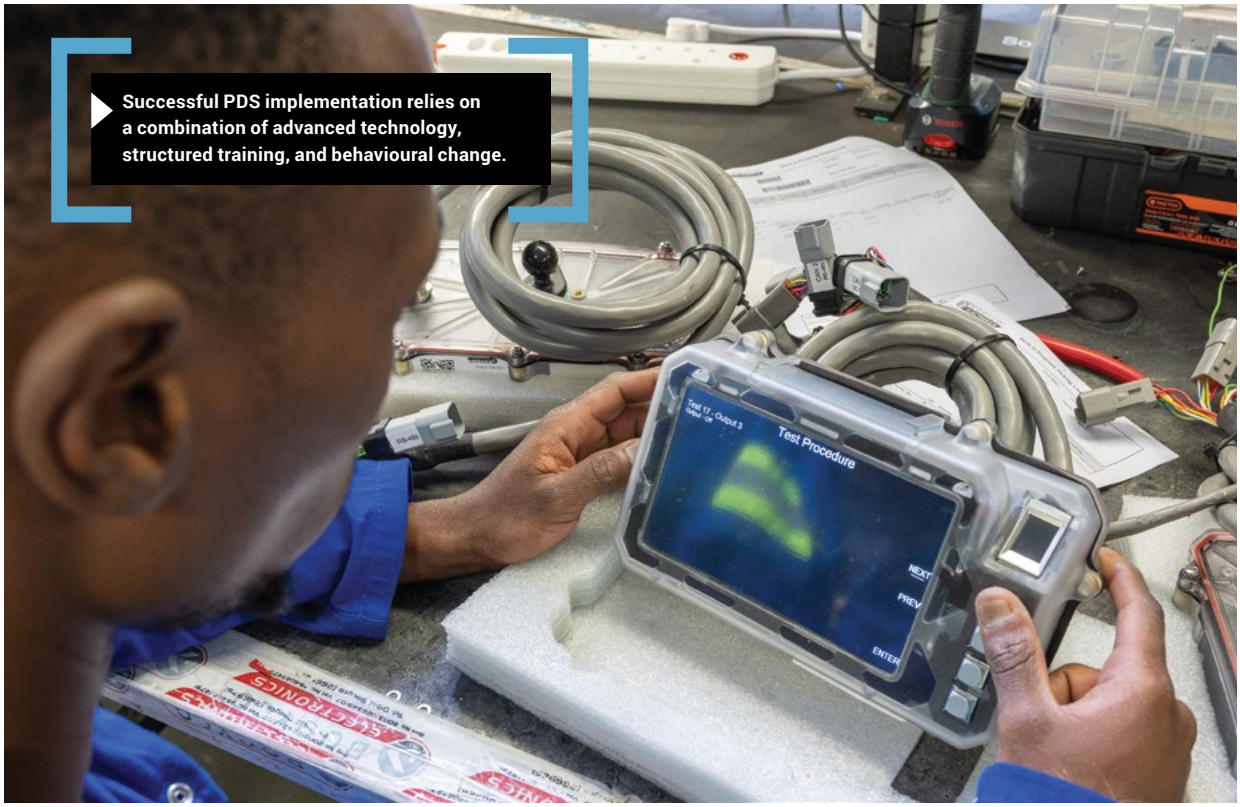
Weba Chute Systems' maintenance programmes are tailored to the specific conditions and wear patterns of each site, ensuring that potential issues are identified early and addressed timeously. This approach delivers long term savings and operational peace of mind.

"In today's competitive mining and processing environments, where uptime and efficiency are paramount, overlooking the maintenance of chute systems is no longer an option," Baller concludes. With Weba Chute Systems' support, mines and plants can ensure that their materials handling infrastructure continues to deliver - reliably and cost effectively. ●

Weba Chute Systems engineers during a site visit, evaluating chute performance as part of the company's proactive maintenance and technical support programme to optimise long-term operational efficiency.



A tripper car chute at a coal mine highlights the critical role of Weba Chute Systems' engineered transfer points in maintaining consistent throughput and reducing operational downtime.



Successful PDS implementation relies on a combination of advanced technology, structured training, and behavioural change.

LEADING THE WAY **WITH LEVEL 9 PDS IMPLEMENTATION**

Applying a Level 9 Proximity Detection System (PDS) to a mining operation is as much about changes in behaviour as it is about technical solutions, according to Pieter Wolfaardt from Apex, Booyco Electronics' training partner of choice.

"An operational readiness assessment process conducted up front highlights all potential impacts on operations and pedestrian safety, giving the mine the opportunity to achieve seamless Level 9 integration with both the PDS and yellow fleet OEMs," he says.

It is over two years since the South African Department of Minerals and Energy's Level 9 intervention made it law to install PDS on all trackless mobile machines (TMMs). This is the latest step in the country's journey as a global pioneer in this field. The advanced pace of regulation has also spawned a vibrant local economy of PDS developers and suppliers, in which Booyco Electronics has been a prominent player since 2006.

Wolfaardt highlights that there is well-proven Level 9 PDS technology available to mines, and it has been shown to significantly mitigate safety risk. However, the best results require more than technical installation; they require a systematic process of change management by all involved.

"Integrating a Level 9 PDS into a mining operation is not merely a technical upgrade; it fundamentally alters the way mines operate," he explains. "Change management is the bridge that closes the disconnect between technology and people."

He notes that the change process impacts safety culture, production and operator behaviour. Without structured change management, resistance to new protocols can undermine the system's effectiveness.

"In our experience, a lack of change management often leads to a mine experiencing undue production stoppages, miscommunication and frustration among operators and managers," he says.

By fostering better understanding and acceptance, change management ensures that safety improvements translate into long term shifts in behaviour – going beyond basic compliance to support a stronger culture of safety.

He explains that Apex, as the training service provider of choice to Booyco Electronics, addresses

these challenges by ensuring that all stakeholders are involved and committed to the process. A vital starting point is a mine steering committee, ideally chaired by the general manager, to ensure alignment across departments from procurement and human resources to engineering and production. Apex then assumes its role as the Level 9 PDS change management facilitator and trainer on this committee.

"Leadership commitment is the driving force behind successful Level 9 PDS adoption so when a general manager champions the change, it signals to employees that safety is a core priority," he says. "At the same time, every department must buy into the process and recognise their role."

A key aspect of the change management process focuses on the mine's traffic management plan, part of the baseline risk assessment prescribed by the Machinery and Occupational Safety Act. This plan will identify all the vehicles and zones of significant risk on the mine, and starts with a traffic analysis.

"Developing a sound traffic management plan will ensure that the mine understands their current traffic situation: Which vehicles are in the TMM fleet? Where do they travel? How often, and at what speeds?" he explains. "The plan must also analyse aspects such as road conditions, illumination levels and ventilation – as well as the critical issue of interaction between machines, and between machines and pedestrians."

It is important to identify pre-emptive traffic management adjustments that will minimise any disruptions and ensure that mining operations continue efficiently. Structured training is conducted with operators and other stakeholders, to understand the mine's new operating dynamics.

"Training is a cornerstone of effective Level 9 PDS implementation, and needs to be based on the gaps that we identify in the system," he says. "It focuses on people change management, and educates personnel on new protocols. This often goes beyond classroom training and should be tailored to operational needs."

Effective communication strategies, such as regular briefings and transparent discussions about challenges, help to build trust and buy-in from employees. Engaging workers in safety committees and seeking their input on system refinements also promotes ownership of the change. ●

Level 9 Proximity Detection Systems are designed to enhance safety by preventing collisions between machines and pedestrians.

Change management is a critical component in integrating safety systems into daily mining operations.

Change management initiatives address behaviour shifts required for the successful adoption of Level 9 proximity detection systems.

Jamie-Lee Bishop from Sisi Safety Wear.

LOCALLY MANUFACTURED WOMEN-SPECIFIC GEAR FOR TOUGH INDUSTRIAL ENVIRONMENTS

As South Africa's industrial and mining sectors increasingly integrate women into high-risk operational roles, Sisi Safety Wear is addressing a critical and long-overlooked gap: the lack of heavy-duty, women-specific safety footwear with a PU RUBBER sole, designed for harsh working conditions.

Sisi a local manufacturer of Personal Protective Equipment (PPE) designed for women in the workplace — has introduced its Fuse Safety Boot, designed specifically for women working in demanding industrial, mining, electrical, and heavy-duty environments. This new safety boot provides the essential protection, fit, and comfort long missing from the PPE ranges available to women in these sectors.

For many years, women in these industries have had to wear protective boots designed for men, often compromising both safety and comfort. This mismatch increases the risk of injury, causes discomfort, and reduces productivity in environments where reliable protection is essential.

"Women in these industries face the same dangers as their male counterparts, from electrical hazards to tough, abrasive surfaces yet their safety footwear has not kept pace with their growing representation in the workforce," says Jamie-Lee Bishop from Sisi Safety Wear. "The introduction of the Fuse Boot marks an important milestone in providing women with PPE that not only protects, but properly fits and supports them throughout long, demanding shifts."

Introducing the Fuse Safety Boot

Developed in direct response to market demand and feedback from safety professionals, the Sisi Fuse Safety Boot is the first locally manufactured PU/rubber safety boot specifically engineered for women. Tested to withstand 20KvA electrical hazards for 60 seconds, this boot offers premium protection in hazardous conditions.

Designed for sectors including mining, electrical utilities, manufacturing, and heavy industry, the Fuse Boot features a full-grain leather upper, abrasion- and slip-resistant PU/rubber sole, and a reflective strip for enhanced visibility in low-light environments. Comfort is prioritised with a padded collar and Birdseye breathable lining treated with anti-microbial properties to keep feet cool and hygienic.

Responding to real-world industry needs

The Fuse Boot was developed after years of industry feedback emphasising the need for women-specific safety boots with a PU/Rubber sole capable of enduring tough working conditions. An important demand came from eThekwini Municipality, which required a safety boot for female teams working near high-voltage equipment.

Advancing inclusive safety standards

The Fuse Boot launch underlines Sisi's commitment to transforming the local PPE landscape by ensuring women in demanding industries receive properly fitted, high-quality protective gear.

"By introducing this boot, we are sending a clear message that women's PPE needs require serious, tailored solutions," says Bishop. "We are breaking away from the outdated one-size-fits-all mentality that has long dominated South Africa's industrial safety sector."

Shaping the future of workplace safety

The Fuse Boot represents a growing recognition within South Africa's high-risk industries of the importance of PPE designed specifically for women. As more organisations adopt inclusive safety policies, innovations like the Fuse Boot are setting new benchmarks for equitable workplace safety.

"This is not just about introducing new PPE, it is about raising the standard for women's safety in the workplace," adds Bishop. "By addressing long-standing gaps in PPE design, we are making meaningful strides towards secure, more inclusive industrial environments." ●

DANOHER

unearthing natural potential

CUSTOMER FOCUSED MINING SOLUTIONS

Drilling | Blasting | Crushing | Material Handling

Supplying the African **mining** and **construction** industries with **quality** and **reliable** drilling, blasting material handling and processing **solutions**

Highly skilled and experienced people with **technical knowledge** accumulating for nearly **5 decades**

Large fleet of **advanced equipment technology** capable of delivering **bespoke solutions**

www.danoher.com

Johannesburg +27 10 312 6050
Gaborone +267 316 1381
Francistown +267 247 0056
Bloemfontein +27 51 012 5003

tega
PARTNERSHIPS IN PRACTICE

OptiTrommel

SUPER EFFICIENT MATERIAL SEPARATION WITH

OptiTrommel

- FEA Safe Structure
- Optimum Flow
- Optimum Life

S Screening Efficiency Improvement **L** Life Improvement **D** Downtime Reduction