CROWN PUBLICATIONS

MODERN QUARRYING

QUARTER 4 | 2025

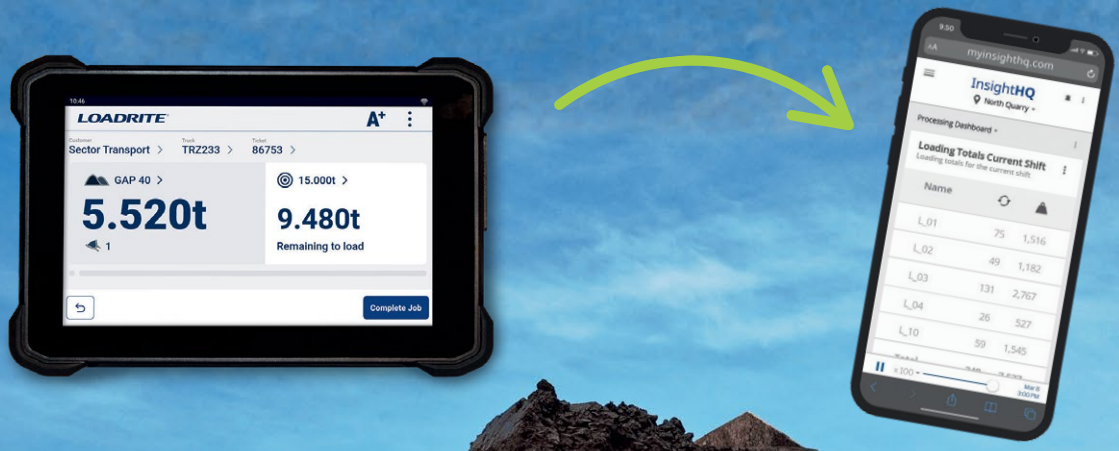
08 Modular muscle for small sand producers

12 Weir parts engineered for efficiency

16 Charting the future of milling efficiency

POWERING THE FUTURE OF QUARRYING

L5000 SMART SCALE: SMARTER WEIGHING STARTS HERE



Connect to the cloud with InsighHQ and take control even when you are not on site.

LOADRITE®
MEASURE TO ACTION™

012 661 0830
sales@loadtech.co.za
www.loadtech.co.za

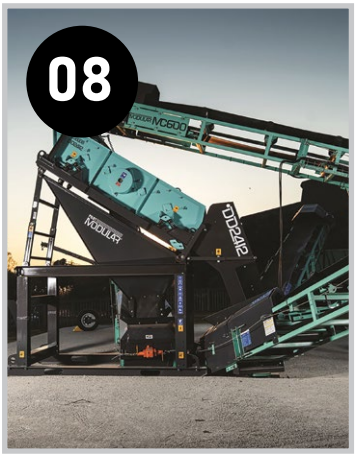
LOADTECH
LOAD CELLS

CONTENTS

Charting the future of milling efficiency. PAGE 16

Alliance optimises blasting with AI-driven insights. **PAGE 20**

AECI's booster technology is reframing mining explosives. **PAGE 21**



MODULAR MUSCLE FOR SMALL SAND PRODUCERS
Small scale sand producers now have a cost effective, reliable and integrated solution to their production needs, taking the guesswork and risk out of daily operations.

WEIR PARTS ENGINEERED FOR EFFICIENCY
Using genuine parts enables Weir customers to achieve higher equipment efficiency and extended lifespan, thanks to ongoing enhancements integrated into every component.

COMMENT

A YEAR OF **REINVENTION AND RESILIENCE**

As 2025 draws to a close, it's clear that South Africa's quarrying sector has undergone one of its most defining years in the last decade. While the industry has always been characterised by resilience, this year demanded a deeper level of adaptability, strategic thinking, and long-term vision.

Persistent power instability, rising input costs, and uneven construction activity continued to weigh heavily on quarrying operations in 2025. Load management - even with the partial easing of load shedding - forced quarries to re-examine energy strategies, invest in backup systems, and optimise production windows. Fuel price fluctuations added financial pressure, amplifying the need for efficiency across drilling, blasting, crushing, and screening processes.

Yet, despite these constraints, aggregate demand stabilised. Infrastructure repair, road rehabilitation programmes, and renewed momentum around strategic logistics corridors provided much-needed consistency. Public sector delays remained a challenge, but pockets of growth signalled cautious optimism.

Perhaps the most meaningful shift in 2025 was the mainstreaming of digitalisation. Real-time fleet management systems, predictive maintenance algorithms, autonomous drilling trials, and hybrid mobile crushing fleets moved beyond early adopters. Mid-sized and even family-owned quarries began integrating accessible digital tools that improved plant utilisation and reduced downtime.

Safety technology also advanced significantly: remote monitoring, fatigue-detection systems, and AI-powered compliance checks played a measurable role in lowering incident rates. Data literacy - once peripheral - is now becoming a core operational skill.

Environmental compliance tightened in 2025, and the industry responded. Water-recycling systems, low-emission machinery, biodiesel blending trials, and progressive rehabilitation initiatives gained momentum. Community engagement models matured, with more quarries adopting transparent reporting frameworks and long-term land-use partnerships.

The shift is no longer merely regulatory - customers, investors, and project owners are demanding measurable sustainability outcomes. Operations that invested early in responsible practices now find themselves ahead of the curve.

One of the biggest concerns highlighted in 2025 is the widening skills gap. The sector's senior technical workforce is ageing, while younger entrants remain few. Yet the year also brought encouraging developments: new artisan training cohorts, revitalised learnerships, and targeted bursaries supported by industry associations and OEMs. Importantly, the industry is beginning to view training not as a cost, but as a strategic safeguard.

Mergers and acquisition activity increased, particularly among mid-tier producers aiming to secure resources, strengthen logistics, or modernise fleets. Collaboration across value chains, from explosives suppliers to equipment OEMs to rehabilitation specialists, intensified as companies sought efficiency gains through partnership rather than competition.

If 2025 has shown us anything, it is that the quarrying industry is far more dynamic than it appears from the outside. It is modernising, professionalising, and redefining its role in South Africa's infrastructure landscape. The challenges were real, but so was the progress - often incremental, sometimes bold, but always forward-moving.

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

TOTAL CIRCULATION
Q3 2025: 3 927

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

THINK CLEAN®

THE INDUSTRY'S HARDEST WORKING BELT CLEANERS

QC1+™ family of primary belt cleaners deliver industry-leading performance in the most demanding and varied mining environments. **QC1+™** Cleaners effectively discharge material from the belt while minimizing the carryback that can lead to conveyor system damage. Our patented *Continuous Angle Radial Pressure* blade-to-belt technology, our long-lasting application-specific urethane blades, and our rugged mainframes ensure superior cleaning power throughout the blade's service life.

Easy to maintain and quick to service, these robust **QC1+™** Cleaners protect belt components from premature wear and minimize fugitive material issues — keeping your operation running smoothly, safely and more productively.

martin engineering®

POWERING THE FUTURE OF QUARRYING

ELB Equipment's single-minded focus on quality and service helps drive customers' profitability.

ELB Equipment dominates the mobile crushing and screening market, and it's no accident. The local equipment giant has maintained a single-minded strategy: giving quarry operators access to the best machines money can buy, backed by knowledgeable people and a solid support infrastructure.

For more than 30 years the company has worked in partnership with global crushing and screening manufacturer Powerscreen to provide solutions that are tailored for the local market. In South Africa - and throughout the southern African region - uptime matters above almost everything else. Considering that production targets dictate productivity which in-turn dictates profitability it is clear that stable outputs are essential and require reliable machines able to work the back-breaking hours around the clock.

The distribution agreement between the customer-centric ELB Equipment with the world's most highly regarded manufacturer is a match made in heaven and the reason why more quarries in the region use Powerscreen than all other brands combined. The machines meet expectations to run long hours, handle unpredictable feed materials and deliver consistent tonnages without faltering and few companies understand this better than ELB Equipment.

The 100-year-old local company has supplied and supported screening and crushing plants across the country for decades and the quality of Powerscreen combined with ELB Equipment's extensive branch network and deep product knowledge provides the right measures to keep quarries running reliably day-in and day-out.

> **Even the best screening equipment is only as good as the support behind it. As a result we have developed one of the strongest service and parts networks in the region that is backed by eight full-service branches and three dedicated parts hubs across South Africa.**

ELB Equipment Divisional Director for mining, Wakefield Harding, says choosing the right screening equipment requires in-depth knowledge that goes beyond just matching capacity to output targets, but rather involves more complex challenges that operators face in the pit. Screening plants must handle sticky feeds without blinding, deliver sharp separations, recover saleable fines and adapt to shifting geology in order to remain productive over the duration of mining operations. Powerscreen's technology has been designed to meet local expectations with robust screen boxes, aggressive stroke patterns and models tailored for local quarrying conditions.

He explains that the combination of world-class engineering and local technical understanding is what gives Powerscreen its reputation for reliability in Southern Africa. Machines such as the new Chieftain 1700X with its innovative triple-deck four-bearing screenbox further refine the formula by allowing the screen direction to be reversed when feed conditions demand it. Likewise, the Premiertrak 450 jaw crusher introduces

ELB Equipment Divisional Director for mining, Wakefield Harding.

a substantial step change in crushing capability providing the power required for the hardest rock typically found in southern Africa's mines and quarries. "These developments reflect our commitment to continuous improvement and on-the-ground involvement that ensures these advances are suitable for local conditions and translate into real productivity gains for local operators.

SNAPSHOT

The 100-year-old local company has supplied and supported screening and crushing plants across the country for decades.

While Powerscreen remains the centrepiece of ELB Equipment's quarrying offering the company has widened its portfolio to deliver more complete pit-to-plant solutions.

Under its "Future Now, Future Next" strategy ELB has added LiuGong's range of excavators, wheel loaders, dump trucks and other earthmoving equipment.

ELB Equipment has developed one of the strongest service and parts networks in the region that is backed by eight full-service branches and three dedicated parts hubs across South Africa.

"Even the best screening equipment is only as good as the support behind it. As a result we have developed one of the strongest service and parts networks in the region that is backed by eight full-service branches and three dedicated parts hubs across South Africa. We also maintain the largest stockholding of mobile crushing and screening equipment in the country which allows customers to take delivery of machines quickly and avoid the delays that can otherwise cripple their production plans," says Wakefield.

He explains that uptime should remain the foundation of a quarry's operations and that ELB Equipment's application specialists work directly with quarry managers to ensure machines are correctly specified and integrated into the broader processing circuit. By optimising process flow, adjusting deck configurations and providing operator training the specialists are able to help customers achieve consistent tonnage in an efficient manner with an eye on lowering costs per tonne. They also assist customers with preventative maintenance schedules and structured service agreements that provide predictable costs over thousands of operating hours in order to reduce unexpected failures.

While Powerscreen remains the centrepiece of ELB Equipment's quarrying offering the company has widened its portfolio to deliver more complete pit-to-plant solutions. Under its "Future Now, Future Next" strategy ELB has added LiuGong's range of excavators, wheel loaders, dump trucks and other earthmoving equipment. This expansion strengthens its ability to support customers throughout the production chain from extraction to hauling to screening and crushing. The LiuGong partnership brings globally recognised reliability and affordability to customers supported by ELB Equipment's well-established aftersales infrastructure. ELB is ensuring that these new additions meet the same uptime expectations that customers have for Powerscreen.

Even with this broadened offering the company's identity remains in its long-standing partnership with Powerscreen. The relationships built over decades are reflected in the manufacturer's recognition of ELB Equipment as its Regional Dealer of the Year last year which is a distinction that honours sales performance, service excellence and customer satisfaction.

"Our foundation with Powerscreen is stronger than ever. We are committed to helping the next generation of projects succeed and we will continue investing in the people, products and support structures that keep our customers productive. That is our focus today and it will remain our focus for the future," Wakefield concludes. ●

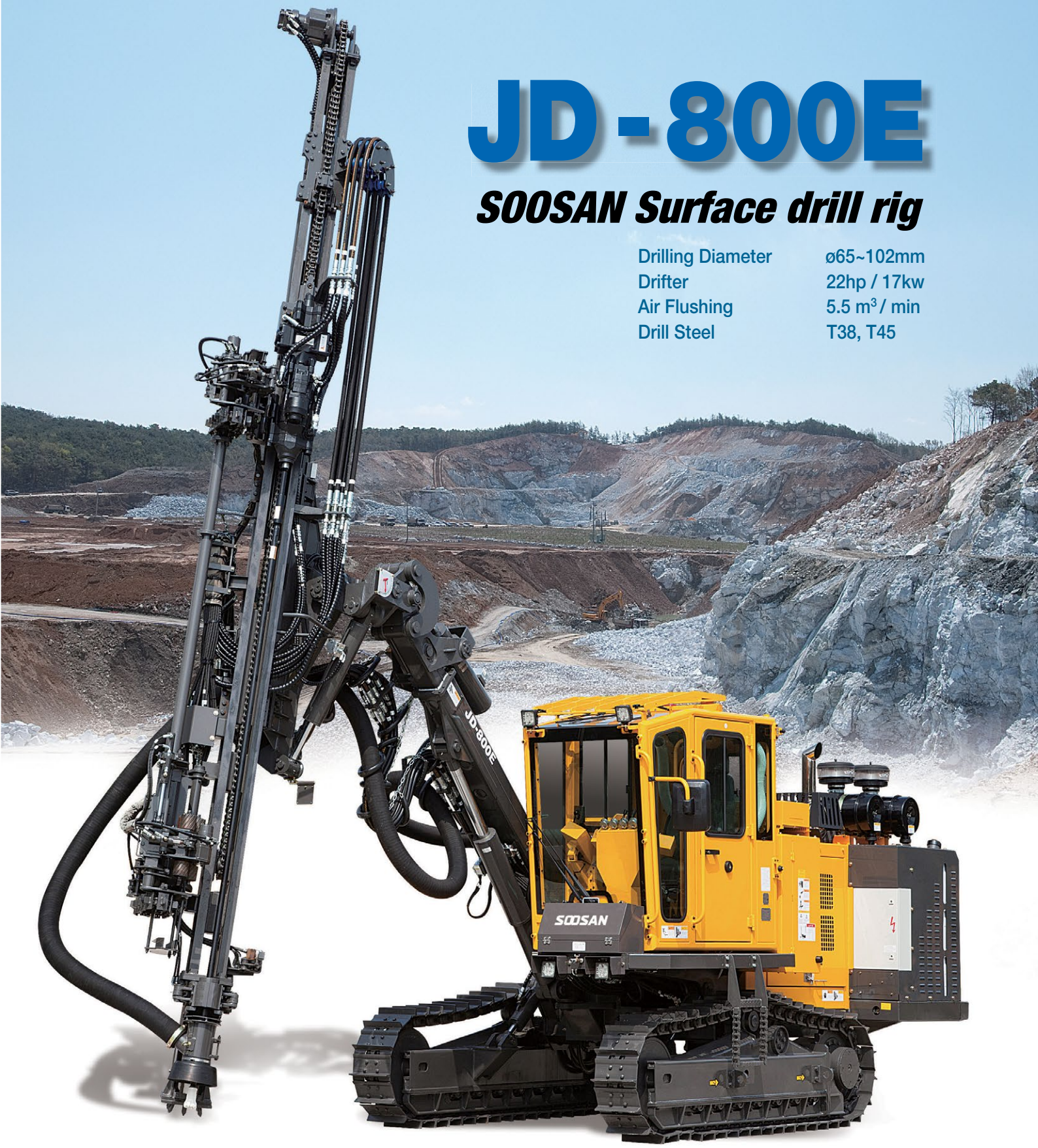
JMH EQUIPMENT
(PTY) LTD

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

Available in three sizes - SMP100, SMP200 and SMP300 - the range delivers production capacities from 40 to 100 tonnes per hour, with scalability for future growth.

MODULAR MUSCLE **FOR SMALL SAND PRODUCERS**

Small scale sand producers now have a cost effective, reliable and integrated solution to their production needs, taking the guesswork and risk out of daily operations. Pilot Crushtec has invested its decades of design and engineering experience into a range of dedicated, modular sand-making plants that give users the latest fit-for-purpose technology within a short lead time of just two months.

According to Francois Marias, Sales and Marketing Director at Pilot Crushtec, many smaller operators tend to make do with second-hand equipment, which is often not ideal for their application.

"Many operators put together the components - from crushers and screens to feeders and conveyors - but lose time and money during operations due to inefficiencies and unreliable performance," Marais says. "Alternatively, if they choose to go with a bespoke plant, tailored for their purposes, this comes at considerable cost and can take many months to design and manufacture."

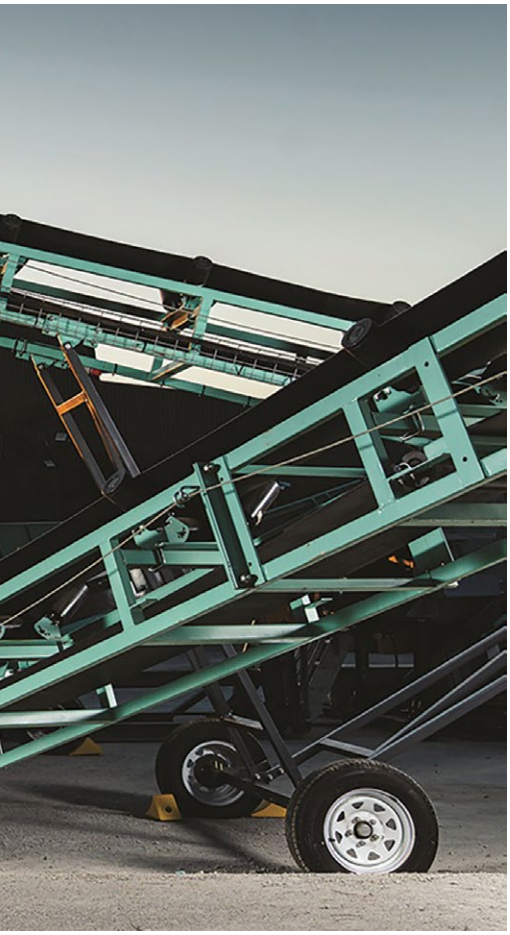
The Pilot Crushtec modular sand-making plants reduce risk by delivering a turnkey solution that is purpose-built for sand production. These plants have been designed as a complete ready to run solution. The major advantage lies in their convenience and cost effectiveness as they offer a fully integrated plant that dramatically reduces site preparation and set-up time.

"This makes for fast deployment, without compromising performance or reliability," Marais explains. "It's all about packaging the well-known components for the user's convenience and peace-of-mind."

This is central to Pilot Crushtec's modular approach, ensuring that all components fit seamlessly together and are ready to commission - with minimal site preparation costs. While a concrete base can be beneficial, these modules are skid mounted and designed to work on a flat level compacted surface. There is no need for added platforms, welding or extra items like chutes to be specially fitted on site.

"As a leading crushing and screening OEM in South Africa, we have been designing and manufacturing for more than 35 years, which means we have all the necessary in-house designs and engineering for this range," Marais explains. "This means that customers don't have to foot the bill for custom engineering – and this alone will save them on upfront capital expenditure and reduces the risk of budget overruns."

Being built from tried-and-tested well-engineered designs also ensures that these standard plants



SNAPSHOT

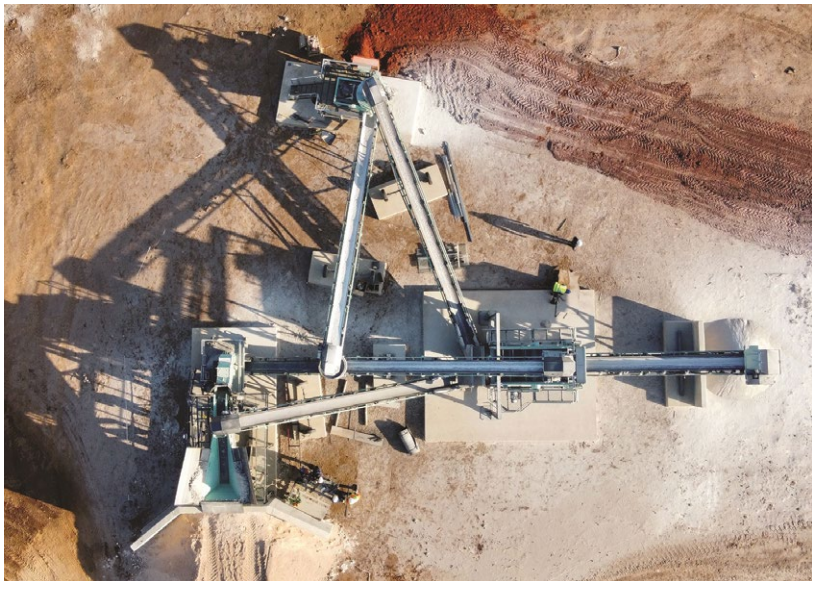
The Pilot Crushtec modular sand-making plants reduce risk by delivering a turnkey solution that is purpose-built for sand production.

Being built from tried-and-tested well-engineered designs also ensures that these standard plants are well proven in the field.

The smallest in the range is the SMP100 which can produce up to 40 tonnes per hour of minus 5 mm sand with a recirculating load capacity of 85 tph through the rotor.

The major advantage lies in their convenience and cost effectiveness as they offer a fully integrated plant that dramatically reduces site preparation and set-up time.

> **As a leading crushing and screening OEM in South Africa, we have been designing and manufacturing for more than 35 years, which means we have all the necessary in-house designs and engineering for this range.**



are well proven in the field. Refined over years to work seamlessly across various applications, they are less likely to experience unexpected breakdowns or operating inefficiencies.

"A standard plant also brings the benefit of having already been debugged and optimised, so you're starting with a solution that's less likely to have hidden flaws," he says. "This also simplifies the maintenance and support for the equipment, as parts are off-the-shelf and easier to source."

He emphasises that Pilot Crushtec's established support networks ensure that customers do not scramble to find parts or fix issues - which can be a risk especially on remote sites.

The sand-making plants come in three sizes. The smallest in the range is the SMP100 which can produce up to 40 tonnes per hour of minus 5 mm sand with a recirculating load capacity of 85 tph through the rotor. Next in the range is the SMP200, capable of producing up to 55 tph, while the SMP300 can produce 100 tph.

> **Investing in a turnkey solution like our sand-making plants removes the unknown operational elements for the customer allowing them to make reliable forecasts of their returns and expenses.**

"Our modular systems also have the advantage of scalability, which is ideal for those customers that will require increased capacity later," he says. "Our well-engineered modular systems allow you to add units or upgrade without overhauling the whole setup, making it easier to scale as your operation grows."

The sand-making plants are manufactured locally to the highest quality standards at Pilot Crushtec's modern ISO-accredited facilities in Jet Park, Johannesburg. Marais reiterates that the quality of this new equipment helps customers to mitigate risks that could undermine a project's viability or threaten their reputation in the market.

"Investing in a turnkey solution like our sand-making plants removes the unknown operational elements for the customers allowing them to make reliable forecasts of their returns and expenses," Marais concludes. ●

TERRASOURCE DEAL SUPERCHARGES VALUE FOR ASTEC CUSTOMERS

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.

Astec Industries has completed its acquisition of TerraSource Global ("TSG"). TSG offers renowned, long-established brands that include Gundlach Crushers, Jeffrey Rader, Pennsylvania Crusher Elgin, Tabor Vibratory Screens, Norris Screen, CMI and CSI. This investment delivers enhanced value and expanded solutions for Astec customers around the world, including in South Africa and across the continent.

TSG is a provider of precise, industry-leading equipment including crushers, feeders, separators, sizers, liquid and solid separation, dewatering and waste management solutions. The addition of TSG's technologies to Astec's portfolio boosts the group's capabilities in the aggregates, mining, power generation and industrial minerals sectors.

Expanding on the benefits for African customers, Astec chief technology officer Michael Rai Anderson says: "Africa remains a key market for Astec. The integration of TSG equipment will enable us to deliver an even broader range of world-class solutions in the region. Customers gain access to TSG's premier crushing, feeding and sizing systems, which complement Astec's existing aggregate and mining solutions."

Anderson adds, "In addition, the acquisition brings new product categories to Astec's portfolio, including specialised crushing and feeding systems for soft to medium-hard materials. TSG also introduces coal crushing, biomass and industrial material handling solutions that expand Astec's range beyond traditional aggregates."

TSG is a provider of precise, industry-leading equipment including crushers, feeders, separators, sizers, liquid and solid separation, dewatering and waste management solutions.

With TSG products, now fully backed by Astec South Africa's established infrastructure for sales, service and spare parts, customers will enjoy improved local support, Anderson notes. "The local availability of components and technical expertise enables faster turnaround and continuous operations, ensuring reduced lead times and increased uptime. The enhanced engineering collaboration means that customers will benefit from the combined R&D and technical innovation of both companies."

With Astec South Africa serving as the regional hub for all TSG sales, service and support, training programmes have been implemented for seamless integration and to ensure that Astec's local teams are fully certified on TSG's portfolio of technologies. Anderson says that further skills development, service centre expansion and job creation opportunities are expected as demand grows and additional capacity and personnel are needed in the region. "With TSG now part of the Astec family, we are ideally positioned to serve as a single-source provider for all crushing, screening, feeding and material handling solutions across Africa. We will ensure that customers have access to the best global solutions with local support." ●

Weir works closely with their customers to do formal assessments to reduce operating costs.

WEIR PARTS ENGINEERED FOR EFFICIENCY

Using genuine parts enables Weir customers to achieve higher equipment efficiency and extended lifespan, thanks to ongoing enhancements integrated into every component.

"With our continuous investment in research and development, along with our commitment to quality design and manufacturing, we ensure that customers benefit from improved energy efficiency and longer-lasting spare parts," says John West, Regional Manager Slurry Aftermarket at Weir. "In many cases, replacing an old generation part with a newly designed one actually enhances the overall performance and efficiency of the equipment."

West highlights that energy consumption represents an ongoing and significant portion of a pump's total lifecycle costs, yet many users remain focused solely on the purchase price of spare parts.

"Our global studies show that the capital cost of a pump and spare parts represents less than about 10% of its total cost of ownership (TCO) over its lifespan," says West. "Since energy accounts for nearly 60% of this lifetime cost, opting for a cheaper but less efficient pump can quickly lead to significantly higher operating expenses."

Weir not only guarantees that its spare parts meet world class design and manufacturing standards, but also fine-tunes their performance to help customers reduce energy consumption and operational costs. West says that this is done through correct equipment selection as well as on-site process fault finding. "In many non-OEM supplied pumps, manufacturing standards are not adhered to, which also presents potential safety risks to the customer," he says.

John West, Regional Manager Slurry Aftermarket at Weir.

"The OEM part incorporates all of

Original Weir parts boost the equipment's production capabilities and support smooth operation of the plant.

SNAPSHOT

The original parts also boost the equipment's production capabilities, supporting smooth operation and maximising uptime.

In many cases, replacing an old generation part with a newly designed one actually enhances the overall performance and efficiency of the equipment.

The efficiency benefits of OEM parts are even more significant in remote operations powered by diesel generators, where grid energy is unavailable.

OEM parts incorporate all of Weir's latest technological advancements, enhancing efficiency, optimising hydraulics and extending wear life.

our latest technological advancements; enhancing efficiency, optimising hydraulics and extending wear life," he says.

Precisely engineered to fit perfectly, the original parts also boost the equipment's production capabilities, supporting smooth operation and maximising uptime.

"The extended service intervals our parts provide contribute directly to the overall efficiency and profitability of our customers' operations," he explains. "They also help minimise the risk of unplanned downtime due to premature component failure."

He points out that users who source non-genuine replacement parts often overlook the significant costs associated with emergency repairs and unplanned production downtime. However, a growing number of customers are adopting a TCO approach, leveraging Weir's technical studies to identify more effective ways to reduce long-term operational expenses.

"Many of our larger customers ask us to carry out formal assessments to help reduce the operating costs of specific equipment," West explains. "In many cases, we collaborate directly with their dedicated reliability engineers. For smaller companies without such specialised roles, we step in with our expertise and insights to help lower running costs while enhancing both production efficiency and safety."

One such example was a tailings recovery plant in South Africa, where profitability was closely tied to controlling operational costs. The plant's owners sought to reduce their total equipment ownership costs by cutting downtime and energy usage. After discovering that replicator parts on the wet end of their Envirotech® Alpha D-Frame pumps were lasting only two months, Weir recommended upgrading to its Wear Resistance Technology - WRT® impeller and throatbush for improved durability and performance.

"These WRT parts are a great example of how advanced materials and enhanced hydraulic design can significantly improve efficiency, net positive suction head (NPSH) performance and wear life," he says. "In this particular application, the OEM parts lasted twice as long, reduced power consumption by drawing lower amperage and delivered a higher head."

West notes that Weir also provided a service technician to support the installation of the upgraded parts and deliver training on general maintenance. This collaboration with the OEM not only ensured proper implementation but also helped enhance the plant's skill base, contributing to improved equipment longevity and reliability.

"The efficiency benefits of OEM parts are even more significant in remote operations powered by diesel generators, where grid energy is unavailable," he notes. "In such cases, the high cost of energy can be substantially lowered by ensuring all equipment operates at peak efficiency."

Power consumption directly correlates with carbon emissions, which mining companies are increasingly required to reduce to meet their corporate sustainability targets, further underscoring the environmental value of using high-quality OEM parts. ●

The Sandvik UJ443E heavy jaw crushing plant demonstrates the latest fully electric track platform technology now being adopted by the global mining and aggregates sectors.

AFRICA'S FIRST **ELECTRIC SANDVIK CRUSHER ARRIVES**

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

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

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

By offering multiple energy pathways, the Sandvik UJ443E allows customers to adapt to site-specific conditions while preparing for the broader shift towards electrification in mining, quarrying and construction.

Benade notes that where reliable grid electricity is available, operators can also benefit from extended drivetrain service intervals, leading to reduced downtime and lower lifecycle costs.

Proven technology, new platform

Built on a fully electric track platform, the Sandvik UJ443E

This machine consumes about 90% less hydraulic fluid than its predecessors which means lower maintenance costs and a lighter environmental footprint.

Designed for lower emissions and operating costs, the Sandvik UJ443E can run directly from the electrical grid or switch to diesel or renewable HVO fuels when required.

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

SNAPSHOT

This is the first time Africa will see a Sandvik mobile plant built from the ground up on a fully electric track platform.

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

The arrival of the Sandvik UJ443E in Africa signals a turning point in mobile crushing technology on the continent.

This machine consumes about 90% less hydraulic fluid than its predecessors which means lower maintenance costs and a lighter environmental footprint.

is fitted with the proven CJ412 jaw crusher. This latest generation unit features smart technology for real-time performance monitoring and adjustment as well as an unblock facility that improves safety and reduces downtime. Other innovations include three-speed electric tracks for precise movement, a redesigned feed station with hydraulic tilt access for easier maintenance and a downstream 125 amp connection for integrating other electric equipment such as screening plants.

It also offers flexible configurations - from a vibrating grizzly feeder for clean rock to an under-screen option for fines removal."

Market preparation and support

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

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

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

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

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

CHARTING THE FUTURE OF **MILLING EFFICIENCY**

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

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

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

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

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

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

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

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

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

operators to think in small, precise corrections.

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

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

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

THINKING **OUTSIDE THE EXPLOSIVES BOX**

Conditions in Africa are often harsh and unforgiving, creating an environment more hostile to mining than most. When roads end, temperatures soar or plummet, and security risks escalate, extraordinary explosives storage solutions may be needed. By Johan von Landsberg, Technical Manager at Mining and Energy Acuity (MEA).

While the African mining landscape can be unpredictable, explosives management has to adhere to demanding safety and regulatory frameworks. People's lives and wellbeing, the safety of surrounding communities, project continuity, and the integrity of expensive goods are on the line.

However, sometimes tried-and-tested standard storage practices just don't cut it. Situations aren't always ideal – some mines have no choice but to operate close to urban centres, while others are located deep in the untamed African bush. Sometimes they're even located in conflict zones, where explosives are highly coveted for non-industrial means. In these types of situations, specialised explosives management solutions providers like Mining and Energy Acuity (MEA) are critical for keeping everything above the line and the supply chain flowing.

In these rarer but significant cases, operators must turn to atypical storage solutions designed to meet the demands of specific conditions under complex environmental and socio-economic circumstances.

Remote or inaccessible sites

For example, the further a project moves from established infra-structure, the harder it is to rely on centralised magazines. In regions like the DRC, central Mozambique, or northern Botswana, transport is often unpredictable and roads vanish into seasonal mud. In such conditions, explosives must often be stored closer to the workface to avoid costly stoppages.

Sometimes, especially with large projects, warehouses are warranted. But mostly, containerised or modular magazines, designed for mobility, are the only option. These units can be trucked in, dragged over rough terrain, or even flown in by helicopter.

Unlike fixed bunkers, mobile designs must combine portability with full regulatory safety features. MEA has extensive experience in transporting materials through

remote bush and erecting fully fit-for-purpose facilities in record time.

Harsh climatic conditions

Temperature and humidity are also concerns, as extremes can compromise explosives and create serious safety risks. In the Kalahari, heat can destabilise emulsions, while in tropical belts, rain and humidity can render ammonium nitrate prills unusable if stored poorly.

Containerised magazines therefore need enhanced insulation, double roof sheeting and ventilation units to allow fresh air circulation and temperature stabilisation, and continuous monitoring to ensure explosives remain stable under all conditions.

Dust, rain, and salt air can also damage storage units and packaging. To combat this issue, MEA's designs use corrosion-resistant materials, sealed joints, and drainage to ensure magazines stay safe, dry, and compliant.

These interventions are expensive but unavoidable. You can't store sensitive explosives in a tin structure facing 45-degree heat, or knee-deep in water. The solution must be engineered to keep conditions within safe thresholds, no matter how hostile the environment outside. That's why MEA designs magazines that are fit for purpose – reconnoitring sites to select the best location, and engineering drainage systems that safeguard against seasonal downpours.

Security risks and conflict zones

Security considerations are always front-of-mind when constructing and maintaining explosives storage units. However, the requirements are considerably more demanding in regions plagued by theft, sabotage, or armed conflict.

Solutions here may include hardened bunkers with multiple access controls, remote monitoring, and integration with military or police security systems. In volatile conditions, explosives may even be co-stored temporarily with state security forces to reduce vulnerability. Mining operations are generally underequipped to uphold these rigorous, expensive, and time intensive safeguards. MEA bridges this gap with portable magazines designed to resist forced entry, featuring locking mechanisms that remain secure even when tampered with.

Temporary or emergency storage

The mining industry is no stranger to disruption with border closures, port congestion, or labour strikes that halt the movement of explosives at the worst possible time. To prevent project delays, companies sometimes establish temporary or emergency storage facilities near worksites.

Portable magazines, containerised storage, or adapted facilities can all be utilised, provided they meet safety and regulatory standards. It's important to stress that, while temporary, these measures are no less rigorous.

A mobile magazine still carries the same risks as a permanent one. It must be engineered, inspected, and secured to the same standard, even if it only exists for a matter of weeks. This involves bringing in an experienced explosives solutions partner who will ensure no precautions are missed.

Every mine is unique. And while the rules don't change, the way you apply them sometimes must. The African environment demands a careful touch, adaptability, and some design creativity. Companies like MEA are tasked with ensuring explosives storage becomes one of the strongest links in the supply chain. ●

ALLIANCE OPTIMISES BLASTING WITH AI-DRIVEN INSIGHTS

Omnia Holdings company BME has strengthened its blasting software offering beyond its premium Blastmap™ blast planning platform through a new partnership with technology leader Strayos. This alliance brings together BME's blasting expertise and Strayos' advanced image processing and artificial intelligence (AI) capabilities, delivering enhanced functionality, precision, and next-generation software solutions to the mining industry.

XPLOSMART™, the new AI-enabled suite of software for integrated mine-to-mill solutions from BME will empower mines, quarries and construction companies with geospatial tools and AI-driven modelling across a single data platform, according to Nishen Hariparsad, BME General Manager for Technology and Marketing.

"This collaboration marks an important milestone for BME in strengthening our value proposition to customers," said Hariparsad. "With XPLOSMART™, we empower our customers and partners through streamlined workflows that integrate geospatial, time-series, and visual data with intelligent analytics. The result is powerful predictive insights, post-blast analysis, and optimisation across the mine-to-mill value chain — all while further enhancing safety and reducing risk."

He highlighted that the new system also provides more insight for customers, allowing them to define pain points in their operations, both upstream and downstream of the blasting circuit. With a footprint across over 5 000 sites and growing, the alliance with Strayos brings a proven track record and reputation for quality and a 24/7 customer service support network.

Best of both

"Our new premium software offering is aligned with BME's brand identity and reputation, ensuring that we leverage the 'best of both' technologies from a symbiotic relationship between BME and Strayos," he explained.

XPLOSMART™, powered by Strayos technology includes 3D photogrammetry, drone fragmentation, rock mass analysis and smart drill analytics, as well as geotechnical analysis and modelling. Hariparsad said that this enhances BME's offering as a future-fit, mine-to-mill solution with modular and integrated solutions underpinned by AI – extending our capabilities into ore body movement, haul-road intelligence, highwall safety and rock mass AI.

"Significant advantages can be gained within the comminution circuit, enabling mine-to-mill benefits to be realised," he said. "Each blast is designed to achieve the best outcome on the bench and downstream."

Customers have access to improved data, allowing them the opportunity to interrogate their benches from the perspective of geology, drilling, blasting, and mill throughput. Hariparsad noted that the benefit extends beyond financial performance to the ESG imperatives of customers – such as the wellbeing of communities and the environment.

Cutting edge innovation driving strategic global growth

"Automation integration is now possible with AI technologies, where doing more with less has always been the target," he said. "This has been achieved by pairing AI-enabled technologies with premium blasting solutions."

As a leader in the field of AI, Strayos continually invests and grows in this sector, which aligns with BME's value proposition of staying ahead of the innovation curve.

"This alliance presents an excellent strategic fit between our two companies, with significant growth opportunities through various streams," concluded Hariparsad. "These avenues include digitisation, digital twinning, AI-technologies, infrastructure optimisation, cost savings, improved efficiency, automation and others, that our customers will reap the benefits from. There is also scope in terms of our technical services and shared resourcing, providing a platform for continual innovation to expedite global growth and strategic expansion initiatives, adding to the excitement this alliance provides." ●

AECI'S BOOSTER TECHNOLOGY **IS REFRAMING MINING EXPLOSIVES**

Global mining audiences at the European Federation of Explosives Engineers (EFEE) conference were presented with an innovation that is shifting the way blasting is conducted worldwide: the elimination of TNT from explosive boosters.

Against a backdrop of tightening supply chains and rising safety expectations, a collaborative case study from South Africa demonstrated how alternative booster formulations are technically viable as well as safer, more sustainable and economically beneficial.

The supply of trinitrotoluene (TNT), a cornerstone of traditional booster formulations, has become increasingly constrained. Production is concentrated in regions such as China and Russia and geopolitical instability has placed commercial users in competition with defence sectors. Beyond supply, TNT and pentaerythritol tetranitrate (PETN) carry inherent risks in handling, storage and transportation.

The mining industry, long reliant on such materials, has been compelled to re-examine its dependence on volatile global supply chains.

Ritzema Nel, General Manager: Mining Explosives - South Africa, AECI Mining Explosives says engineers and scientists at AECI developed a two-component booster that contains no TNT or PETN. The system uses mostly local, inert materials that only become sensitive in their final combined state.

The benefits of this approach are enormous:

- Non-explosive inputs lower the probability of accidental detonation during shipping or storage
- By avoiding UN Class 1 classification, logistics are easier and less costly across air, road, and sea
- Local sourcing reduces carbon emissions associated with importing explosives, aligning with stricter climate regulations and ESG commitments
- On-site or near-site manufacturing opens pathways for local enterprise development and job creation.

Nel explains: "By moving away from TNT and PETN, we're reducing operational risk and opening the door to more sustainable and resilient supply chains."

Developing an alternative was only part of the challenge; proving its reliability under field conditions was equally critical. At a coal producer's South African opencast mines, blast hole temperatures can reach 120 °C, an environment in which conventional TNT-based boosters soften or degrade.

The new booster incorporates a thermally resilient shell that maintains structural integrity in hot-hole applications. Laboratory testing was followed by extensive field trials: more than 84 000 units were tested across African sites before full-scale commercial rollout. Since adoption, over 1,8 million boosters have been safely fired without incident.

Operational crews also reported strong acceptance of the design, noting practical features such as easy detonator placement and adaptability in varied blast configurations.

Nel says the innovation arrives at a critical time for global mining: "Supply chain disruptions, decarbonisation targets, and heightened ESG scrutiny are reshaping procurement and operational practices. By reducing reliance on restricted imported inputs and aligning with climate reporting frameworks, the TNT-free booster demonstrates how explosives technology can evolve in step with these broader pressures.

"Importantly, localised manufacturing not only improves flexibility and security of supply, but also creates measurable socioeconomic benefits through job creation and supplier development."

While explosives have historically been viewed through a narrow technical lens, the case presented in Kraków shows how rethinking their composition can have far-reaching effects. From reducing insurance premiums tied to risk exposure, to easing compliance burdens and lowering emissions, booster design now intersects directly with issues of competitiveness and sustainability.

"The interest we've seen reinforces that precision, safety and measurable return on investment are universal priorities in mining." ●

The CleanScrape® primary cleaner takes up less room and requires less maintenance than standard cleaners.

SERVICING **THE CONVEYOR CLEANING BLADE**

The need for conveyor belt cleaning is well established. Excessive fugitive material can reduce component and belt life by as much as 30%. A multiple belt cleaner system accounts for less than 5% of overall belt wear, providing a significant benefit. By Chris Schmelzer - Director of Conveyor Products - Martin Engineering

Effective monitoring and maintenance are crucial to conveyor safety. The buildup of carryback from inadequate belt cleaning can elevate the likelihood of workers accidentally getting injured by a moving belt during cleaning.

It may sound simple, but tuning a belt cleaning system to operate safely and effectively requires a significant amount of knowledge and skill. Some manufacturers offer factory-trained personnel and replacement parts to provide expert maintenance for optimal performance and longer component life.

Safe service

Regardless of the application, experts recommend two or more cleaners per discharge (primary, secondary, tertiary). In addition to providing better cleaning with multiple cleaners, redundancy can extend the service window. However, the blade composition must match the needs of the application.

A trained service technician understands the hazards associated with maintaining belt cleaners. Maintenance includes tensioner adjustments, removing buildup on the blade, cleaning spillage under the system, and replacing the worn blade. With only a few exceptions, all cleaner maintenance must be conducted following lockout, tagout, blockout, and test-out (LO/TO/BO/TO) procedures.

Reputable manufacturers design their cleaners and tensioners to achieve optimal cleaning performance relative to blade wear. It may seem counterintuitive, but if the cleaner isn't performing well, increasing cleaning pressure can actually exacerbate the problem. Maintenance personnel must understand these phenomena and know how and when to adjust each style of cleaner, adjusting blade materials and cleaning pressures for different seasons or ROM (run of mine) conditions.

One primary cleaner design called Cleanscrape® requires only initial tensioning and virtually no maintenance after installation. It features a matrix of tungsten carbide scrapers installed diagonally to create a 3-dimensional curve around the head pulley and typically provides up to four times the service life of urethane cleaners.

Inspection and monitoring

Monitoring systems can track component wear and notify the service technician and/or oper-

Chris Schmelzer has 21 years of service with Martin Engineering. Currently the Director of Conveyor Products, he began as a product specialist and has held roles of increasing responsibility in product management, product development, and project management within the company. Chris's international experience includes assignments in China and Mexico and he is bilingual in both English and Spanish. He holds BS and MBA degrees from Western Illinois University.

ations personnel via Wi-Fi or cellular service about upcoming service needs. The technology will also send an alert through a mobile app and computer dashboard in the event of any adverse conditions. This relieves staff from having to physically inspect multiple systems on a regular basis, freeing them to perform other essential tasks.

Conclusion

It is crucial to choose a supplier with trained and experienced service technicians who understand the equipment and safety procedures and can respond quickly to customer needs. Automated monitoring equipment alleviates some of the issues with blade wear and provides data and alerts when blades require servicing. Proactive maintenance reduces labour costs and enhances safety. Considering a managed service programme can boost productivity and lower the cost of operation. ●

SNAPSHOT

A belt cleaning system to operate safely and effectively requires a significant amount of knowledge and skill.

Regardless of the application, experts recommend two or more cleaners per discharge (primary, secondary, tertiary).

A trained service technician understands the hazards associated with maintaining belt cleaners.

It is crucial to choose a supplier with trained and experienced service technicians who understand the equipment and safety procedures and can respond quickly to customer needs.

GREENER ON THE GROUND: **BABCOCK LEADS THE CHARGE**

Crush It Green, a growing recycling and materials processing business in Gauteng, is living proof that environmental responsibility and commercial success can go hand in hand – especially when supported by the right machines and the right people.

Founded with a sustainability mission at its core, the company recycles construction and demolition waste, mine dumps, and legacy stockpiles that would otherwise end up in landfill. It's a business model built around circular economy thinking: reclaiming materials, reducing waste, and feeding value back into the construction sector.

When your business is built around uptime and output, machine choice matters

"We've tried other machines before," says Trevor Rodwell, Site Manager at Crush It Green, speaking from one of their active sites in Nigel. "But since switching to Volvo Construction Equipment through Babcock, the difference has been clear. Our operators love them, the machines are powerful and smooth, and we've seen a noticeable reduction in diesel consumption – which adds up fast across a fleet."

Beyond the machine: a partner in the trenches

For Crush It Green, what really sets Volvo – and by extension Babcock – apart, isn't just the equipment. It's the speed and consistency of the support.

"In this business, downtime is expensive. If one machine goes down, it can sideline multiple others. That's why Babcock's after-sales support is critical. When I phone with a breakdown, there's no long delay – I get a call back, a technician is dispatched, and parts arrive if needed. They understand how important it is to keep us running," Rodwell explains.

That responsiveness has helped build more than just operational resilience – it's fostered a relationship of trust.

"I've made real friendships in this business with the Babcock team. Whether it's sales, parts, service – everyone is efficient, friendly, and focused on solving problems. That attitude puts money in our pocket at the end of the day."

Operator-approved, performance proven

The people on the ground – operators and field teams – also feel the difference. "They constantly tell me how much they like the control panels, the machine response, the lack of power issues. Maintenance is easier too. They actually enjoy working with Volvo machines – and that matters," says Rodwell.

Operator-approved, performance proven

At present, Crush It Green operates a fleet of ten Volvo machines – a mix of Volvo EC220 and Volvo EC300 excavators, alongside five Volvo L120 wheel loaders. The excavators are used to dig and pick up raw material, feeding it into the crusher. Once the material is processed, it moves along a conveyor and is deposited into piles – where the wheel loaders take over, picking up the recycled aggregates and placing them into organised stockpiles ready for reuse or resale.

The EC220 and EC300 excavators are ideally suited to heavy-duty material handling and site prep work, offering a balance of reach, breakout force, and hydraulic precision. The EC300, in particular, delivers excellent lifting capacity and digging performance for tough applications like handling oversized rubble or dense material from old mine dumps. Both models are engineered for fuel efficiency,

helping to reduce consumption without compromising power – a benefit that aligns well with Crush It Green's focus on cost control and environmental responsibility.

The Volvo L120 wheel loaders, a staple in rehandling and stockpiling work, are valued for their smooth, responsive hydraulics and operator comfort. Their load-sensing hydraulics make material handling faster and more precise – critical in a high-output, recycling-intensive operation. The spacious cab and ergonomic controls have also been noted by operators for reducing fatigue during long shifts.

Fuel efficiency is another key benefit. With multiple machines running simultaneously, even a one-litre-per-hour improvement makes a measurable financial impact. "It's not just a nice-to-have – it's a real advantage," Rodwell notes.

Recycling in action

While the company hasn't yet formalised sustainability metrics, its entire model is built around environmental benefit. Many of its projects involve processing discarded concrete from other businesses, keeping waste out of landfill and turning it into usable material for new construction work. "We're not ticking boxes. We're actively diverting waste and giving it new life," says Rodwell.

Looking ahead: expansion and consolidation

Crush It Green has recently expanded its operations, investing in new machinery and tackling more sites. The focus now is on consolidation – maintaining standards, improving efficiencies, and growing sustainably.

"Babcock and Volvo are key to that journey. My only ask is: don't change. Keep treating breakdowns as urgent. Keep supporting us on the finance side when we invest in bigger equipment. And walk that road with us," says Rodwell.

His advice to other contractors?

"Volvo would always be my first choice. Not just because the machines are top quality – and they are – but because of the after-sales partnership. Babcock is a pleasure to deal with. We make money together. We break rocks together. We do what we do – together." ●

AUREX CONSTRUCTORS STRENGTHENS STRATEGIC FOCUS ON MINING INFRASTRUCTURE DELIVERY

With decades of experience in delivering complex industrial projects, Aurex Constructors continues to meet the evolving demands of a sector that remains central to the region's economic development. The company has reaffirmed its renewed strategic focus on its mining and metallurgy division, reinforcing its commitment to innovation, local empowerment, and operational excellence in Southern Africa's mining sector.

"Our business has a long and proud heritage in mining and metallurgy," says Stuart Kent, Chief Executive Officer at Aurex. "We understand the unique challenges of this sector, from logistical constraints to safety-critical environments and fluctuating market pressures. What truly differentiates us is our ability to think globally but execute locally. This balance between international best practice and deep regional understanding continues to drive our performance and the success of our projects."

Aurex's mining capability is underpinned by an integrated suite of construction, turnaround, and maintenance services that cover the full life cycle of mining infrastructure. These include procurement, construction management, project management and control, as well as SMEIPP (Structural, Mechanical, Electrical, Instrumentation, Piping, and Platework) installations. To support this strategic focus, Jakes Bosch has joined Aurex as Portfolio Manager for Mining and Metallurgy, bringing deep field experience and a track record of driving operational excellence across complex industrial environments.

Increasingly, these services are enhanced through the implementation of digital and technological solutions, ranging from advanced project control systems to data-driven maintenance planning, allowing the company to deliver projects with greater precision, efficiency, and transparency.

According to Clive Garner, Sector Director of Oil, Gas, Chemicals and Mining, this digital shift is not simply about technology adoption but about enhancing how mining projects are executed, bringing greater agility, precision, and foresight to every phase. Digital tools are now fundamental to how we manage complexity in the field. From real-time progress tracking and predictive maintenance to integrated

Stuart Kent, Chief Executive Officer at Aurex.

Clive Garner, Sector Director of Oil, Gas, Chemicals and Mining, at Aurex.

safety systems, these technologies allow us to anticipate challenges before they arise and make smarter, faster decisions. It is about bringing intelligence and agility into every stage of the project."

With mining infrastructure projects delivered across South Africa, Mozambique, Botswana, and Madagascar, Aurex brings unmatched regional expertise and technical depth. Their expertise spans a diverse range of commodities, including coal, graphite, nickel, and aluminium, demonstrating its ability to adapt to varied mining environments and deliver value across different markets.

A key pillar of the company's mining strategy is its emphasis on local content and community engagement. The company's projects are grounded in close collaboration with local stakeholders to ensure that operations deliver not only technical excellence but also tangible social and economic benefits. "We see ourselves as part of the communities we serve," adds Stuart. "Our goal is to create shared value through employment, supplier development, and skills transfer while ensuring that our projects contribute positively to the sustainability of the surrounding areas."

Safety and compliance remain non-negotiable across all the company's operations. Its track record in maintaining world-class safety standards is a result of its rigorous governance systems, continuous workforce training, and technology-enabled monitoring tools that ensure all activities are carried out within global best-practice frameworks. "Safety is built into our culture. It is not a metric but a mindset that informs how we plan, lead, and deliver every project."

Looking ahead, Aurex's long-term vision for its mining division is to continue driving excellence through innovation, partnership, and sustainability. "The future of mining infrastructure lies in adaptability, integrating digital systems, renewable energy, and advanced construction methods. Our aim is to remain at the forefront of that transformation, helping our clients build the next generation of mining infrastructure that is safer, smarter, and more sustainable."

Through its continued strategic focus, Aurex Constructors reaffirms its reputation as a trusted partner to the mining and metallurgy industry, one that combines technical expertise, digital capability, and a deep commitment to local empowerment to deliver mining infrastructure that performs, empowers, and endures. ●

WHY OUR MINES LOSE MILLIONS BETWEEN PLAN AND PRODUCTION

Every day in a mine begins with precision. Targets are set, crews are briefed and plans are mapped down to the minute: how many tonnes to move, which sections to drill or blast, which machines to deploy. Yet by the end of the day, the numbers don't always match the plan. A few late starts, a slow equipment change-out, a meeting that drags on…These small losses seem insignificant in isolation but add up over time, and could end up costing millions of rands. By Arjen de Bruin, Group CEO at OIM Consulting.

At OIM, we've spent more than a decade studying operational performance across mines in sub-Saharan Africa, both open pit and underground. By analysing more than 10 years of production data, we've traced the patterns that quietly drain output. The finding is clear: Africa's mines are not held back by geology or technology, but by how time is managed, prioritised and used. In that space between intention and execution, as much as 10% of planned output can disappear in a single shift.

The real losses happen between plan and pit

What's striking is that most of these losses are human, not mechanical. Supervisors and frontline leaders often spend more than half their day in meetings or dealing with unexpected problems, rather than leading their teams in the field. Time that should be spent planning,

> **Across the continent, mines invest heavily in advanced systems but often overlook the management practices that make those systems effective.**

checking progress or coaching is swallowed by administrative tasks. Meanwhile, contractors and site managers may be working to different priorities, pulling effort in conflicting directions.

In one operation we studied, crews were achieving less than 90% of planned tonnes even though there were no breakdowns or shortages. The issue wasn't equipment – it was leadership time. Once supervisors were coached to plan their day differently, set clearer priorities and spend more time with their teams, output jumped by double digits within weeks.

Stronger leadership habits can recover what systems can't

Across the continent, mines invest heavily in advanced systems but often overlook the management practices that make those systems effective. That principle underpins OIM's Coaching to Performance™ methodology: drawing on insights from more than 80 operations, we have developed an operational playbook that pinpoints the moments where leadership has the greatest impact – the pre-shift briefing, the in-shift follow-up and the post-shift review – and by refining these routines and reinforcing them through structured coaching, mines can reclaim the 5 to 10% of output that typically vanishes during execution.

We've seen the proof on site. In one large open pit mine, a daily control process reduced plan variance by 7% in just two months. In another underground operation, aligning contractor KPIs with mine priorities improved tonnage consistency by more than 12%. These gains didn't come from new machines or extra headcount. They came from sharper focus, better structure and leadership time spent where it matters most.

The data tells a clear story: Africa's mines have the capability to match and even surpass their global peers. What often holds them back isn't skill or technology but the consistency of daily execution. As we refine our operational playbook, one lesson becomes clear across every site we work with: lasting improvement comes from sharper management focus, not bigger systems. The next leap in African mining will come from the shift itself – from how leaders spend their time, guide their teams and turn daily plans into real results. ●

AFRIMAT CONSTRUCTION INDEX CONTINUES RECOVERY IN THIRD QUARTER OF 2025

The findings of the Afrimat Construction Index (ACI) for the third quarter of 2025 have been released, with an impressive double-digit quarter-on-quarter increase, representing a significant improvement over the second quarter results. This composite index of activity levels in the building and construction sectors is compiled every quarter by economist Dr Roelof Botha on behalf of Afrimat.

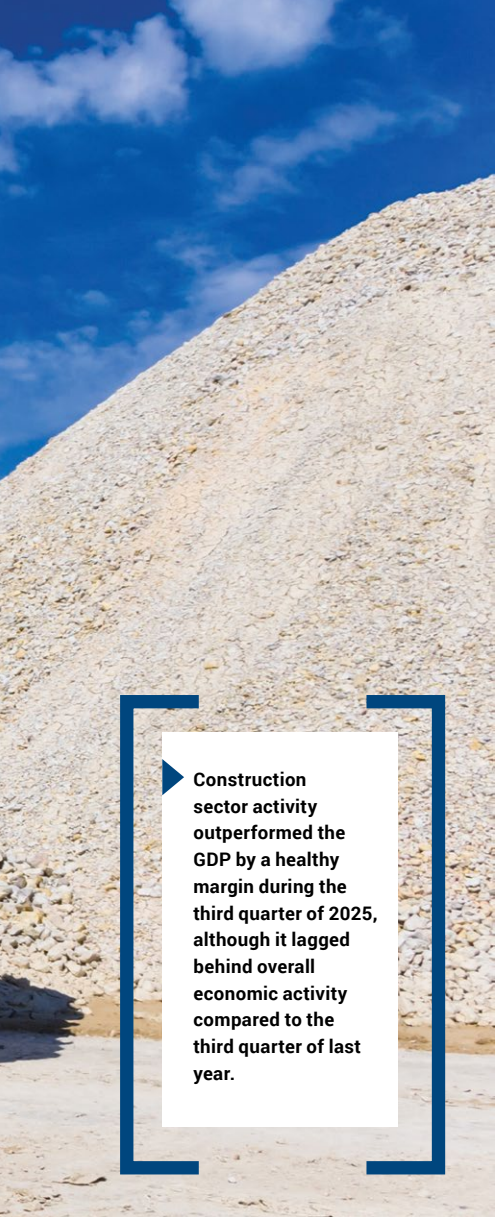
According to Dr Botha, arguably the most impressive aspect of the latest ACI is that the downward trend of the four-quarter average has been arrested, with a marginal uptick recorded.

"The majority of indicators recorded double-digit growth rates, whilst the volume of building materials produced enjoyed the second highest year-on-year increase and the third highest quarter-on-quarter increase."

He added that a further decline of 25 basis points in the prime overdraft rate during this period also played a role in the improvement of several indicators, especially in the values of building plans passed and retail trade sales of hardware.

Construction sector activity outperformed the GDP by a healthy margin during the third quarter of 2025, although it lagged behind overall economic activity compared to the third quarter of last year.

According to Botha, it is encouraging that only one of the 10 indicators failed to record quarter-on-quarter growth,



Construction sector activity outperformed the GDP by a healthy margin during the third quarter of 2025, although it lagged behind overall economic activity compared to the third quarter of last year.

% Change in the constituent indicators of the Afrimat Construction Index (quarter-on-quarter and year-on-year) - third quarter 2025		
Indicator	% q-o-q	% y-o-y
Retail Trade Sales – Hardware	7,7	7,7
Building Materials Produced (Volume)	13,6	5,4
Building Plans Passed (Value)	13,7	1,9
Building Materials (Sales)	11,9	1,6
Salaries & Wages – Construction	1,8	0,7
Employment In Construction	10,4	0,7
Construction Works (Value)	-1,8	-3
Construction Value Added	0	-4.,5
Wholesale Trade Sales – Construction Materials	10,4	-5,2
Buildings Completed (Value)	14,4	-5,3
Afrimat Construction Index	10,2	0,4
GDP	0,9	2,1
Note: Ranked by year-on-year % change		

Although the modest relaxation of monetary policy is to be welcomed, more interest rate cuts are required to bring the cost of capital in South Africa in line with our key trading partners.

namely the value of construction works (in real terms). "The lack of progress with capital formation in the economy, which is generally associated with a significant element of construction works, should be of concern to the Government, as the country is in dire need of repairs and expansion of infrastructure, especially roads, water, and sewage."

He added that it was, however, worth noting that South Africa's economic growth prospects have improved lately, mainly due to the lower interest rates and a large measure of fiscal stability. "The latter has been boosted by the performance of gold and platinum prices, which played a key role in securing a healthy cumulative trade surplus during the first ten months of the year."

Looking ahead, Dr Botha expects a further recovery in construction sector activity, especially due to the latest decrease in the prime overdraft rate to 10.25%. "Although the modest relaxation of monetary policy is to be welcomed, more interest rate cuts are required to bring the cost of capital in South Africa in line with our key trading partners."

Andries van Heerden, the CEO of Afrimat, says that the Group's acquisition of the Lafarge assets was a deliberate strategic move aimed at expanding its geographic footprint and securing access to well-designed, high-quality quarries. "While these assets experienced some neglect during the Competition Tribunal approval process, they are now beginning to deliver on the potential we originally identified."

Although the Government has yet to announce major infrastructure maintenance or new development projects, Afrimat is seeing tangible benefits from provincial and private sector spending across the country.

Van Heerden added that, in the quarry business, every ton sold contributes to overall performance, and that is exactly what Afrimat is now experiencing. "Even previously closed quarries, which we have successfully reopened, are now receiving meaningful orders, and margins are stabilising. This trend aligns with recent construction sector data reflected in the ACI and supports the recent upgrade of South Africa's credit rating."

What Afrimat is experiencing currently is very reassuring. "We attribute this progress to the commitment of provincial managers and leaders, as well as the private sector, who are actively working together to restore national pride and ensure that infrastructure operates effectively. We remain confident that collaboration between the public and private sectors will drive sustainable growth for all South Africans." ●

MENTAL HEALTH IN MINING

Mental health has come a long way in the past 20 years. Where mental illness was once hidden or frowned on, society now accepts it as a common and often treatable condition. By Reinette Lotz, Allied Services Manager at Platinum Health Medical Scheme.

Reinette Lotz, Allied Services Manager at Platinum Health Medical Scheme.

According to the WHO, in 2019, one in every eight people, or 970 million people around the world were living with a mental disorder, with anxiety and depressive disorders the most common. Left undiagnosed and untreated, mental health conditions can prove debilitating or could seriously impact personal lives and work.

Prioritising mental health support in mining operations – through awareness, counselling and access to care – is not only a moral imperative but a strategic investment in the sustainability of the workforce and the resilience of the communities that depend on them.

The importance of mental health is also emphasised in the National Mental Health Policy Framework and Strategic Plan 2023–2030 by the Department of Mineral and Petroleum Resources, as well as organised labour. The Department of Minerals and Petroleum Resources has also issued a directive to include regular mental health screening at occupational centres to ensure early detection. Interventions to improve the safety of women in mining are also among their 2034 milestones, as the industry strives to realise its ambition of Zero Harm to all.

Common mental health concerns in mining

The mining sector is characterised by high-stress and potentially hazardous environments that can take a toll on workers' mental wellbeing. Mine workers are often breadwinners in their households and their psychological wellbeing directly affects the stability of their families and the broader social fabric of their communities.

In the mining sector, much like in the broader population, the most common mental health issues we see are depression, substance abuse, anxiety and relationship problems. Coming to the fore in recent years are also issues like bullying, harassment and victimisation, while many may also suffer from grief, trauma or post-traumatic stress disorder (PTSD). A recent study in the South African Journal of Psychiatry assessed 927 mine workers and found that 31% experienced moderate to severe psychological distress — indicators consistent with symptoms of anxiety and depression. The research also highlighted a strong association between hazardous alcohol use and mental health distress.

It must be noted that an employee on treatment for a mental health condition is much less of a risk than an employee who has not been identified and treated.

Programmes (EAPs) provide access to counsellors 24 hours a day, seven days a week, making treatment convenient and accessible.

This growing awareness through the EAP campaigns could account for the fact that the bulk of our referrals are what we call self-referrals. People know where to access the service and patients would come and request assistance – both on the Scheme side, but also on the EAP programme side. Referrals also come from GPs at the mines, and from mine HR or management in cases where an employee exhibits problems with work performance, late coming or absenteeism.

Mental health treatment can be costly, so many medical schemes limit their benefits to only the prescribed minimum benefits, such as a 21-day in-hospital treatment or a 21-day programme in a rehab facility, or chronic conditions such as bipolar depression. When comparing mental health services, it's important to check if all mental health conditions are covered, and if patients can be treated on an outpatient basis. We find it is not always beneficial for patients to go to mental health institutions because of personality factors. In the mining environment, we seek alternative treatment options before hospital admission to help normalise the condition and remove the stigma of the patient being removed from their family and community for treatment. ●

It must be noted that an employee on treatment for a mental health condition is much less of a risk than an employee who has not been identified and treated.

TAKING CONSTRUCTION TO THE NEXT LEVEL.

269,000 net square meters of exhibits / 139,000 attendees / 2,000 exhibitors / 150 education sessions

CONEXPO CON/AGG

MARCH 3-7 / 2026 / LAS VEGAS / NEVADA

2023 Attendee Mike Simon, Dirt Perfect Excavation

No matter what sector of construction you're in, you'll leave CONEXPO-CON/AGG with new ideas, new relationships, and new opportunities to grow your business, and your place within the industry. This isn't just North America's largest construction trade show, it's taking construction to the next level.

LEARN MORE AT CONEXPOCONAGG.COM

Astec is a Global Leader in innovative equipment and solutions for mining, quarrying, rock bearing and material handling, offering high-performance machinery designed for durability, efficiency and sustainability to meet evolving needs of mining and industrial operations worldwide.

+27 11 820 7600
astecindustries.com

ASTEC®

BUILT TO CONNECT