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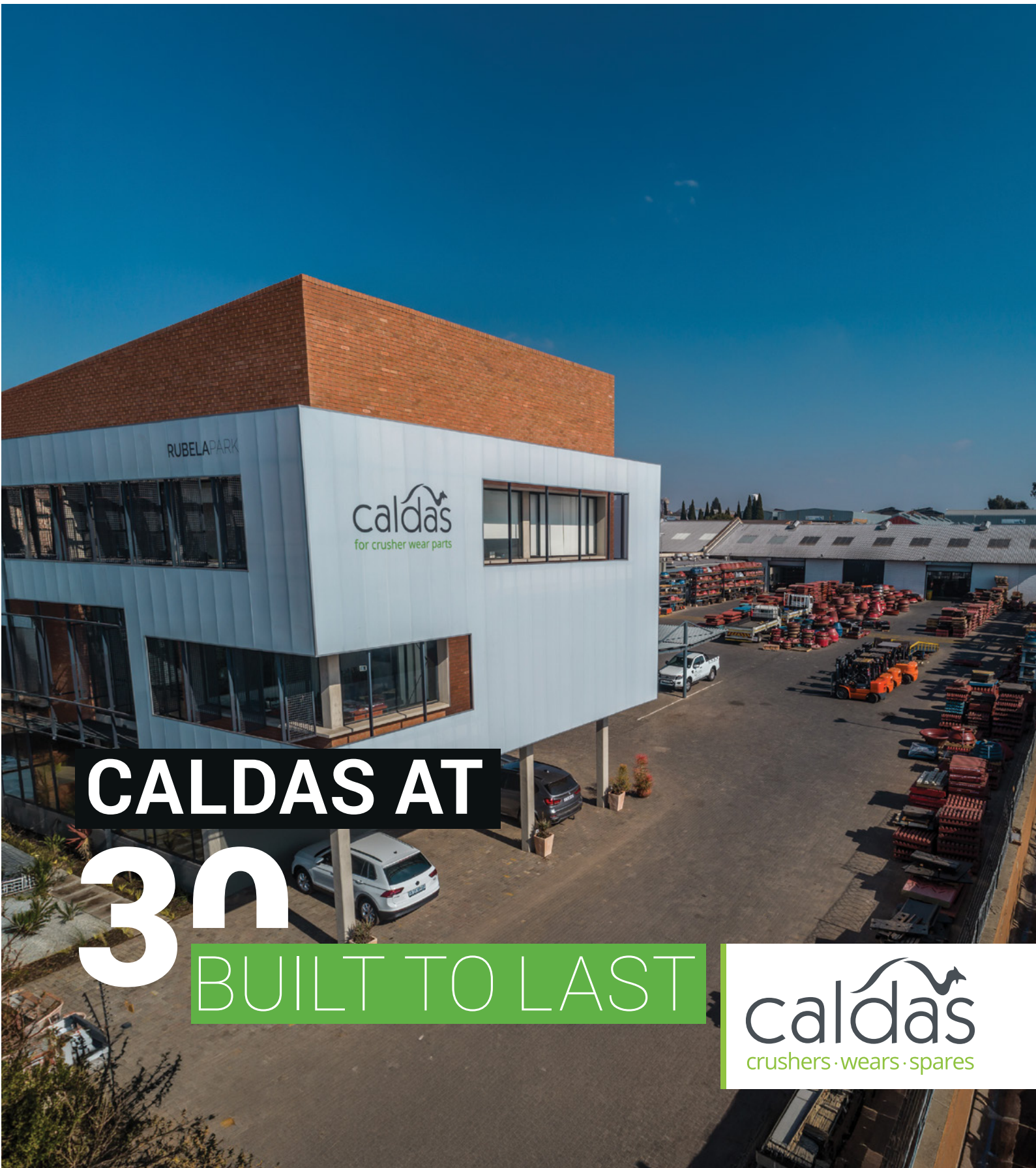

CALDAS AT 30

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QUARRYING **UNDER PRESSURE**

South Africa's quarrying sector remains fundamental to the country's infrastructure and industrial development, supplying the aggregates, sand and crushed stone required for roads, housing, water infrastructure, commercial construction and mining related projects. Yet despite the essential nature of these materials, the industry is operating in an increasingly challenging environment shaped by rising costs, logistics constraints, regulatory pressure and uncertain economic conditions.

Among the sector's most pressing concerns is the rising cost of energy. Quarrying operations rely heavily on power intensive processes including crushing, screening, washing and conveying material. While load shedding has eased compared to the severe disruptions experienced in recent years, electricity tariffs continue to increase well above inflation, placing sustained pressure on operating margins. Escalating diesel prices are adding further strain, particularly for mobile equipment fleets and transport operations.

Logistics remains another critical challenge. Aggregates are low margin, high volume products, making transport efficiency central to profitability. However, deteriorating road infrastructure, congestion on key freight corridors and rising transport costs continue to erode margins across the sector. Ongoing rail constraints have increased dependence on road haulage, with transport now representing one of the largest components of delivered aggregate costs in many regions.

The pace of infrastructure delivery also continues to influence market stability. Although government has repeatedly positioned infrastructure investment as a national priority, implementation delays, procurement bottlenecks and funding constraints have resulted in inconsistent demand patterns for construction materials producers.

There are, however, encouraging signs emerging across several sectors of the economy. Road rehabilitation programmes, renewable energy developments, water infrastructure upgrades and selected mining investments are beginning to stimulate renewed demand for aggregates and related materials. The expansion of wind and solar energy projects in particular is expected to create sustained opportunities for quarry operators supplying concrete stone, road base and other construction inputs required for large scale energy infrastructure.

At the same time, environmental compliance requirements are becoming increasingly significant operational considerations. Quarry operators face growing pressure to demonstrate responsible environmental management around dust suppression, water use, noise control and site rehabilitation. While these measures are essential for sustainable resource development, compliance costs continue to rise, particularly for smaller and mid-sized operators.

Illegal sand mining and unregulated aggregate extraction also remain persistent concerns in several parts of South Africa. Beyond environmental damage, these activities create unfair competition for compliant producers that invest heavily in licensing, environmental management and labour standards.

Capital investment decisions have meanwhile become more difficult in a high interest rate environment. Currency volatility and global supply chain pressures have increased the cost of imported equipment, spare parts and consumables, leading many operators to extend the life of existing plant rather than invest in new technologies.

Skills shortages further compound operational pressures, with experienced artisans, plant operators, engineers and maintenance specialists remaining in high demand across both the mining and construction sectors.

Despite these challenges, the long term outlook for South Africa's quarrying industry remains closely tied to the country's infrastructure ambitions. Demand for quality aggregates will remain essential to economic development, urban expansion and industrial growth. The operators best positioned for future success will likely be those able to improve efficiency, embrace technological innovation and adapt to a more demanding operating environment.

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COLLABORATION **IS THE CORNERSTONE OF LOCAL GROWTH**

The Investing in African Mining Indaba 2026 brought together key players to engage on the subjects most relevant to the future of the mining industry in Africa. By Shamiso Chideme (Head of Clients, Tshikululu Social Investments) and Richard Pfaff (Head of Social Impact, Tshikululu Social Investments)

Among other critical areas of discussion – from energy security to modernising the industry to Africa's strategic positioning – two key themes carried through the conversations: the need to prioritise inclusive local growth for sustainable economic development, and the role of collaboration in unlocking capital and ensuring shared benefit. Not only is each of these an important area of exploration, but they are interconnected. Collaboration is fundamental to the achievement of inclusive local growth.

Inclusive local economic development is necessary for the sustainability of mining communities and the wider economy. Conditions in many mining communities make it clear that efforts to develop local economies and create positive social impact are falling short: unemployment remains a dominant community pressure point, and energy and water insecurity, infrastructure backlogs and weak spatial planning are ongoing constraints. Jobs are not being created at the levels needed for the growth of local economies that are meaningfully independent from the mining value chain.

The Indaba recognised that transformative approaches are needed to achieve change. Community participation and provincial investment promotion, together with an enhanced understanding of domestic beneficiation, all form part of ensuring that mining drives domestic economic development. However, none of this can be accomplished in isolation. Reliance on discrete funding levers such as social and labour plan (SLP) commitments, corporate social investment (CSI) and other socio-economic development (SED) funds creates a fragmented and short-term approach to solving complex, long-term problems. Fragmentation is not effective: collaboration between business, government, civil society and communities is the only way to create change.

Collaboration has become a buzzword in social investment, but we need to move beyond talking about it and work together to coordinate resources. In our experience as Tshikululu, we have found a strong appetite among social investors to move from compliance-driven, siloed interventions toward a deliberate, collaborative approach.

We are already seeing examples of collaborative efforts with specific emphasis on investing in inclusive local growth. The Indaba highlighted the Impact Finance Network (IFN), through which Anglo American and its partners, Impact Capital Africa and Edge Growth, are identifying innovative, impactful businesses in the region and bringing together a network of investors seeking social investment opportunities. Taking a regional approach, Tshikululu has begun the internal process of working in partnership to define a long-term, structured collaboration model across mining houses with operations in the same district. These companies and their host communities share deep, systemic challenges that cannot be solved through isolated programmatic investments. Instead, we are working together to find collaborative solutions that can work at scale.

Collaboration is not easy, but it is necessary. Effective collaboration, especially when targeting issues on a scale as big as local economic development, relies on good governance and clear strategy. It requires all parties to align on shared outcomes, even while different pots of funding and diverse activities are deployed to achieve them.

Inclusive local economic development is a strategic imperative for South Africa, and especially for the mining industry. Everyone has a role to play, and collaborating strategically to achieve shared goals is the only way to succeed.

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Richard Pfaff - Head of Social Impact, Tshikululu Social Investments.

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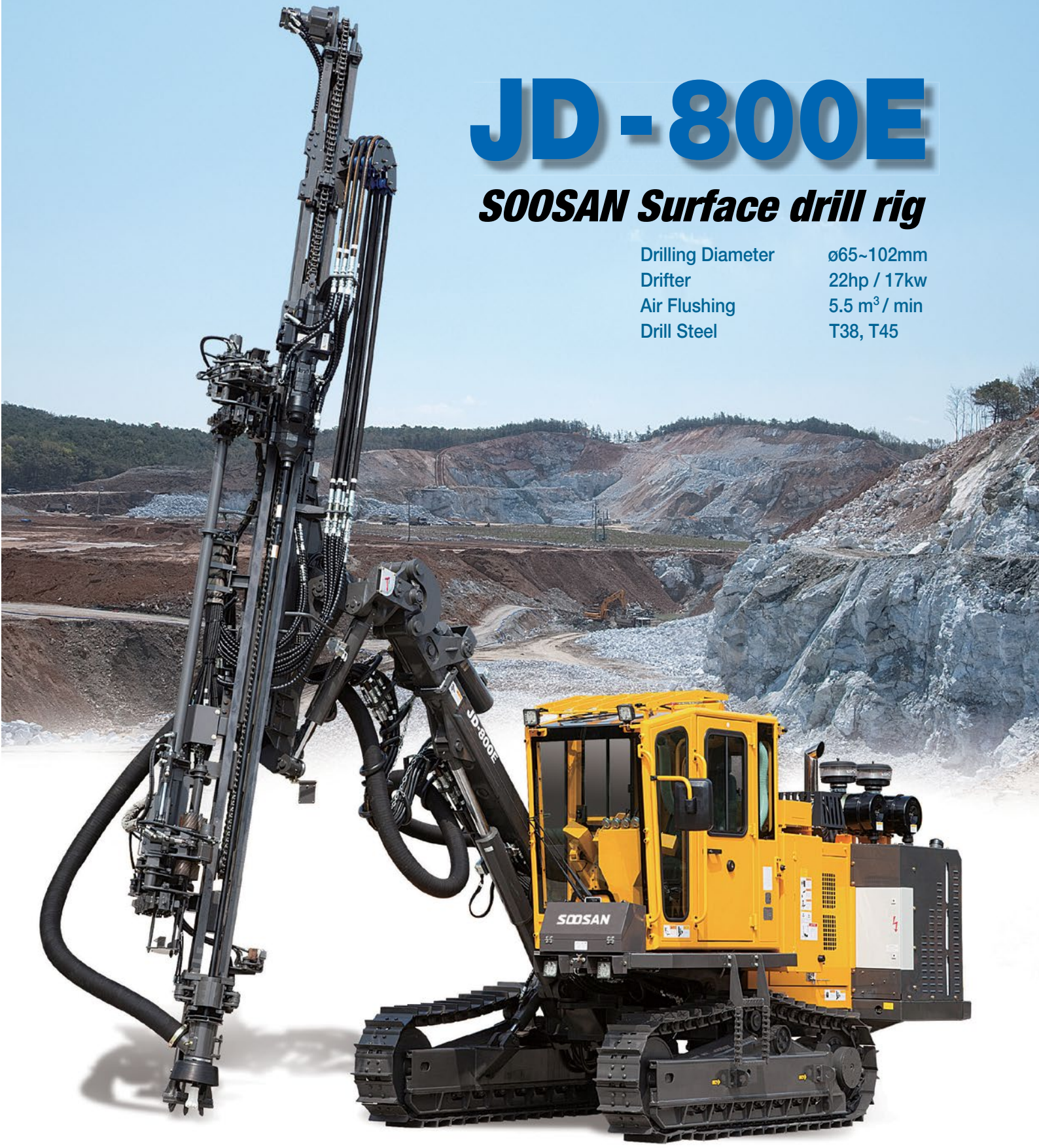

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LETISHA VAN DEN BERG **MAKES IQSA HISTORY**

In a landmark moment for South Africa's quarrying and surface mining sector, Letisha van den Berg has been elected as the first female chairperson of the Institute of Quarrying South Africa. Her appointment signals not only a shift in leadership, but a broader transformation within an industry traditionally dominated by men. Wilhelm du Plessis spoke to her at the IQSA conference in Durban.

Van den Berg, who also serves as Director of ASPASA, steps into the role with a clear and pragmatic vision: to elevate the IQSA to international standards while strengthening skills development across the sector. She has emphasised the importance of aligning South Africa with global best practices, particularly in formalising qualifications for surface mining professionals and building a stronger, more recognised professional pipeline.

Her predecessor, Jeremy Hunter-Smith, steered the IQSA through the difficult Covid-19 pandemic period and leaves the organisation in a strong position to move forward.

At the core of her leadership agenda is a focus on people. Van den Berg has repeatedly highlighted the urgent need to address skills shortages - not only in traditional trades, but also in emerging areas such as digital technologies, automation and data-driven operations. She believes the Institute must play a leading role in creating awareness at school level, opening pathways into mining careers, and supporting alternative qualification routes such as Recognition of Prior Learning (RPL).

Her dual leadership roles at IQSA and ASPASA position her uniquely to bridge the gap between individual professional development and industry-wide growth. "IQSA represents the individual, while ASPASA represents the company," she notes - an interplay she sees as essential for building a sustainable talent pipeline that feeds directly into the needs of the sector.

From left: ASPASA Chairman, Collin Ramukhubathi; outgoing IQSA Chairman Jeremy Hunter-Smith and the new Chairperson, Letisha van den Berg.

Van den Berg is equally candid about the challenges facing the industry. These include regulatory complexity, illegal mining, and the slow pace of permitting processes. Rather than simply criticising government, she advocates for collaborative, solution-driven engagement - such as adopting risk-based approaches to streamline approvals without compromising environmental standards.

Transformation is another key theme. While she acknowledges the growing presence of women in mining, Van den Berg broadens the conversation to include youth participation and opportunities for people with disabilities. For her, meaningful inclusion means diversifying decision-making spaces and expanding access across all levels of the industry.

Looking ahead, she sees significant opportunity in infrastructure development - provided that government unlocks supply chains and enables industry participation. At the same time, she is a strong proponent of ESG principles, particularly the practical use of data to

improve efficiency, reduce costs, and drive sustainability initiatives such as recycling and the circular economy.

Beyond policy and strategy, Van den Berg is also focused on strengthening the visibility and relevance of the Institute itself. She has pointed to the need for stronger regional engagement through hubs that can deliver training, mentorship and shared resources more efficiently. Such an approach, she argues, will not only reduce costs for operators but also create more consistent standards across the country.

She is also mindful of the role technology will play in shaping the future of quarrying. While advanced systems such as high-level automation and collision avoidance are often costly, Van den Berg advocates for a phased approach – encouraging the adoption of more accessible, entry-level technologies that can still deliver meaningful safety and productivity gains. This, coupled with targeted skills development, will ensure that both workers and operators are equipped to adapt to a rapidly evolving landscape.

Ultimately, Van den Berg's leadership marks a new chapter for the IQSA – one defined by inclusivity, skills development, and stronger industry alignment. Her appointment is not just symbolic; it reflects a sector evolving to meet the demands of a more complex, technologically advanced and socially conscious future. ●

THRIVING IN **UNCERTAINTY**

The Institute of Quarrying Southern Africa (IQSA), in conjunction with ASPASA, successfully hosted its 55th AGM Conference & Exhibition on 16 and 17 April 2026 in Durban, bringing together quarrying, mining and construction materials professionals from across Southern Africa and around the world.

International speakers from the Institute of Quarrying UK and Australia shared global perspectives, while local experts addressed the challenges and opportunities facing the South African quarrying sector.

Under the theme *Thriving in Uncertainty*, the event welcomed international delegates from the UK, Australia, Malaysia, New Zealand and Hong Kong, creating a valuable platform for knowledge sharing and industry collaboration.

The two-day programme featured keynote presentations, technical case studies, panel discussions and industry updates covering a broad range of topics, including operational excellence, crushing and screening, haul road maintenance, diesel rebates, illegal mining, legal liability, blasting technology and project sponsorship. International speakers from the Institute of Quarrying UK and Australia shared global perspectives, while local experts addressed the challenges and opportunities facing the South African quarrying sector.

The conference also showcased the latest products, technologies

and services through a vibrant exhibition, providing delegates with opportunities to engage directly with suppliers and solution providers. Networking events, including the industry awards dinner, celebrated excellence within the sector and reinforced the industry's commitment to safety, sustainability and innovation.

As market conditions, regulatory requirements and operational challenges continue to evolve, the conference highlighted the importance of adaptability, technical excellence and collaboration in ensuring the long-term success of the quarrying industry. ●

CALDAS AT 30: BUILT TO LAST

Thirty years is a milestone that naturally encourages reflection. For Caldas Engineering, however, it is less a celebration of the company itself and more an opportunity to acknowledge the people and industries that have allowed the business to grow and evolve over three decades. "No company reaches 30 years without the support of its customers, employees, suppliers and industry partners," says Michael Da Camara, COO of Caldas Engineering. "The trust that customers have placed in us over the years is something we never take for granted."

Founded in 1996, Caldas began with a clear objective: to provide reliable crusher wear parts and support to operators looking for a trusted alternative in the market. Although proudly South African, the business initially focused on exporting wear parts to customers around the world. As relationships developed and the company's reputation grew, South African operators began looking for the same support, responsiveness and technical expertise that international customers had come to expect. What followed was not the execution of a carefully crafted growth strategy, but rather a business evolving in response to customer needs.

"What started as a predominantly export-focused business gradually evolved into one serving customers throughout Southern Africa while continuing to support operations around the world," explains Da Camara. "That growth was never really driven by a plan to become bigger. It was driven by customers placing their trust in us and giving us the opportunity to support their operations."

Over the years, Caldas expanded its manufacturing capabilities, broadened its product range, and invested heavily in technical expertise and quality systems. Yet despite these developments, the company's philosophy has remained remarkably consistent.

"We've always believed that our role is to help customers succeed. The products are important, but they are ultimately a means to an end. What really matters is whether we are helping customers improve productivity, reduce downtime and operate more efficiently."

That philosophy has become increasingly important as the quarrying and crushing industries have evolved.

Thirty years ago, many operators were focused primarily on securing reliable supply. Today, they face a far more complex operating environment. Rising costs, increasing pressure on productivity, sustainability requirements and heightened competition mean customers are constantly looking for ways to do more with the resources they have available.

We've always believed that our role is to help customers succeed. The products are important, but they are ultimately a means to an end. What really matters is whether we are helping customers improve productivity, reduce downtime and operate more efficiently.

An industry transformed

The quarrying and aggregates sector of 2026 bears little resemblance to that of the mid-1990s. Increasing pressure to maximise productivity, reduce operating costs and improve sustainability has fundamentally changed customer expectations.

Today's operators are more data-driven and performance-focused than ever before. They expect suppliers to understand their operations and contribute meaningfully to plant efficiency and profitability.

"The industry today looks very different to what it did 30 years ago," says Rui Caldas, founder of the business in 1996. "Customers are looking for partners who understand their operations and can contribute to performance improvements, not simply sell a product."

For Caldas, adapting to these changing expectations has required continuous investment in product development, technical expertise and customer support capabilities. Listening to customers has become a defining aspect of the company's business philosophy.

"The common thread throughout the last 30 years has been listening. Our customers have largely shaped the evolution of our business."

SNAPSHOT

Founded in 1996, Caldas began with a clear objective: to provide reliable crusher wear parts and support to operators looking for a trusted alternative in the market.

Over the years, Caldas expanded its manufacturing capabilities, broadened its product range, and invested heavily in technical expertise and quality systems.

Increasing pressure to maximise productivity, reduce operating costs and improve sustainability has fundamentally changed customer expectations.

As Caldas looks towards the future, the company sees its 30th anniversary not as a destination, but as a foundation for continued growth and improvement.

Founded in 1996 and headed up by Rui Caldas, the company maintains an expert team with warehouse facilities in Johannesburg, Kwa-Zulu Natal as well as a soundly managed distribution network.

More than a parts supplier

For years, Caldas built its reputation around crusher wear parts and mechanical spares. Those products remain central to the business and continue to play a critical role in helping customers maximise plant availability and productivity. However, customer requirements have expanded, and so too has the company's offering. Today, Caldas supplies crusher assemblies, process equipment, modular crushing plants and screening solutions alongside its traditional wear parts and spares business.

The transition was a natural one

"For many years our role was helping customers keep their equipment running. Increasingly, customers began asking us to help them solve bigger operational challenges. Expanding into equipment solutions was simply the next step in supporting those customers."

This evolution reflects a broader belief within the company that success comes from understanding the customer's entire operation rather than focusing on individual components. Whether supplying a wear part that delivers longer service life, a critical spare that prevents unplanned downtime or a complete crushing solution that enables a customer to enter a new market, the objective remains the same: creating value for the customer. The company's expansion into modular crushing solutions is a particularly good example of this philosophy in action. Across Southern Africa, many operators are looking for practical, cost-effective ways to expand production, improve flexibility and enter new markets. Modular and mobile solutions provide opportunities to achieve these goals while reducing implementation times and capital risk.

"Customers are looking for equipment that is reliable, efficient and supported locally. They want solutions that help them grow their businesses with confidence. We see that as an opportunity to continue supporting customers in new ways. Customers will always remain at the heart of our offering," says Caldas.

Quality that performs in the field

While products and technologies continue to evolve, one area that remains unchanged is Caldas' commitment to quality. The company has invested significantly in manufacturing oversight, quality assurance systems, material development and operational feed-

back processes. Decades of field experience have provided valuable insights into how products perform under real operating conditions.

Every application teaches us something. The greatest classroom we have ever had is the field. The feedback we receive from customers continually helps us improve.

The importance of flexibility

The same principle applies to flexibility. No two operations are identical, and the ability to adapt solutions to suit specific customer requirements has become one of the company's greatest strengths.

Looking back, Da Camara believes one of the company's most significant achievements is not measured by turnover, market share or product range, but by the relationships it has built.

Perhaps the milestone we are most proud of is the number of customers who have remained with us for decades. In an industry built on trust, long-term relationships are the greatest measure of success."

The company is equally proud of the employees who have contributed to that success over the years. We have been fortunate to have dedicated people who genuinely care about our customers and our business. Many have devoted a significant part of their careers to Caldas, and their contribution cannot be overstated.

The future

As Caldas looks toward the future, the company sees its 30th anniversary not as a destination, but as a foundation for continued growth and improvement. The next decade will see further investment in people, engineering expertise, equipment solutions and technologies that help customers improve operational performance. Yet despite these developments, the company's guiding philosophy remains unchanged.

"Our vision is simple: continue earning the trust of our customers every day."

For a business that has spent three decades adapting to the needs of the industries it serves, that philosophy may well prove to be its greatest strength.

After all, the story of Caldas Engineering has never really been about products. It has always been about people, partnerships and a commitment to helping customers succeed. ●

CRUSHING TARGETS, NOT SAFETY STANDARDS

There are few aggregate operations in South Africa that combine production scale, technical sophistication and operational discipline as successfully as AfriSam's Peninsula Quarry. Situated approximately 25 km north of Cape Town in the Tygerberg Hills, the quarry has earned a reputation as one of the busiest and best-run aggregate operations in the country, supplying large volumes of material into the Western Cape's asphalt, ready-mix, building and civil construction sectors. Wilhelm du Plessis visited the site and experienced this premium quarry in operation.

Safety, operational discipline and continuous optimisation remain central to the way AfriSam manages every aspect of Peninsula Quarry's operations.

Despite the scale of the operation and the relentless demand placed on the site, Peninsula Quarry's defining characteristic is not simply its output. According to Works Manager Chris Kruger, the operation is built around a no-compromise philosophy when it comes to safety, environmental management and process optimisation.

"At Peninsula Quarry, production is important, but it can never come at the expense of safety or operational discipline," says Kruger. "Everything we do is measured against those standards." These principles are deeply integrated into the quarry's daily operations and influence everything from mine planning and traffic management through to crusher performance and water usage. For visitors to the quarry, the first impression is one of scale and organisation. The large open pit descends in wide, carefully engineered benches, while below, an extensive network of crushers, screens, conveyors and stockpiles operates in synchronised fashion to maintain production flow. However, behind the visible infrastructure lies an operation driven by meticulous planning, disciplined execution and continuous optimisation.

A quarry with a long history

Peninsula Quarry has been operating since 1963, following prospecting work carried out during the early 1960s on the farms Roozenboom, Welbeloond and Mont Blanc. Geological investigations identified significant deposits of hornfelsic quartzite and greywacke associated with the Malmesbury geological system. The quarry extracts what are referred to on site as "blue rock" and "brown rock", both of which are well suited for aggregate applications due to their hardness and durability.

Mining currently progresses in a southerly direction across 11 production benches, with the southern end of the pit reaching depths of approximately 110 m. Bench heights range between 10 m and 13 m, while some bench lengths extend up to 400 m. One of the operation's key design advantages is the long-bench layout, which allows both blue and brown rock to be mined simultaneously from the same bench.

"The bench layout gives us the flexibility to manage material flow far more efficiently," he explains. "It allows us to optimise blending while minimising unnecessary movement of equipment."

Large-scale production capability

Peninsula Quarry's installed crushing and screening infrastructure is designed to produce approximately 1,2 million tonnes of aggregate annually, placing it among the country's highest-volume hard-rock aggregate quarries. The operation runs multiple crushing circuits configured to maximise throughput while maintaining product quality and operational flexibility.

Primary Plant A consists of a 38/48 Osborn jaw crusher fed by apron feeder and supported by a Sandvik H6800 cone crusher. Material is delivered to the plant by 35 t articulated dump trucks operating at feed rates of approximately 450 t/h. Primary Plant B incorporates a 30/42 Osborn jaw crusher with vibrating grizzly feeder, together with a Sandvik CH440 cone crusher and a VSI crusher. Operating at feed rates of roughly 250 t/h to 275 t/h, this circuit produces a wide range of products including G1 to G7 layer-work materials, 20 mm concrete stone and road stone products.

The inclusion of the VSI crusher is particularly important for improving particle shape in concrete aggregate applications, where cubical stone plays a major role in achieving quality concrete performance. Further downstream, the tertiary plant includes multiple screens, Sandvik H4800 and H3800 cone crushers and a Barmac VSI crusher to produce aggregate fractions ranging from 7 mm through to 53 mm concrete stone.

Additional infrastructure includes a sand plant, washing plant and an onsite AfriSam ready-mix facility, all of which contribute towards improving product value and reducing waste.

Kruger notes that there are already plans under consideration to increase production capacity even further in response to

Peninsula Quarry's integrated approach to mining, crushing and material handling supports consistent production performance across its extensive aggregate operations.

AfriSam's Peninsula Quarry demonstrates how world-class aggregate production can successfully coexist with strong environmental performance, maintenance discipline and uncompromising safety standards.

SNAPSHOT

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Process simulation software, including AggFlow, is used to model production circuits and evaluate potential improvements before modifications are implemented in the plant.

Peninsula Quarry's carefully engineered bench layout supports efficient extraction of both blue rock and brown rock materials from the same production areas.

growing market demand. "The demand for quality aggregate in the Western Cape remains strong," he says. "We are evaluating additional modular plant solutions that will allow us to expand production capacity in a flexible and efficient manner as demand increases."

Optimisation begins at the blast face

According to Kruger, efficient production at Peninsula Quarry starts long before material reaches the crushing plant. "Drill-and-blast design is regarded as one of the most important aspects of the operation because fragmentation quality directly influences downstream crusher performance, wear rates, fuel consumption and plant throughput," he says.

The quarry uses 115 mm blast holes with burden and spacing parameters of approximately 3,9 m x 4,3 m and stemming lengths of 2,8 m. These blasting parameters have been refined over time to achieve optimal fragmentation for both primary crushing circuits. Oversized material can create bottlenecks throughout the processing chain, increasing wear on crushers and reducing overall efficiency. Maintaining consistent fragmentation therefore plays a major role in controlling operating costs and sustaining production levels. Kruger emphasised that Peninsula Quarry evaluates the entire production process as an integrated system rather than a series of separate activities. "What happens at the blast face ultimately affects every part of the plant downstream," he says. "If fragmentation is consistent, the entire process becomes more efficient and more predictable."

Technology driving productivity

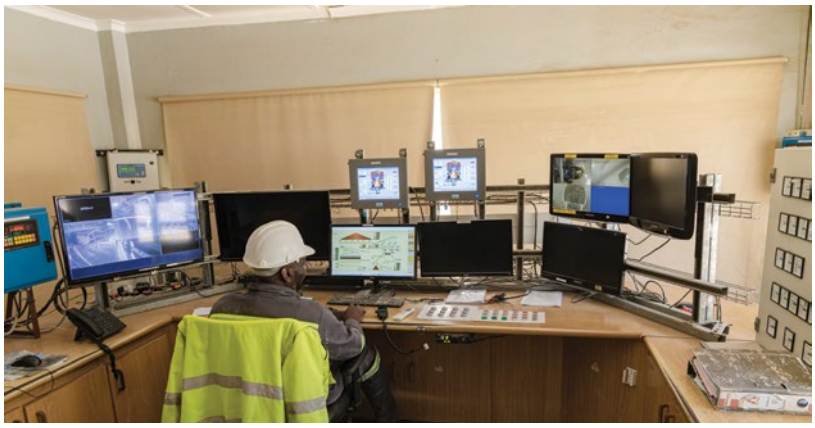
Technology and data-driven operational management play a major role in maintaining Peninsula Quarry's efficiencies. The operation continuously measures plant availability, throughput, payload performance and equipment turnaround times. Load-and-haul activities, drilling and blasting and product delivery are outsourced, but contractor performance is closely managed through service-level agreements and ongoing monitoring.

One of the more interesting operational controls is the quarry's strict fleet-age policy. Mining and dispatch equipment are generally not permitted to exceed 15 000 operating hours, ensuring high reliability levels while reducing downtime and maintenance risks.

Within the plant itself, optimisation efforts focus heavily on crusher closed-side settings (CSS), choke feeding conditions and screen media selection. Even relatively small changes in CSS can affect product grading, recirculating loads and throughput efficiency, making precise control essential for stable production. The quarry has also introduced split-bearing arrangements in key plant areas to reduce maintenance downtime. Unlike conventional bearings, split bearings simplify replacement procedures and minimise the amount of

> **Drill-and-blast design is regarded as one of the most important aspects of the operation because fragmentation quality directly influences downstream crusher performance, wear rates, fuel consumption and plant throughput.**

Wilhelm du Plessis, Editor of *Modern Quarrying* (left) and Works Manager, Chris Kruger.



Peninsula Quarry continuously monitors plant performance, throughput and equipment efficiency to support reliable, data-driven production management.

dismantling required during maintenance shutdowns.

Process simulation software, including AggFlow, is used to model production circuits and evaluate potential improvements before modifications are implemented in the plant. Additional technologies include high-efficiency electric motors and extensive camera installations on both earthmoving equipment and plant infrastructure to improve visibility, operational monitoring and safety performance.

Safety remains the overriding priority

Despite Peninsula Quarry's enormous production demands, safety remains the operation's central priority. Kruger describes the quarry's safety culture as uncompromising, particularly given the constant interaction between heavy mining equipment, contractors, plant personnel and dispatch traffic.

The operation has implemented extensive traffic management systems incorporating segregated pedestrian walkways, designated vehicle routes, controlled access points and clearly defined speed management measures. Behavioural safety initiatives form an equally important part of the quarry's approach. Toolbox talks, safety campaigns, safety coaching programmes and management visibility initiatives are used continuously to reinforce safe working practices and identify unsafe behaviour before incidents occur.

"A quarry environment is inherently high-risk, so there can never be complacency," says Kruger. "Safety awareness has to remain constant, whether you are in the pit, the plant or the dispatch area." The quarry's commitment to operational discipline extends beyond safety alone. Peninsula Quarry has achieved 100% compliance against its EMP audit requirements and received the ASPASA Environmental Award for best environmental performance at the Institute of Quarrying.

Environmental management integrated into operations

Environmental management at Peninsula Quarry is treated as a core operational function rather than a compliance exercise. The operation conducts continuous monitoring of dust fallout, water quality and boundary noise levels through formal monitoring programmes. Stormwater management infrastructure across the quarry includes diversion channels, catchment systems, settling dams and runoff control structures designed to minimise environmental impact both within and beyond the mining area. Water efficiency has become an increasingly important focus area, particularly following the severe Western Cape drought of 2017. During that period, Peninsula Quarry reduced municipal water consumption by approximately 85% by switching its ready-mix operations to the use of quarry pit water. Fuel, electricity and water consumption are all closely monitored as part of AfriSam's broader sustainability reporting structures.

Setting the benchmark

What ultimately distinguishes Peninsula Quarry is the consistency with which every part of the operation is managed. The quarry's ability to maintain exceptionally high production volumes while simultaneously focusing on safety, environmental stewardship, maintenance discipline and technical optimisation reflects a level of operational maturity developed over decades.

For Kruger and his team, success is not measured only in tonnes produced, but in the ability to achieve those volumes safely, efficiently and responsibly. In an industry where production pressure often challenges operational discipline, AfriSam's Peninsula Quarry continues to demonstrate that world-class aggregate production and uncompromising operational standards can successfully coexist. ●

BALANCING GEOLOGY **AND PRODUCTION**

Situated near Malmesbury in the Western Cape, AfriSam's Rheebok Quarry has established itself as one of the region's key aggregate suppliers, producing high-quality crushed granite for major road-building and infrastructure projects throughout the province. Under the leadership of Acting Quarry Manager Luca Clayton, the operation has evolved into a technically focused quarry that combines high production volumes with carefully controlled mining and processing methodologies designed specifically around the challenges of an exceptionally competent granite resource. Wilhelm du Plessis visited this quarry.

Clayton, who has spent close to three decades within the business, brings extensive operational experience to the role. Having progressed from assistant roles through maintenance, electrical work, production supervision and operational management, he possesses a strong understanding of both the mechanical and production aspects of quarrying operations.

High-demand operation supporting regional infrastructure

Rheebok Quarry traditionally produces between 250 000 t and 300 000 t of aggregate annually which includes stone, crusher sand, base, sub-base, roadstone and ballast. However, the acceleration of infrastructure activity in the Western Cape - particularly around the Malmesbury bypass and N7 upgrades - resulted in unprecedented demand during 2025. According to Clayton, the quarry exceeded 700 000 t of sales during the year, forcing the operation to move onto continuous 24-hour production schedules over four-day operating cycles in order to satisfy customer requirements.

The operation supplies material into municipal infrastructure projects as well as major

SNAPSHOT

Rheebok Quarry traditionally produces between 250 000 t and 300 000 t of aggregate annually which includes stone, crusher sand, base, sub-base, roadstone and ballast.

Rheebok currently operates two hydraulic peckers dedicated to reducing oversized material after blasting.

Blasting at Rheebok requires particularly careful engineering due to both the geology and the quarry's proximity to surrounding infrastructure and communities.

Drone-assisted survey technology has become increasingly important in this process. Rheebok uses drone mapping and photogrammetry software to conduct volumetric surveys, monitor pit progression and improve stockpile management accuracy.

SANRAL-linked road developments. The abrasive granite produced at Rheebok is particularly well suited to road construction applications because of its durability, hardness and resistance to wear.

Recent reserve evaluations indicate that the quarry retains a minimum life-of-mine estimate of approximately 30 years, with the possibility of significantly extending this as additional reserves are opened and future mining areas are developed.

Extremely competent granite creates fragmentation challenges

The defining technical characteristic of Rheebok Quarry is the nature of its granite deposit. While the rock produces excellent aggregate products, it is extremely competent and resistant to fragmentation during blasting.

This creates one of the quarry's most significant operational constraints. Even with carefully designed blast patterns and initiation systems, the granite frequently produces oversized boulders that cannot be handled efficiently by the primary crushing circuit without additional secondary breaking.

As a result, secondary rock breaking has become a permanent and essential component of the operation rather than an occasional support activity.

Rheebok currently operates two hydraulic peckers dedicated to reducing oversized material after blasting. These machines work continuously on blasted rock piles, breaking large boulders into sizes suitable for loading and primary crushing.

The presence of the two peckers is not simply a convenience but a production necessity. Without them, excessive oversize material would soon create bottlenecks in the load-and-haul cycle, restrict crusher feed consistency and significantly reduce plant throughput.

"The fragmentation is the biggest challenge," explains Clayton. "Because of the type of granite, the blasts generate large boulders and the peckers therefore become critical to the operation."

Balancing blast performance and environmental control

Blasting at Rheebok requires particularly careful engineering due to both the geology and the quarry's proximity to surrounding infrastructure and communities.

The operation cannot simply increase powder factors aggressively in an attempt to improve fragmentation because vibration control remains a critical consideration. Blast designs therefore need to strike a balance between sufficient

Carefully engineered mining and processing methodologies allow Rheebok Quarry to efficiently manage an exceptionally competent granite resource.

Secondary rock breaking plays a critical role at Rheebok Quarry to manage oversized blasted material and maintain efficient plant throughput.

Rheebok Quarry supplies high quality crushed granite into major road-building and infrastructure projects across the Western Cape.

energy distribution for acceptable fragmentation and controlled ground vibration levels that remain within regulatory and operational limits.

Electronic initiation systems and carefully sequenced blast timing are used to optimise energy release and improve fragmentation consistency where possible. Even with refined blasting practices, the granite's natural competency still results in substantial secondary breaking requirements.

The quarry's drill-and-blast contractor works closely with site management to continuously refine blast designs based on observed fragmentation performance, bench conditions and downstream plant requirements.

Pit development and mining strategy

Current mining activities focus heavily on opening new working areas and exposing additional reserves for future extraction.

According to Clayton, one of the operation's ongoing challenges is maintaining sufficient open working faces while simultaneously managing the large volumes of oversize blasted material generated during mining.

Bench development requires continuous stripping, scaling and selective loading practices. In many areas,

Integrated camera technology at Rheebok Quarry assists with monitoring operational areas, enhancing both safety management and production visibility.

Strong operational discipline, continuous supervisory engagement and a safety-focused culture underpin daily activities at Rheebok Quarry.

oversized granite blocks must first be reduced by peckers before material can even be removed from the active mining zone.

The operation is also strategically pushing back selected pit sections in order to create improved access to deeper reserves and establish more efficient long-term mining layouts. These pushbacks are important not only for reserve access but also for improving operational flexibility and reducing congestion in active mining areas.

Drone-assisted survey technology has become increasingly important in this process. Rheebok uses drone mapping and photogrammetry software to conduct volumetric surveys, monitor pit progression and improve stockpile management accuracy.

Compared with conventional survey techniques, drone technology has significantly reduced the time required for volume calculations and mine planning updates while improving data accuracy.

Crushing circuit under pressure

The granite's abrasive nature places continuous pressure on the crushing and screening plant.

Wear rates on liners, crusher components and screen media are naturally higher than at operations processing softer rock types, requiring ongoing maintenance attention and disciplined shutdown planning. Clayton says that recent plant upgrades have focused on maintaining throughput reliability while improving maintenance efficiency.

The quarry recently replaced sections of its wash plant and continues evaluating additional crushing circuit improvements aimed at increasing throughput and product flexibility.

Feed consistency remains particularly important because irregular feed sizes from oversized blasted rock can destabilise crusher performance and reduce plant efficiency. The peckers therefore play a major role not only in reducing oversize but also in maintaining more consistent crusher feed gradation.

Production growth supported by operational discipline

While Rheebok has experienced significant production growth, Clayton emphasises that operational discipline and safety management remain non-negotiable priorities.

Daily toolbox talks, production meetings, shift handovers and continuous supervisory engagement form part of the quarry's operational culture.

Camera systems installed on equipment and within operational areas have also improved operator awareness and machine monitoring, contributing to both production efficiency and safety management.

As Rheebok Quarry continues expanding its mining areas and refining its production systems, the operation remains a strong example of how technical adaptation and disciplined quarry management can overcome difficult geological conditions.

At Rheebok, productivity is not achieved through easy mining conditions, but through engineering solutions that allow a highly competent granite resource to be mined, processed and supplied efficiently into one of South Africa's busiest construction markets. ●

Astec-Telestack equipment is used for stockpiling and linking in quarries around the world.

THE RISE OF MULTIFUNCTION MACHINES IN QUARRYING

In an operating environment marked by rising input costs, tighter margins and increasing pressure to do more with less, quarry operators are rethinking their equipment strategy.

There is a noticeable shift from single-purpose machines to versatile, multifunctional solutions, according to Andre Kruger, Astec Industries regional product and sales manager. He reports increasing demand from the local aggregate sector for Astec-Telestack's range of bulk material handling systems and Rock Breaker Technology's Astec-BTI hydraulic breakers and boom systems.

These renowned, high-performance brands, both of which are supplied and serviced in South Africa and across the African continent by Astec Industries, are helping astute producers to keep their costs down and productivity up, Kruger states. Astec-Telestack products deliver enhanced flexibility and efficiency in handling dry bulk material, whether from the pit, the port or plant. Rock Breaker Technology is a leading provider of Astec-BTI hydraulic rockbreakers, boom systems and demolition attachments.

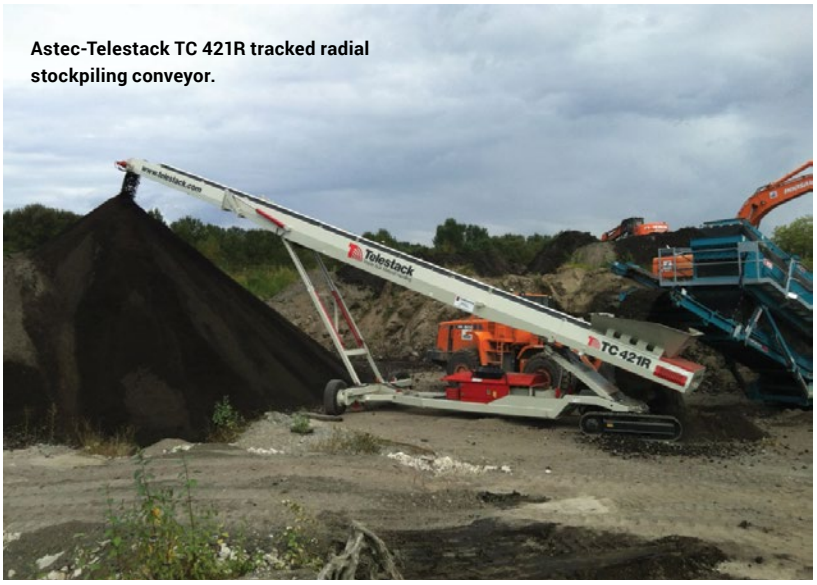
"By replacing traditional fixed infrastructure with mobile, high-capacity and versatile bulk material handling systems from Astec-Telestack, customers can reduce operational costs by up to 80% in some applications, maximise production rates and reap the benefits of superior flexibility. Astec-Telestack's tracked, wheeled and rail-mounted conveyors, hoppers and stackers allow operators to move from pit-to-port, often eliminating the need for wheel loaders and trucks.

"Astec-Telestack equipment is used for stockpiling and linking in quarries around the world, handling an array of materials from road base to limestone. All these quarries recognise the many benefits of Astec-Telestack products, including eliminating the need for front end loaders on the site – along with their labour, fuel and maintenance costs. The double handling of the material is reduced and productivity increased. With Astec-Telestack products, different grades or material can be moved and stockpiled quickly and efficiently."

Astec-BTI rock breaker systems increase quarries' throughput and improve safety. Kruger expands: "By reducing material to the correct size and reducing material blockages efficiently, Astec-BTI rock breakers reduce crusher downtime and increase overall plant productivity. Safety is improved because these systems eliminate the need for secondary blasting and reduce the need for manual handling of rock by operators."

Astec-Telestack radial telescopic stackers – like the AggStack TS 36 X 140 and the RSL30 fixed radial stacker – offer one of the most cost efficient and effective ways of stockpiling material on the market, Kruger states. "The AggStack unit has a production capacity of 800 mtph

Astec-BTI rock breaker systems increase throughput and improve safety.



Astec-Telestack TC 421R tracked radial stockpiling conveyor.

while the RSL30 delivers 450 mtph. The reduction of segregation, degradation, contamination and compaction when stockpiling with this equipment ensures 'in specification' material for any application. They offer 30% more stockpile capacity on the same footprint compared to standard stackers."

Available as tracked or wheeled units, with automation, dust suppression and independent power options, Astec-Telestack stackers can be used in mobile or fixed crushing and screening operations. A further benefit of Astec-Telestack's radial telescopic stackers is that they minimise the need for wheel loaders. This translates into less site traffic, lower emissions and substantial savings on fuel and labour. The automated stockpiling option cuts staffing requirements, further reducing costs.

Astec-Telestack offers the widest range of mobile conveyors in the industry. Machines like the Astec-Telestack TC 424XR Radial Mobile Conveyor and Feeder – which boasts a 450 mtph capacity - are designed for flexibility and can be deployed quickly across different site locations.

Astec-Telestack's Origin Wheeled conveyor range - which includes the C2000 - offers affordable wheeled stackers combined with the proven Astec-Telestack quality. Suited for short to medium term, highly mobile applications, the C2000's versatility and portability ensure that it can meet the needs of any stockpiling application, especially in confined areas. It is particularly suited to applications where movements are frequent. Featuring a radial ability from pinned base, it offers superior stockpiling capabilities compared to other, conical stockpilers.

Engineered for surface and underground mining as well as aggregate, construction and demolition applications, Astec-BTI breakers are renowned for their reliability and design simplicity. "The simple construction of the breakers ensures reliability and low maintenance, which make them ideal for quarries striving to manage costs. Simplicity of design is, in fact, a key element of the Astec-BTI breaker system," Kruger notes. "The breaker's control valve also features a simple design to minimise cavitation, thereby reducing hydraulic component wear and increasing the efficiency and lifespan," he adds.

Another noteworthy feature is the excellent power-to-weight ratio. "This offers significant benefits to customers, since larger, more powerful hammers can be mounted on smaller excavators or boom systems, resulting in reduced overall cost to the end user," states Kruger.

Standard features on all models include a nitrogen cushion chamber designed to absorb piston recoil and recycle the energy to increase the output energy on the next blow, dual retainer pins to ensure positive tool alignment and easy tool replacement, short tie rods that utilise protected threads to yield long life and high reliability, and a protected lubrication point.

Kruger says that mobile and fixed hydraulic rock breakers are increasingly being used for reducing oversize material, rather than secondary blasting. "Astec-BTI's Rock Breaker Systems minimise disruptive, costly and unsafe blasting, providing an efficient, safer alternative," he says. "Rock breakers provide for selective breaking, as opposed to the indiscriminate nature of blasting," he adds. "This can improve material grades, which boosts sales revenue."

The Astec-BTI CX, BX and BXR range of rock breakers offer 14 models, from 550 joules to 21 500 joules energy class, with most also available in box-style configurations.

Local customers purchasing Astec-Telestack and Astec-BTI equipment through Astec Industries in South Africa can have peace of mind knowing that it comes with Astec's 24/7 after-sales service, back-up and spares, Kruger says. "We have local engineers dedicated to these product ranges. They will assemble and commission a customer's machine, offer operator training, service and back-up. We also hold spares, to minimise downtime and ensure that our customers can be back in business as quickly as possible. In addition, Astec engineers are able to undertake on-site repairs," he concludes. ●

A rebuilt exciter is ready for dispatch from Sandvik Rock Processing to the customer following final inspection and approval.

IN-HOUSE EXCITER REPAIR EXTENDS SANDVIK SCREEN LIFE

Keeping screens productive and reliable is vital to mineral processing. To support this, Sandvik Rock Processing operates a dedicated Exciter Repair and Refurbishment Facility that ensures the highest standards are applied to maximise screen uptime and performance.

According to Sydney Baloyi, Aftermarket Manager for Screening Solutions (Africa) at Sandvik Rock Processing, the facility plays a strategic role in supporting customers throughout the operational life of their screening equipment. Its specialist capability is designed to restore key vibratory components to OEM specifications, while reducing downtime and total cost of ownership.

"By repairing and refurbishing customers' exciters locally, we can give customers rapid turnaround times without compromising our original equipment manufacturer (OEM) standards," Baloyi says. "This aligns directly with our lifecycle focus on extending equipment life, improving reliability and reducing ownership costs."

He highlights that the condition of the exciters – including exciter motors and gearboxes – is fundamental to the efficient operation of vibrating screens and feeders. Their ability to generate the intended controlled vibration is central to effective material separation and throughput efficiency.

"Exciters are essentially the driving force of the screen; without that vibration, the screen simply cannot perform its function," Baloyi explains. "At the same time, exciters experience significant wear due to continuous dynamic loading."

The refurbishment process begins with comprehensive stripping and inspection of the exciters and associated vibratory components, including motors, gearboxes and related assemblies.

"Our repairs follow strict OEM processes, designed to restore equipment to original specifications rather than applying temporary fixes," he emphasises. "Any worn or damaged components are replaced so the unit is returned to its original condition and performance standard."

Refurbished units then undergo the same assembly and testing procedures as new equipment, ensuring consistent performance and reliability once returned to service.

"Meeting the same performance expectations as new equipment means that refurbished exciters can fully support customers' needs for operational continuity," Baloyi says.

This emphasis on OEM standards protects customers from premature failures often

Structured assessments of exciter gearboxes are conducted on arrival at the Sandvik Rock Processing Exciter Repair Facility to ensure accurate diagnosis and OEM-compliant refurbishment before work begins.

Sydney Baloyi, Aftermarket Manager for Screening Solutions (Africa) at Sandvik Rock Processing.

associated with non-standard repairs. However, he notes that reliability depends on more than just the right parts.

"The workmanship and the repair process are equally critical to ensuring long service life," he says. "We rely on proven repair processes backed by skilled technicians who understand the equipment in detail. This combination of quality parts, correct processes and experienced workmanship is what protects reliability."

Beyond productivity, correct and regular maintenance of exciters is also a safety consideration, he continues, as poorly performing vibrating equipment can affect plant stability and process control.

"The safe and consistent performance of screening equipment is dependent on reliable exciters," Baloyi says.

He adds that the value of the Exciter Repair and Refurbishment Facility is reflected in customer feedback, with tangible operational benefits reported.

"We see reduced downtime, longer component life and greater confidence in repair quality from customers who use the facility," he concludes. "In the end, customers want equipment that keeps their operations productive – and this facility helps us deliver exactly that." ●

WEIR LEADS AFRICAN MINING WITH PROVEN RISK-REDUCING PUMPS

Weir has established the largest installed base of dewatering and slurry pumps in Africa's mining sector by helping customers de-risk their pumping operations – combining technical excellence and equipment optimisation with a service network founded on a fully compliant social licence to operate.

Reliability, performance and long term trust are delivered through Weir's technical expertise, optimised equipment and strong service network.

Marnus Koorts, General Manager – Original Equipment at Weir.

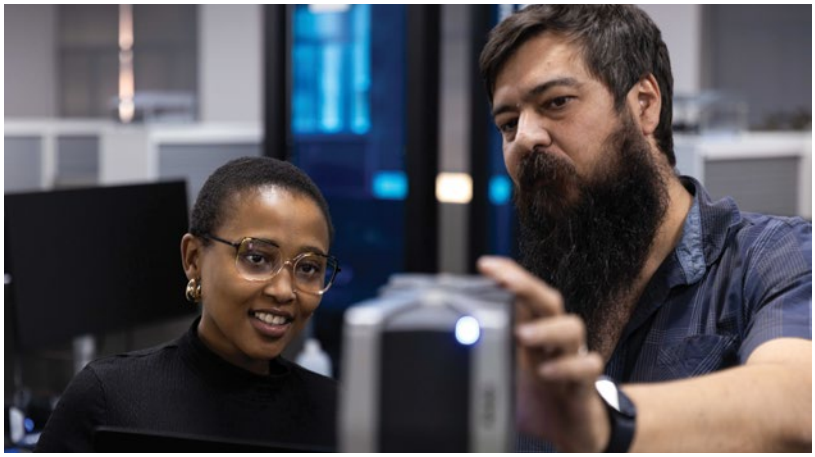
> **Our customers' first question is often about our references in a specific country or commodity.**

Marnus Koorts, General Manager – Original Equipment at Weir, explains that the company's dominance rests not only on the quality of its pumping solutions but on a full value chain approach that mitigates risk for mine operators at every stage.

"Mining is continuous and extremely capital intensive, so equipment must perform reliably and optimally," Koorts says. "It is no surprise, therefore, that mines are risk averse when partnering with solution providers – they need to deal with partners they can trust."

Smart monitoring through Weir's NEXT technology improves performance, extends equipment life and reduces total cost of ownership.

New component variants are continuously developed, with Weir using real world feedback from the field to drive improvement.



Leading pump solutions are only the starting point, supported by the engineering expertise that underpins Weir's long term customer success.

Achieving the performance levels and uptime demanded by modern mining operations requires a depth of process and engineering expertise, he explains, supported by a continent-wide service network.

"Our customers' first question is often about our references in a specific country or commodity," he says. "Thanks to our extensive footprint and vast experience, we're almost always familiar with their operating environments – from the minerals being mined and processing conditions to the local regulatory landscape."

Koorts highlights that the large installed base gives Weir a considerable advantage: real-world data across multiple commodities, climatic zones and operating conditions, all feeding directly into ongoing product optimisation.

"We are continuously releasing new variants of components based on feedback from the field," he says. "We are also digitally monitoring a large portion of our installed base, so it is not just physical site visits, but smart monitoring that allows us to improve performance, longevity and total cost of ownership."

This knowledge translates into valuable operational insights, such as the benefits of standardisation of equipment across separate sites with one mining company. In a recent project for a West African gold miner, Weir was able to recommend a slight design alteration which allowed two sites to standardise on the same mill-pump configuration.

By having the knowledge and experience of the first site, Weir could suggest to the engineering house how commonality among motors and gearboxes would save the customer millions in parts inventory while ensuring a low downtime risk.

"We have this capability due to our institutional knowledge of hundreds of projects and product applications," he says. "This is a crucial part of the value that we bring as an OEM where we can collaborate with customers in applying the best solutions possible."

As every country has its own procurement regulations for the mining sector, a reliable partner must also ensure its sustainability through legal compliance. There are regulations in procurement which supply partners must understand and comply with to ensure a robust and high quality value chain that always delivers to world class standards.

"Weir's service network in Africa is staffed by local engineers, account managers and process specialists," Koorts says. "We employ and empower local people, and we invest heavily in skills development."

Weir's graduate programmes, for instance, recruit from regional universities and develop young engineers into full time employees.

"This is all part of being a good corporate citizen and it ensures that our customers are supported by experts who understand the terrain, the language and the mining culture," he says.

Weir's success across Africa comes from understanding that its leading pump offering is just the start of the journey with customers and needs to be supported by a depth of engineering expertise, a strong and compliant local presence, a stream of performance data and all the relevant governance systems to ensure a social licence to operate.

"Working with Weir gives customers access to our knowledge, our compliance and our ability to mitigate their operational risk. Our market leading products are just the visible part of a complex value chain," Koorts ●

OST-Africa - in-house manufacturing - welding.

IN-HOUSE PRODUCTION ENSURES RELIABILITY

OST-Africa's commitment to the highest standards encompasses the integration of engineering, fabrication, assembly, painting and inspection at one facility. This enables close control over quality, lead times and the performance of every component.

The company, which specialises in the design and manufacture of screen, transmission and materials handling products, designs and manufactures most equipment in-house. Systems installed at transfer points, screens and conveyors are required to withstand sustained impact, vibration, abrasion and environmental exposure, while operating continuously and often with limited access for maintenance. For this reason, OST focuses on durability and predictable performance, reducing the need for frequent adjustment or repair once equipment is installed on site.

OST's portfolio comprises equipment used across transfer points, conveyors and screening applications, including niche screens, impact beds, feeders, belt scrapers and the High Impact Torsion (HIT) System. Supporting components encompass screen mounts, oscillating mounts, anti-vibration mounts, tensioner arms, self-tensioning motor bases and the Efficiency-Base (E-Base).

"By keeping our production processes internal, OST reduces reliance on external suppliers and our skilled design team is able to implement design changes efficiently to meet each customer's specific project requirements," explains Chantelle Scheepers, Marketing Manager, OST-Africa. "To support our customers facing unplanned downtime, we maintain stock of key components and products, enabling quick response when breakdowns occur or when spares are required at short notice. This service, combined with our local manufacturing capability, reduces delays typically associated with imported equipment and contributes to improved uptime on site."

Vibration and impact control as a system function

All OST products are built around the Neidhart system - a proven, high-performance design used globally in specialised materials handling applications. The system consists of three main components - an outer tube, inner tube and four specially shaped round rubber pieces positioned between them. When the inner tube rotates within the outer tube, it twists the rubber, generating a torsional force. This mechanism allows the system to absorb energy and dampen shocks, providing effective protection against impact and overload.

Advantages of corrosion resistant Neidhart units include natural oscillation and vibration damping, as well as shock load capabilities and extended service life. Most standard frames can be converted to suit Neidhart impact suspensions and

OST-Africa - in-house manufacturing ensures optimum control and reliability.

OST-Africa - in-house manufacturing - drill area.

mounting pitches are suited to fit existing stringers. No special support structures are required when using standard conveyors.

Welding and assembly

Dedicated welding and assembly areas form a central part of the factory layout. Components are built and assembled prior to dispatch, ensuring correct fitment and alignment. This pre-assembly process reduces installation risk and limits the need for on-site modification, which can result in delays, safety risks and unplanned costs.

As part of OST's quality control process, Non-Destructive Testing (NDT) is applied to welded components to assess weld quality and structural integrity, while ensuring the component remains fully intact and fit for use.

Surface protection and painting

OST's in-house paint facility ensures components are prepared and coated to exact specifications, with Dry Film Thickness (DFT) measurement used to verify coating consistency and compliance. This facility is particularly important for equipment operating outdoors or in wet and abrasive conditions.

Maintaining painting operations internally not only reduces turnaround times, but also ensures that corrosion protection is suitable for the intended operating environment.

Quality control

Quality control is applied throughout the manufacturing process, with every product inspected before leaving the factory. Checks focus on workmanship, fitment and overall condition, to meet specific requirements for site use and compliance with internal and project requirements.

The OST team also conducts inspections and basic assessments on Visam vibrator motors, for which it is the sole importer. Adherence to ISO-certified management systems ensures compliance with quality, environmental management and occupational health and safety standards.

OST-Africa's commitment to its broad customer base is to manufacture equipment that performs reliably in harsh conditions, requires less ongoing maintenance and delivers extended service life in harsh mining and bulk materials handling applications. By designing, fabricating, assembling and inspecting equipment at its own facilities, the company maintains direct control over quality standards. ●

SNAPSHOT

OST-Africa's commitment to the highest standards encompasses the integration of engineering, fabrication, assembly, painting and inspection at one facility.

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POWERSCREEN CELEBRATES 60 YEARS OF MOBILE SCREENING INNOVATION

Powerscreen®, a global manufacturer of mobile crushing, screening and conveying equipment, will mark its 60th anniversary at Hillhead 2026 alongside long-standing UK distributor Blue Group, bringing together the pioneering ideas that established mobile screening in the 1960s with the modern crushing and screening solutions that define the brand today.

Conveyor maintenance can be dangerous even when LOTO and other safety measures are in place.

Exhibiting from a new, expanded location at stand H6, a focal point will be the fully refurbished MK1 screening unit, the original machine that launched the Powerscreen story and helped establish the concept of mobile screening. Visitors will be able to explore the history of MK1, its role in shaping the industry and the restoration process through historical material and video content. A Hall of Fame induction will take place during the show, recognising individuals who have played a significant role in the brand's development over the past six decades.

That heritage is reinforced by the current machines on display, including the Chieftain 2200 triple deck screen, the largest inclined screen in the Powerscreen range. Developed for high-output applications requiring consistent, high-specification material, the Chieftain 2200 features a patented configurable drive system and dual screenbox design that allow it to operate efficiently across a wide range of applications.

"Powerscreen pioneered mobile screening, fundamentally changing how aggregates are processed worldwide," said Sean Loughran, Business Line Director for Powerscreen. "Early machines such as the MK1 were at the forefront of mobile processing, while the Chieftain design platform went on to provide the blueprint for many modern mobile aggregate screens. As a result, the Powerscreen name has become closely associated with mobile screening globally, with model names such as Chieftain now widely recognised across the industry."

Also on the stand will be the Premiertrak R450 jaw crusher, developed for quarrying, recycling, demolition and mining applications. The machine is offered with an independent pre-screen option that delivers practical benefits in high-fines material, reducing wear, increasing throughput and improving end-product quality.

Looking ahead, visitors will be able to view an early example of the next stage in Powerscreen's product development, with a prototype version of the 1000X Maxtrak cone crusher forming part of the wider display.

Beyond the equipment itself, the stand will also highlight the broader support and solutions available to customers through Powerscreen and Blue Group, including TRAC, a multi-sensor solution to improve screening equipment performance and durability and INNEX, a new digital brand to improve end user experience through consolidated tools and AI driven capabilities.

"Reaching a 60-year milestone brings the focus back to what has always mattered at Powerscreen," continued Loughran. "Strong machine design, effective support and long-standing relationships remain central to the business, alongside continual innovation to improve the end-user experience and deliver a strong return on investment. Hillhead allows us to acknowledge that history and to thank distributors such as Blue Group, as well as those inducted into our Hall of Fame, for their role in supporting customers and the global growth of the brand." ●

Committed to our people, who are committed to your future.

At the heart of Multotec is a commitment to global investment in the people, processes and places that drive the mineral processing industry forward.

With 50 years behind us, we will continue to partner with our industry, the people in it and the people it serves.

It's Multotec Unlimited.

MULTOTEC

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PILOT CRUSHTEC **TARGETS EUROPE WITH** STAGE V TWISTERTRAC

Exhibiting this year at Hillhead – the UK's largest quarrying, construction and recycling equipment exhibition – Pilot Crushtec will showcase its latest generation TwisterTrac VS350E Stage V mobile crusher while accelerating its drive to build a stronger European distribution footprint.

The dual-power capability of the TwisterTrac VS350E Stage V allows efficient operation either via onboard genset or external electricity supply.

Taking place from 23 to 25 June 2026, Hillhead is set to attract around 20 000 visitors and more than 600 exhibitors. For Pilot Crushtec, the event marks a significant step in its international growth strategy, according to Sales and Marketing Director Francois Marais.

"We want to make a big statement about our latest model TwisterTrac VS350E which complies with the European Union's Stage V emissions regulations," Marais says. "Secondly, we are actively looking to engage with potential distributors for both the TwisterTrac and our broader product range – mobile and static."

Hillhead visitors will have the opportunity to physically inspect a brand-new TwisterTrac VS350E Stage V unit which will be the highlight of Pilot Crushtec's stand at M3 in the show's well known 'crusher alley'. This UK expo draws visitors from across Europe, making it an ideal platform for Pilot Crushtec's ambitions beyond its traditional markets.

Marais says the decision to exhibit was driven by the company's growing installed base in Europe and the United Kingdom.

"The very first Stage V TwisterTrac we sold last year went into the UK, where we have historically supplied a number of previous models," Marais explains. "We have also

On-site operation of the TwisterTrac VS350E Stage V highlights the unit's robust build and suitability for demanding quarrying and recycling environments.

The very first Stage V TwisterTrac we sold last year went into the UK, where we have historically supplied a number of previous models," Marais explains. "We have also supplied machines into eastern Europe, so there is an established machine population; this adds to the confidence of both customers and potential distributors.

supplied machines into eastern Europe, so there is an established machine population; this adds to the confidence of both customers and potential distributors."

James Atkins, Product Specialist at Pilot Crushtec, points out that the TwisterTrac VS350E has, over the years, proven itself as a robust and productive platform. More than 100 units have been supplied globally, with the majority operating outside South Africa.

"The Stage V version builds on this track record, bringing the design into compliance with strict EU regulations," Atkins says. "The unit carries full CE certification, so customers get all the benefits of a tried-and-tested design but in a package that meets European regulatory expectations."

Key elements of the Stage V configuration are its Volvo Penta engine and dual-power capability. This allows the machine to run efficiently on its onboard generator set, or from a grid electricity supply – an increasingly important consideration in emissions-regulated markets.

In parallel with its product focus, Pilot Crushtec will use Hillhead to engage with potential distribution partners.

"We are seeing growing direct sales activity into Europe and that is driving our need for local partners," Marais says. "We are looking for distributors with strong service capability and a solid reputation, who can both grow the market and support the customers we already have in the region." ●

James Atkins, Product Specialist at Pilot Crushtec.

Francois Marais, Sales and Marketing Director at Pilot Crushtec.

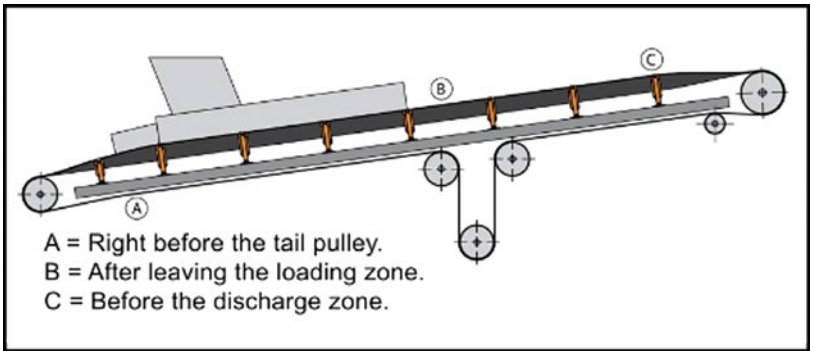
FEELING CENTERED: **THE ZEN OF CONVEYOR BELT TRACKING**

The moment a conveyor belt wanders, material spills, system safety and productivity quickly degrade, and operating costs rise. Spillage fouls idlers and pulleys, causing them to seize, leading to friction damage on the belt and potentially becoming a fire hazard. When a high-speed belt edge contacts the stringer, it can cause fraying, shredding, or splice damage and cut through steel mounts.

Mistracking is prevented by first understanding the basic patterns of belt behaviour and then following established procedures to carefully align the structure and components to correct fluctuations in the belt's path.

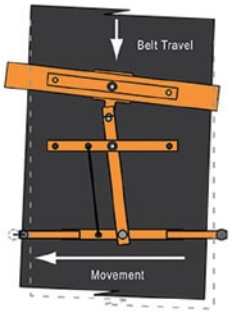
Mistracking indicators:

- Belt edge damage
- Excessive spillage
- Idler/Pulley fouling
- Off-centre belt at head or tail pulley



Main Areas of Belt Tracking Placement

A Martin expert draws out a quick sketch to help an attendee visualise the solution.



Torsion Arms Adjust the Roller

Sensing slight variations in the belt path helps make immediate micro-adjustments.

> **By reducing the energy required to correct the belt, wear on both the conveyor and tracking equipment is reduced, resulting in a longer, more efficient service life.**

Common causes of mistracking

There are three general groups of common causes for mistracking.

Belt and Splice: If the belt is poorly manufactured or stored improperly, it can bow or camber. Poor installation of a vulcanized or mechanical splice can result in a splice that causes belt tracking problems. Exposure to weather or to chemicals can degrade the carcass (plies or cords) and the cover of the belt, leading to bowing, cambering or

Figure 1: Off-centre load on a mistracking belt that's reaching up to contact the conveyor structure.

> **Typically elevated 10-20 millimetres higher than the rolls of the adjacent conventional idlers, a centre roll or pivot roll increases the belt's pressure on the tracking device.**

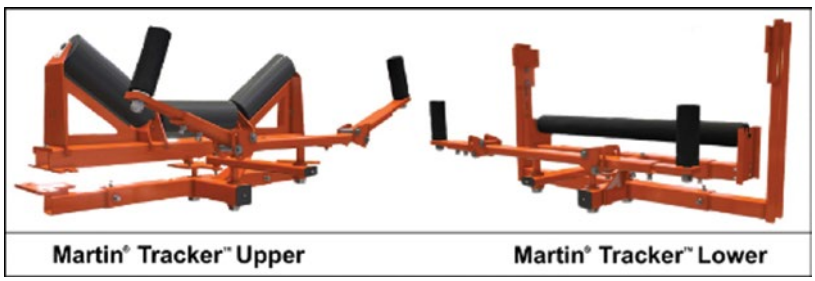


Figure 3: The upper unit for the conveyor carrying side and the lower for return side.

cupping due to unequal shrinkage between the top and bottom covers.

Conveyor Structure: Inaccurate alignment during the construction of the stringer, structural alignment degradation, machinery collision, seismic activity, or ground settling all spark the need for realignment.

Improper Loading: The load's centre of gravity will seek the lowest point of the troughing idlers, so if the belt is not centre loaded, the weight of the cargo pushes the belt toward the conveyor's more lightly loaded side.

Smarter tracking

Standard tracking provided by conveyor OEMs is often inadequate, especially as the system settles and ages. Switch mechanisms that detect mistracking and stop the system are excellent for safety, but they can lead to excessive downtime. Rollers attached to the stringer prevent contact but cause the belt to fold over on itself. Neither of these is a preventive measure.

Multi-Pivot Belt Trackers like Martin® Trackers™ use long arms to control a pivot roller. The guide rolls detect very slight misalignments and make immediate corrections. The longer arms require considerably less force to move the pivot roller, resulting in less counterforce and drag on the belt.

By reducing the energy required to correct the belt, wear on both the conveyor and tracking equipment is reduced, resulting in a longer, more efficient service life. This design has also been adapted for the belt return and reversing belts.

Belt tracker placement

To avoid units competing and contradicting each other's steering action, they should be positioned approximately 20 to 50 metres apart, depending on the severity of the mistracking problem. For proper loading, unloading, and settling, it is recommended to place trackers in some critical areas.

Typically elevated 10-20 millimetres higher than the rolls of the adjacent conventional idlers, a centre roll or pivot roll increases the belt's pressure on the tracking device, improving the corrective friction between the belt and the aligning roll. This is applicable to both troughed (carrying side) and at (return side) self-aligning idlers. It helps to have rubber-covered rollers rather than "steel can" idlers.

The long-term benefits to efficient conveyor operations are well known. Keeping the belt centre and moving quickly is the key to high production, a low cost of operation and a safer workplace. ●

PROACTIVE MAINTENANCE KEEPS CONVEYORS PERFORMING

Conveyor systems are the backbone of efficient materials handling in mining and mineral processing operations. Ensuring that these strategic assets perform optimally is therefore critical to maintaining productivity and controlling operating costs. By Keletso Mabula, Sales Engineer for Belt Cleaners at MATO Products, a member of the Multotec Group.

Undertaking comprehensive conveyor assessments is essential to understanding performance across the entire system and ensuring that conveyors continue to operate reliably. Combined with regular proactive maintenance, these measures safeguard conveyor performance and extend equipment life.

If conveyors stop, production stops, which is why these critical systems cannot be maintained reactively. Comprehensive conveyor assessments provide a clear understanding of how

the system is performing, where inefficiencies exist and where risks might be developing. Without this visibility, problems such as carry back, misalignment, belt wear, and ineffective cleaning can develop unnoticed. Insights gained through specialist conveyor assessments not only help determine the correct specification of belt cleaners but also enhance efficiency, enable ongoing performance optimisation, and help prevent unplanned downtime and premature component failure.

Why comprehensive conveyor assessment matters

Effective assessments should evaluate the entire conveyor length, from tail to drive end, providing a thorough analysis of the system, as problems upstream can affect performance downstream. A full conveyor system evaluation should not only focus on the integrity of isolated components but should instead holistically assess a range of factors, including material loading conditions, belt condition and tracking, cleaner positioning, transfer points, pulley and idler conditions and structural concerns.

By assessing the entire conveyor length, the correct cleaning solutions can be tailored to each unique system and properly installed, with precise positioning, tension and blade angles designed to reduce carry back, prevent belt damage and lower maintenance costs.

This not only improves cleaning efficiency but also extends the lifespan of blades, belts, and other conveyor components. From a commercial standpoint, that means longer component life, lower replacement frequency and better return on investment.

That said, even well-designed equipment can underperform if installation is not executed correctly. No two conveyors are likely to perform the same, as material type, belt speed and other factors all influence belt cleaner performance. Experienced teams are therefore crucial to ensure that insights from conveyor assessments are applied effectively and that solutions perform as designed under the unique operating conditions of each conveyor. This in turn protects a client's investment and strengthens long-term trust.

Keletso Mabula.

Maximising performance through proactive maintenance

Even with the correct solution specified and expertly installed, conveyor performance cannot be taken for granted. Weekly routine inspections and preventative maintenance are essential to identify and rectify minor issues before they escalate, ensuring the conveyor system continues to operate efficiently.

From a belt cleaning perspective, these inspections allow for the monitoring of tensioning and alignment, the replacement of belt cleaner blades before failure and the early detection of wear on the conveyor belt. They also help identify spillages or material build-up along the length of the conveyor.

This proactive approach results in lower repair costs, fewer emergency call-outs, less unplanned maintenance shutdowns, and more predictable maintenance planning. It also shifts the operation from a position of reactive spending to controlled and planned maintenance spending that is easier to forecast, plan for and budget.

Over time this approach translates into cost savings, safer operations and improved uptime and productivity.

While conveyors are a significant investment for mines, often costing millions of rands in capital and ongoing maintenance, they represent a vital long-term strategic asset. With the right expertise and a proactive approach to maintenance, these systems can deliver reliable performance while safeguarding one of the most critical investments in the materials handling chain. ●

ENGINEERED CHUTE SYSTEMS PLAY CRITICAL ROLE IN **MINIMISING BELT MISALIGNMENT AND IMPROVING PLANT RELIABILITY**

In bulk materials handling operations, conveyor belt misalignment remains one of the most persistent causes of unplanned downtime, excessive maintenance and premature equipment wear. According to Weba Chute Systems, correctly engineered chute systems are playing an increasingly important role in addressing this challenge at source.

Poor belt tracking is seldom only a conveyor issue. In many cases, the root cause lies upstream at the transfer point where inconsistent material flow, uneven loading and uncontrolled discharge place unnecessary stress on the belt system.

According to Dewald Tintinger, Technical Director at Weba Chute Systems, chute design has a direct impact on conveyor alignment and long-term plant performance.

"Belt misalignment is often a symptom of poor material presentation onto the receiving conveyor," Tintinger says. "If material is not loaded centrally at the correct speed and in a controlled flow pattern, the belt will naturally track off-centre, leading to spillage, edge damage and accelerated wear on idlers and pulleys."

He explains that engineered chute systems are designed to ensure that material is discharged onto the belt in a predictable and balanced manner. This includes controlling the trajectory of the material stream, reducing turbulence within the chute and matching the material velocity as closely as possible to belt speed.

Where conventional chute designs may allow material to free-fall or strike the belt unevenly, engineered systems focus on guiding the material flow so that loading is centred and stabilised before it reaches the receiving conveyor.

"This is where chute engineering becomes strategically important," Tintinger says. "A well-designed chute system helps to maintain even belt loading across the full width of the conveyor which significantly reduces the risk of mistracking and the associated operational disruptions."

Beyond alignment, improved loading conditions also contribute to lower dust generation and reduced spillage around transfer points - both key considerations in maintaining safe and efficient plant environments.

Tintinger notes that belt misalignment can have a cumulative impact on operations, affecting not only conveyor performance but also downstream process stability.

"When belts mistrack, the knock-on effect is often far greater than many operators anticipate," he says. "You are looking at increased clean-up requirements, higher maintenance interventions, possible damage to structures and components and ultimately reduced plant availability."

As mines and processing plants continue to focus on throughput optimisation and cost control, transfer point performance is receiving renewed attention.

"Transfer points should not be treated as static infrastructure," Tintinger says. "They are engineered flow control systems that directly influence uptime, equipment life and overall process efficiency. Getting this right at design stage delivers measurable benefits across the plant."

Weba Chute Systems continues to work closely with mining and industrial operations to optimise chute performance, particularly in high-tonnage and high-wear applications where conveyor reliability is critical to production targets. ●

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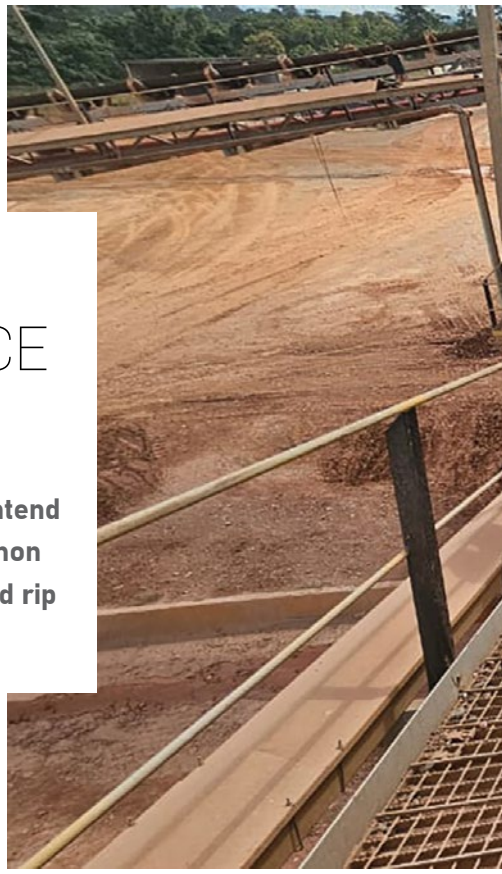
COMMON CONVEYOR PROBLEMS AND BEST-PRACTICE MAINTENANCE APPROACHES

Lost production is a major direct cost that quarries and mines contend with when a conveyor system goes down. Some of the most common conveyor issues include belt misalignment, material carryback and rip events, amongst others.

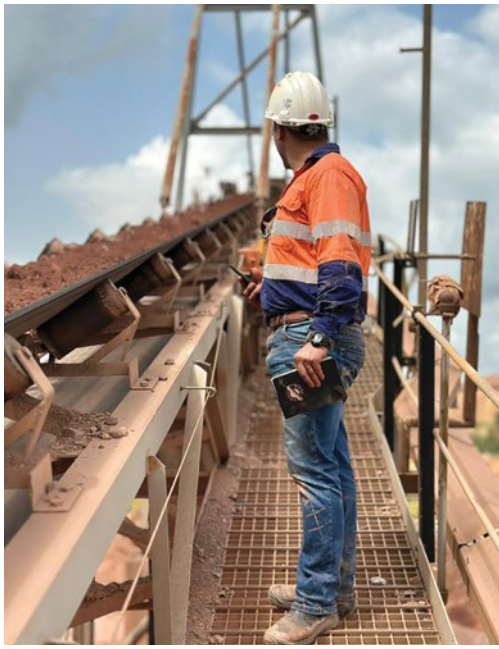


Drawing on decades of field experience, Tru-Trac's Douglas van der Westhuizen and Guy Fitt outline some of the best-practice maintenance approaches to keeping conveyors at peak performance.

One of the most common causes of unscheduled downtime on conveyor systems is belt misalignment which often results in spillage, belt edge damage, damage to the structure, increased power consumption and increased labour costs. According to Guy Fitt, National Sales Manager at Tru-Trac, a specialist provider of conveyor components for the global mining and bulk material handling industries, misaligned belts will ultimately result in lost production, increased operating costs and safety hazards.

Douglas van der Westhuizen, Technical Sales Representative at Tru-Trac, says misaligned belts can also result in environmental issues by increasing material spillage and dust generation which can contaminate nearby ecosystems and water sources, lead to regulatory non-compliance and negatively affect the health of both workers and nearby communities.

Apart from belt misalignment, carryback is another common enemy in conveyor systems. Carryback directly reduces conveyor productivity by creating unscheduled downtime for cleanup, degrading components such as rollers and pulleys and causing material loss and leading to belt tracking issues that necessitate further maintenance. Carryback represents loss of product, which, over time, can add up to significant financial costs, especially in systems handling large volumes," says Fitt.



Regular inspections with Tru-Trac support help mines and quarries identify issues early ensuring safer, more reliable and more efficient conveyor operation.

> **In fact, these should be the principal areas of concern whenever trying to identify belt tracking problems. All pulleys, snub rollers, troughing and return idlers must be square with the frame parallel to each other, and also be level.**

Commenting on some of the best-practice maintenance approaches to keeping conveyors at peak performance, Fitt says that continuous inspection is one of the principal approaches to making sure that conveyor systems function optimally. With

Tru-Trac's 'look and see' inspection philosophy keeps conveyors running at peak performance by enabling early detection of issues before they impact production.

this approach, minor issues are identified early on before they escalate into major problems that lead to unexpected breakdowns. This minimises unplanned interruptions ensuring that material transport is uninterrupted and production schedules are maintained.

"Constant condition monitoring of conveyor components is one of the best practices in always ensuring correct belt tracking. It is essential to be fully aware of the basic characteristics of the different belt tracking components and for these to be employed correctly," Van der Westhuizen says, adding that all the structural conveyor components such as pulleys, idlers, take-ups and the supporting structure should always be properly aligned at all times.

"In fact, these should be the principal areas of concern whenever trying to identify belt tracking problems. All pulleys, snub rollers, troughing and return idlers must be square with the frame parallel to each other, and also be level," Van der Westhuizen concludes. ●

Douglas van der Westhuizen, Technical Sales Representative at Tru-Trac.

Guy Fitt, National Sales Manager at Tru-Trac.

Tru-Trac scrapers combat carryback, keeping belts clean and improving overall productivity across the conveyor system.

BME ENGINEERS PREDICTABLE BLASTING IN UNPREDICTABLE GEOLOGY

Blasting, explosives, and metallurgical solutions provider BME is supporting mines as they navigate rising operational complexity, including deeper orebodies, declining grades, geological variability, higher stripping ratios, increased geotechnical risk, and growing Environmental, Social and Governance (ESG) scrutiny.

During an in-house webinar on improving blast outcomes in challenging geological conditions last month, Nishen Hariparsad, General Manager for Technology and Marketing at BME, said blast outcomes depend on how well geology is understood, measured and managed – not only at design stage, but throughout the blast lifecycle.

"Too often, blast designs are expected to perform as though the ground were consistent," he said. "At the same time, many operations still respond to poor performance reactively – increasing powder factor, adjusting burden and spacing, and trying to correct outcomes after the fact."

In today's environment, this approach is no longer viable. "Mines face heightened safety expectations, greater scrutiny of inefficiencies, intensifying ESG requirements and tightening margins," he said. "A reactive approach is costly and unsustainable."

Consistent fragmentation, improved grades and controlled risk

Hariparsad emphasised that predictable blasting is not about eliminating geological complexity, but engineering around it.

"When blast performance becomes predictable, fragmentation is more consistent, grades improve, and risks such as flyrock, vibration and backbreak are better controlled," he said. This reduces dilution and secondary blasting, stabilising costs and improving value chain performance.

He also highlighted the link between predictability and safety. "Geological variability remains a leading contributor to blast-related incidents, including misfires, flyrock and instability. Improving predictability reduces risk to people, equipment and the environment."

He stressed that no single product could solve complex geology. "Improved blasting requires an integrated approach," he said. "It involves understanding ground conditions, aligning explosive energy with geology, and applying precise initiation to

influence burden response and fragmentation."

Dynamic blasting plans

Hariparsad stressed that blast designs must remain dynamic. "When the ground changes, the plan must change. The ability to do this effectively is a competitive advantage."

Phetla Sefara, Senior Blasting Engineer at BME, outlined key geological challenges affecting outcomes.

"Variations in rock formation, particularly different geological layers, often lead to inconsistent performance," he said. Weak contacts between layers can cause uneven energy distribution, while softer material between harder strata absorbs energy, resulting in poor fragmentation, reduced loading efficiency and higher costs.

A hard cap rock layer can further complicate blasting by making initiation and breakage more difficult.

Geological structures also play a significant role. "Irregular faulting and weak contacts disrupt energy propagation, leading to losses and effects such as excessive vibration and air blast," he said.

Water in blastholes adds further complexity. "Saturated conditions or inflows can negatively affect explosive performance," he said, noting that interactions between water, geology and poor performance can generate hazardous gases such as NOx.

Where energy, geology and precision intersect

Tom Dermody, International Technology and Field Services Manager at BME, said blasting outcomes are shaped by multiple interconnected factors.

"The selected blasting methodology plays a central role," he said, noting that cast, buffer, trim blasting and presplitting all require a precise understanding of how energy interacts with the rock mass. Achieving the correct decoupling ratio in presplitting is critical to forming a clean fracture plane.

Rock response is equally important. "Understanding burden behaviour and face profiling helps control backbreak and ensure wall stability," he said.

Effective energy use is another key factor. "Explosive type and quantity must match the geological profile," he said. Hard zones such as cap rock require careful energy distribution, while softer zones may need reduced energy or additional stemming to prevent overbreak.

"Blast movement must also be controlled," he stressed. "Through initiation design, powder factor and burden management, rock movement can be optimised."

Vibration and air blast management are critical, with wave propagation controlled through charge weights and timing.

He emphasised that fragmentation remains the defining measure of success. "Rock size distribution must be predicted during design and measured after the blast to meet processing requirements," he said.

Integrating data, detonation and design

Dermody said Blast Alliance™ – an ecosystem of digital blasting solutions – provides real-time insights, predictive simulations and data-driven decision-making. "Tools such as XPLOSMART™, WALLPRO™ and BLASTMAP™ allow engineers to adjust designs and improve control," he said.

Precision initiation is delivered through the AXXIS™ electronic detonation system. "They offer sub-millisecond timing accuracy, enabling controlled initiation sequences that influence burden response and blast movement," he said.

BME's Innovex™ explosives range complements this by offering flexible energy output tailored to geological conditions, ensuring more consistent fragmentation across varying rock types.

These are supported by BME's Global Blasting Technical Services (GBTS) team. "GBTS works closely with operations to refine designs, address site-specific challenges and improve safety, efficiency and cost-effectiveness," he said.

Adapting to fractured ground

Dermody said this approach was illustrated at an open-cast diamond operation mining kimberlite. "The site operated with 14 m benches and a powder factor of about 2,3 kg/m³, but fractured ground created a persistent challenge," he said.

Losses of explosives into voids and cracks reduced effective energy, resulting in poor fragmentation. "The operation responded with a 15% increase in powder factor, while conventional solutions were ruled out due to contamination risks," he said.

BME developed a tailored solution using Innovex 300D™, an emulsion explosive suited to fractured geology. "This allowed the explosive to retain its integrity within the blasthole, reducing losses and improving energy distribution," he explained.

The result was improved fragmentation and more efficient energy use without compromising downstream processes.

"This is one example of how we are delivering safer, more consistent and cost-effective blasting performance across challenging environments," he concluded. ●

AECI SHOWCASES SHOCK-RESISTANT INTELLISHOT

AECI is a South African rooted mining solutions partner integrating explosives and electronic initiation to help operations work safely and predictably, showcased the IntelliShot X, a shock-resistant electronic detonator designed for precise functionality in high shock and variable environments, as part of its integrated blasting approach, at Mining Indaba 2026.

"Electronic initiation earns its place when it gives crews control in real conditions," says Morne Stiglingh, Vice President: Strategic Marketing and Technology, Mining Explosives at AECI. "IntelliShot X is designed for environments where dynamic shock and timing discipline determine outcomes. The goal is reliable initiation that teams can run every day on site."

The operating challenge

Blasting teams working in shockintense or harsh settings need initiation that keeps timing accurate, resists interference and withstands mechanical stress, while fitting established surface and underground workflows. AECI positions IntelliShot X to meet these needs within its electronic initiation portfolio.

"Control at initiation shapes everything downstream," adds Stuart Miller, Executive Vice President: Mining at AECI. "When timing is disciplined and hardware is resilient, plants run more predictably. That is the job IntelliShot X is built to do."

What IntelliShot X is and how it works

IntelliShot X is engineered for precise timing and robust performance under demanding conditions. It is designed to:

- Operate in surface and underground applications, with programmable delays up to 26 000 ms in 1 ms increments.
- Support safe handling and reliable firing through a hardened shell and enhanced resistance to electrostatic discharge (ESD) and electromagnetic interference (EMI).
- Integrate with AECI's IntelliShot system architecture and related tools for planning, tagging and control as part of an integrated blasting workflow.

"Engineering effort went into resilience without adding complexity," explains Hendrik Botha, Global Portfolio Manager, Mining Explosives and Initiating Systems at AECI. "The intent is simple: keep timing accurate, keep the interface familiar and give crews a device they can trust in harsh conditions."

Key attributes at a glance

- Shock-resistant design for demanding environments.
- Programmable delays from 0 to 26 000 ms in 1ms increments
- Accuracy and control to help manage vibration, airblast and fragmentation outcomes
- Compatibility with AECI electronic initiation platforms across surface and underground operations

Intended performance and use cases

IntelliShot X has been developed to support:

- **Shock tolerance:** improved performance where dynamic shock and mechanical stress are present.
- **Timing discipline:** high timing accuracy to help manage vibration, airblast and fragmentation for steadier downstream performance.
- **Operational fit:** deployment where crews need electronic precision without complicating existing procedures. ●

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