



# MODERN QUARRYING

QUARTER 2 | 2025

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temperature data



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# WHY THE SUPPLY CHAIN MATTERS IN QUARRYING

**T**he quarrying industry has a crucial role in South Africa's mining sector as it plays an integral part in development and the broader economy. The industry supplies essential raw materials such as crushed stone, sand, and gravel for construction and industrial use. The efficiency, cost-effectiveness, and sustainability of quarrying operations are heavily influenced by the performance and structure of the supply chain.

Recently, South African quarrying operations have faced mounting supply chain challenges, ranging from logistical inefficiencies to global market disruptions, especially now in the Trump era where new import taxes threaten international supply chains.

The supply chain in quarrying encompasses the entire process from the extraction of raw materials to its delivery at construction or manufacturing sites. This includes equipment

procurement, transportation logistics, warehousing, labour management, and coordination with downstream industries. A well-integrated supply chain ensures timely delivery of materials, optimal equipment usage, and minimal downtime.

In South Africa, where infrastructure development is key to economic growth, the reliability and cost-efficiency of this supply chain directly impact the performance of quarrying companies and the pace of construction projects.

## Transportation challenge

One of the most significant supply chain challenges in South African quarrying is transportation. Many quarries are located in rural or remote areas with underdeveloped infrastructure. Poor road conditions and limited access to rail networks increase transportation costs and delivery times. The country's logistics sector has

been affected by rail inefficiencies and congestion at ports, particularly in Durban and Cape Town. These challenges hinder the export of aggregates and the import of quarrying equipment, raising operational costs and reducing competitiveness.

Quarrying operations rely on heavy machinery. These machines require regular maintenance and occasional part replacement. Disruptions in the equipment supply chain – whether due to global supply shortages, currency fluctuations, or import delays – can result in costly operational downtime.

## Human capital

An often-overlooked aspect of the quarrying supply chain is human capital. The availability of skilled labour directly affects productivity. South Africa faces challenges in this area, including an aging workforce, emigration of skilled professionals, and mismatches between training programmes and industry needs.

Developing and maintaining a skilled labour pipeline through partnerships with technical schools, apprenticeship programmes, and industry initiatives are essential for long-term sustainability.

## Technology

In response to these challenges, many quarrying companies are turning to digital solutions. Technologies such as GPS tracking, fleet management software, automated inventory systems, and data analytics are improving supply chain visibility and efficiency.

The supply chain is a critical determinant of success in South Africa's quarrying industry. While the sector faces significant logistical, regulatory, and operational challenges, there is also a growing awareness of the need for modernisation and strategic supply chain management. ●

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**EDITOR AND PUBLISHER**  
Wilhelm du Plessis  
[quarrying@crown.co.za](mailto:quarrying@crown.co.za)

**ADVERTISING**  
Erna Oosthuizen  
[ernao@crown.co.za](mailto:ernao@crown.co.za)

**DESIGN**  
Ano Shumba

**CIRCULATION**  
Karen Smith

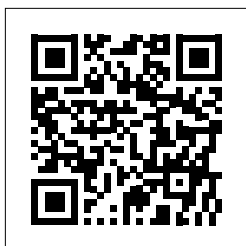
**MANAGING DIRECTOR**  
Karen Grant

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**Wilhelm du Plessis – Editor**

[quarrying@crown.co.za](mailto:quarrying@crown.co.za)





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# IQSA'S ANNUAL CONFERENCE

## 2025: DIGITALISATION, AUTOMATION, SUSTAINABILITY AND SKILLS DEVELOPMENT

The Institute of Quarrying Southern Africa (IQSA) hosted its 54<sup>th</sup> Annual Conference from 3 to 4 April at the Elangeni Hotel in Durban, KwaZulu-Natal. This event brought together over 200 industry professionals that included quarry operators, equipment suppliers, consultants, and young professionals. At this event, the evolving landscape of the quarrying sector was discussed while the exhibition by some 40 companies showcased the latest technology and equipment for the sector.

**T**he theme of the conference was 'Navigating a changing landscape' and it reflected the quarrying industry's increasing challenges and opportunities. The key discussions this year focused on digitalisation and automation, sustainability and skills development and how these can assist the quarrying industry's challenges. The message was clear: technology is an enabler and underscores the sector's commitment to modernisation and efficiency.

Prof Theo Venter from the University of Johannesburg who is a political and policy specialist, strategic facilitator, and scenario expert gave an overview of conditions globally that are affecting the industry – particularly the quarrying industry. For him, context matters. Trump-politics have made an already complex supply chain even more complex. Added to the domestic context that includes the energy shortage, unemployment, water issues, poverty and the downturn locally, he says that we are experiencing a VUCA context (volatility, uncertainty, complexity and ambiguity) globally.

In the midst of this we have a quarrying industry that is intricately bound to especially the construction industry, which in turn is intricately bound to political and global factors.

The conference aims to have relevant sessions for attendees. As quarrying is a niche form of

mining and is governed by the Department of Mineral Resources, various sessions included how quarrying aligns with the requirements of this government department. As such, David Msiza from the DMRE gave an overview of "Mine Health and Safety", how effective change is being implemented and ensured and how Aspasa is increasingly aligning itself with the DMRE health and safety objectives – all for the increased health and safety of those working in the quarrying industry.

Operational efficiency is increasingly important in a cut throat industry. Pieter Bruwer, Head of Operational Efficiency at Afrimat's talk on "Operation Efficiency" illustrated just what this is. He delved into the effect of quantity on the bottom line. For him this is only established through the building of trusted relationships, communicating a vision for change, the removal of obstacles and the anchoring of change in culture.

Hennie van Niekerk and Jacques Botha, both from BME, illustrated how value can be achieved through the optimisation of processes and technology while Mhlali Sitefane from Sitef and Co explained the key concepts of sustainability.

Sustainability of success within the quarrying industry can increasingly only be achieved by embracing change in the regulatory framework in which quarrying operates and by adopting new technologies.

### New approaches

One company that is setting the bar for innovation in crushing and screening is Pilot Crushtec. Francois Marais, Pilot Crushtec's Sales and Marketing Director addressed conference attendees on the subject of 'how pressure is changing the game in manufactured sand'. With natural sand becoming an increasingly scarce commodity, sand is progressively manufactured by using compression crushing. He explained the pros and cons of this manufacturing process.

John Pelser from MAJOR Wire industries explained how screening can be optimised for enhanced performance while Sandra Wakeford from Raubex illustrated how to increase the triple bottom line in a changing landscape.

### An industry innovates

It was, however, outside the conference room in the hall that housed the exhibition, where the industry's increasing innovation was apparent.

The Loadtech ViewIT app, which was launched at the end of 2024, is available on both the Google Play Store and Apple App Store and is designed as a comprehensive data intelligence platform for businesses. Developed by Loadtech Load Cells, the app integrates various data management and analysis tools into a single, user-friendly interface. By integrating business intelligence, data automation, and machine learning, Loadtech ViewIT empowers





Pieter Bruwer, Head of Operational Efficiency at Afrimat.



Hennie van Niekerk from BME.



Jacques Botha from BME.



David Msiza from the DMRE gave an overview of "Mine Health and Safety".



Francois Marais, Pilot Crushtec's Sales and Marketing Director.



Prof. Theo Venter from the University of Johannesburg.

businesses to make informed decisions and stay ahead in their respective industries (read a detailed overview of this app on page 36).

Various other exhibitors also showcased innovations – from Astec to Multotec to OEMs such as Liebherr and ELB.

The 2025 IQSA Annual Conference reaffirmed the quarrying sector's resilience and adaptability in the face of challenges. By embracing technological advances, recognising excellence, and investing in the development of young professionals, the industry

is poised for a sustainable and innovative future. As the sector continues to evolve, collaboration and knowledge-sharing remain essential to driving growth and ensuring the delivery of quality materials for South Africa's infrastructure needs. ●







## ASPASA: 2024's HIGHLIGHTS

**Collin Ramukhubathi, the chairman of surface mining industry association, ASPASA gives an overview of ASPASA's activity in 2024.**

**T**wo years ago, I accepted the role as Chairperson of ASPASA. This journey has led to massive successes and new challenges. We did not win all the battles we fought, we still carry the scars of legislators enforcing laws with a blanket approach

and not the size of mine and risk based. But, our voice certainly grew in leaps and bounds during 2024 with ASPASA giving critical input into the MPRA and MHSA reviews.

The ASPASA MANCOM drove each service delivery area with the vision of opening the eyes of outsiders to





Collin Ramukhubathi, the chairman of surface mining industry association, ASPASA.

understand our place in the small surface mining, other commodity, industrial minerals construction and agriculture supply.

## Legal

### MHSA TMM Regulations

ASPASA had various formal engagements with the DMPR about the enforcement of the TMM regulations where certain regions did not follow a risk-based approach. At the end of 2024 we had multiple mines closed due to not implementing collision avoidance systems, yet they indicated through a proper risk-based approach that traffic management and at some operations, level 7, will be sufficient in reducing the risk of collision. We will manage this case by case, as the matter did not escalate to other regions.

### Explosives Act and Regulations

The SAPS Explosives Act and Regulations input request was sent out in October 2024. We had 30 days to make comments. These were submitted through NIXT, and we managed to influence the law to an extent, but tracking and tracing is coming, and mines need to plan in their 2026 budgets for this purpose.

### Code of Practices and Guidance notes

Two new Code of Practices and one Guidance note came out during 2024 with implementation date of November 2025. These include: Minimum Standards on Ground Vibrations; Air-blast and Flyrock near surface structures and communities to be protected; COP and Quality Assurance programme for a System of Occupational Hygiene and Ventilation Engineering measurements.

### Royalty Tax

The biggest victory for ASPASA and its members is the High Court Declarator case we won. SARS did appeal against the High Court ruling and we have opposed the appeal. We know the process had serious additional cost implications on all quarries, but this process needs final clarity to ensure con-

## SNAPSHOT



ASPASA had various formal engagements with the DMPR, regarding the enforcement of the TMM regulations where certain regions did not follow a risk-based approach.



The 2024 ASPASA Environmental Compliance Audit encompassed all activities that were being conducted within the scope of the applicable EMPr.



ASPASA has multiple chairs around critical tables in industry, legislators and other Associations.



Our belief is we cannot operate in isolation in a women in mining committee. We need men to be part of the process and their voices and opinions are very important.



sistency in applying the rule. We have spent R5-million on the case so far and we predict a further R4-million for 2025.

#### Social and Compliance

A major focus is to determine how we can combine SLP and LED efforts among the small mines to make a big difference in people's lives. We have engaged DMPR on different levels and regions in this regard, and they are open to the idea. Many mines have already combined efforts among each other and with larger mining neighbours. This ensures increased impactful projects in communities. We will continue with this drive and see how we can facilitate and guide mines in the process.

We were afforded a slot at the MPRDA review process, and concurred in the various MPRDA breakaway groups to ensure that our voice is heard.

ASPASA also took part in the 360 degrees engagements, and we submitted input to the portfolio committee. We expect the Gazette of the MPRDA to be out during 2025.

#### Engineering

We had a few physical meetings for the engineers with the highlight being the visit to Multotech screen factory. The focus was on sharing success stories from GCC engineers and also the opportunity through IQSA for a young professional to win an international trip to other quarries.

#### Technical

Five new SANS 3001 test methods were revised in 2024. The critical revisions are Granular washed and dry gradings (GR1 and GR2) (2023); Moisture content by oven drying (GR20 revised to PR20) with some technical changes (2023); Calculations for soil mortar fractions' GM and FM (PR5) and maximum dry density (2024); Maximum Dry Density and Optimum moisture

content (GR30) applicable to some facilities (2024), and Atterberg flow curve (GR12) (2024).

All facilities need to be aware of these likely changes and to regularly look on the SABS webstore site for updated methods.

#### Women in mining

ASPASA arranged for Julie Courtage – Mandela Mining Precinct; Neo Bepswa – Afrimat; Magdaleen Moekwena – DMPR; Ntombi Felicia Msiza – Raubex; Fatheela Brovko – MHSC, and Erissa Martin – MINCOSA to provide information and motivation to both men and women within ASPASA. Our belief is we cannot operate in isolation in a women in mining committee. We need men to be part of the process and their voices and opinions are important. After the great sessions with the CEO of Raubex and Director of the Nelson Mandela Precinct, it was clear that ASPASA needs action areas. We can no longer just talk and give information, members need to take five top areas and take action.

#### Health and Safety

All ASPASA members must be audited every year on Health and Safety compliance, and our audits cannot be compared with any other institutions. The ISHE audit plays a vital role in educating operations on the various applicable laws. The auditor also shares leading practices with examples during the day of the audit.

ASPASA is committed to the zero-harm journey. We had an extensive review of the audit protocol to ensure we align with member concerns, MHSC milestones, DMPR focus areas related to fatalities and injuries and the previous year's findings.

Herewith a short descriptions of findings during the 2024 ISHE Audits. Unfortunately, year on year, these are the highlights of findings and will therefore also be the areas of focus for 2025:

- Compliance to own standards and procedures.



- Liaison with local communities and neighbours, especially where blasting is taking place.
- Too many lost time injuries, disabling injuries and reportable injuries recorded for the auditing period.
- Identification of risks and/or non-compliances. To improve own inspections and pre-start inspections for plant and TMMs.
- Full implementation of effective Traffic Management Plans.
- Improve housekeeping in plants that contribute to dust exposure and access to running machinery.
- Repeat findings from previous audits.
- Full compliance with isolation and lockout requirements.
- Attention required to accident/incident investigations to establish root causes.
- PTOs – Planned Task Observations. Closing the loop of accidents and incidents.
- Near Miss reporting.
- Contractor management.
- Occupational hygiene survey results to be understood and to add value.
- Emergency training and mock drills.

#### Environmental

The 2024 ASPASA Environmental Compliance Audit encompassed all activities that were being conducted within the scope of the applicable EMP. Satellite industries such as Ready-mix plants, Asphalt plants and Block yards were included in the audit process as these operations are the responsibility of the person responsible for environmental compliance.

There was a focus on sustainability, and it was encouraging to note how innovative and proactive the various operations have become in ensuring that their sites are run sustainably. Environmental and Social Governance (ESG) continues to be high on the agenda of all leading companies both nationally and internationally.

The audit included a training module which focused on sustainability, a manager's presentation which is a key part of the audit and the verification of the required documentation.

#### Explosives

EXMS Explosives' Corrie Rautenbach plays a vital role in ensuring compliance with the MHSA and Explosives Act. Largely, members have up to now not realised the need for the audit process on explosives and blasting practices. We urge all members to conduct the audit to see the value in the process.

#### Liaisons

ASPASA has multiple chairs around critical tables in industry, legislators and other associations. We do require members to assist in filling these chairs.

The engagement with Quentec and the statistics for Other Commodities Industrial Minerals is a step into the direction to illustrate to role players that our industry is different to mining. It is different in size, probability of unwanted events, likelihood of unwanted events and different risk solutions. We have also identified nine

critical items for case studies to be conducted to enhance our voice with factual numbers and trial outcomes. This will lead the journey in identifying leading practices for micro to small mines.

#### ASPASA and IQSA half year conference

We cannot express our gratitude enough for the sponsors and speakers that made this event possible.

The main realisation after the conference is that (i) suppliers are ready with various technologies to support mining, (ii) mining must transform by investigating and implementing new technologies and that (iii) collaborating with the DMRE is vital.

Our young professionals need a different approach with regards to training and skills development than in the past.

'Women in the mining' sector is growing rapidly, and mines should prepare for this growth.

#### ASPASA ISHE Audits 2024 – Awards Recipients

##### Trophies

###### Top Performer

- Afrimat Qwa Qwa

###### Top Independent Performer

- Eskay Crushers

###### Top Corporate Performer

- Raumix Aggregates

###### Consistency in achieving Showplace for 5 years or more

- Afrimat Qwa Qwa

###### Most Improved Operation

- Transkei Quarries Mthatha
- Transkei Quarries Butterworth

###### Health & Safety Awards for outstanding commitment

- Hendrik Goosen – Afrimat Mining Services (Blasting)

###### Health & Safety Officer

- Timothy Sikosana – Eskay Crushers (Combined with ENV)
- Millezinda Meyer – Raumix Aggregates Crushco

###### Health & Safety Representative

- Sakhile Dlamini – Afrimat Tongaat
- Liezel Waldeck – Raumix Aggregates Petra Quarry

###### Health & Safety Service Provider Excellence

- Piet Meyer – H.O.H.L

# MARKING A NEW ERA

With a wide range of new Volvo machines making the official debut, Babcock is marking a new era for its Southern African customers. At an official launch event to be held at its Middelburg branch in June, Babcock will unveil a new range of excavators in the 21-30 tonne (t) class, together with the much-anticipated new-generation articulated haulers.

**L**atest from Babcock, the sole Volvo Construction Equipment (Volvo CE) distributor in Southern Africa, is a range of new-generation Volvo excavators that places a special design focus on simplicity, without sacrificing innovative features that speak directly to increased reliability, productivity and fuel efficiency. The result is a competitively-priced excavator range that significantly lowers total cost of ownership – a key parameter in the fiercely-contested, price-competitive 20-22 t market segment.

David Vaughan, MD of Babcock's Equipment division, says the new excavators come at a time when the South African construction fraternity, an industry that has generally endured a protracted downturn during the past decade, anticipates a potential record R1-trillion infrastructure rollout programme. Ahead of the June launch, the first units of these models have already arrived on South African shores.

Babcock will initially unveil three excavator models comprising the EC210, EC220 and EC300. The 21-t EC210 replaces the previous EC200DL, while the EC220 replaces the old-generation EC210DL, ushering in a new era in the 20-22 t market, the most popular size class

The new Volvo excavator range combines cutting-edge technology, robust design and industry-leading efficiency to benefit various industrial applications.



## SNAPSHOT



Babcock will initially unveil three excavator models comprising the EC210, EC220 and EC300.



This is a competitively-priced excavator range that significantly lowers total cost of ownership – a key parameter in the fiercely-contested, price-competitive 20-22 t market segment.



The new Volvo excavator range combines cutting-edge technology, robust design and industry-leading efficiency to benefit various industrial applications.



To help customers sidestep the challenging financing landscape, Babcock has partnered with Volvo Financial Services, the captive finance arm of the Volvo Group.





in the southern African excavator market. The two models are ideally suited for general construction, plant hire and earthworks applications. The larger 30-t EC300 fits the bill for mid-size construction sites, sand works and small-scale quarrying operations.

### Key features

The new Volvo excavator range combines cutting-edge technology, robust design and industry-leading efficiency to benefit various industrial applications. Each of the models integrates engine-pump optimisation technology, delivering up to 15% fuel efficiency compared to previous models.

With enhanced production and reduced emissions, the excavators help provide greater cost savings while maintaining exceptional performance. A brand-new cab design has also been implemented to increase operator support.

"The new excavators benefit from a simplified, yet innovative hydraulic system, resulting in smoother, faster, powerful and efficient operation. The range is designed to lower fuel consumption and reduce operating costs. The powerful Volvo engines work in harmony with the machines' proven hydraulics to provide high torque at low revolutions per minute (rpm) for the ultimate combination of performance and improved fuel efficiency," explains Vaughan.

The new range features increased hydraulic flow for responsive, accurate control in digging and loading operations. Operators benefit from smoother, easier movement when digging as well as travelling and lifting simultaneously,







due to the harmonised boom and arm movement.

The revamped cab offers improved ergonomics, intuitive controls and advanced human-machine interface (HMI) systems, providing operators with a comfortable, productive working environment, with enhanced visibility, reduced noise levels and efficient HVAC systems. "The cab adopts a totally new design with a more intuitive layout," explains Vaughan. "While Volvo has prioritised productivity and power, it is not at the expense of operator comfort."

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

### New era in hauling

In addition to the new excavators, customers in southern Africa can also look forward to a new hauling era following the local official launch of the new-generation Volvo articulated dump trucks (ADTs). According to Vaughan, the updated A35, A40, A45 and the all-new A50, will be the first models to arrive, before the rollout of A30 and the A60 at a later stage (dates to be confirmed).

With advanced technologies at the centre of their

development, the new-generation Volvo articulated haulers contain the largest updates in more than 20 years. Vaughan says the updated models mark a significant technological leap forward thanks to innovations such as the new electronic system and an in-house developed transmission, delivering fuel efficiency improvements of up to 15% depending on model and industrial application.

A host of new features guarantees maximum productivity across the most challenging projects in quarrying, mining, construction and more. With its ability to identify and remember any slippery road segments, the Volvo drivetrain with Terrain Memory ensures superb fuel efficiency without compromising on power. Automatic drive combinations, with 100% differential locks and all-terrain bogie and hydro-mechanical steering, also combine to provide unmatched traction, stability and precision control.

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

The updated range has been engineered for durability thanks to features such as reinforced axles capable of withstanding heavy loads and high torque, resulting in superior stability and strength. Safety is also a priority, with new harness anchor points in the cab which meet WorkSafeBC and OSHA regulations, withstanding up to 22kN of force.





The A50 takes the concept to new heights as the only full suspension machine of its size class on the market. As a result, it offers a significant improvement in cycle times, an increase in hauler production per operator-hour and lower costs when compared to its standard suspension counterparts.

Volvo CE's full suspension reduces vibration, noise and shocks, which can help prevent repetitive strain injuries to operators. A smoother ride on the hauler and road can reduce unnecessary maintenance costs.

As part of the new generation update of Volvo articulated haulers, the A50 enjoys all the same great features and benefits. Most notably, it delivers unrivalled efficiency thanks to the new in-house-developed Volvo transmission that works in harmony with the Volvo engine to ensure maximum fuel efficiency.

With its 45-t payload, the all-new A50 delivers 10% more productivity and 8% greater fuel-efficiency when compared to the previous generation A45 – making it an ideal solution for high-production quarries, mines and large construction sites.

For the A50, service costs are reduced by up to 6% over 12 000 hours of operation due to simplified servicing, longer change intervals and easy component access.

### Financing

To help customers sidestep the challenging financing landscape, Babcock has partnered with Volvo Financial Services, the captive finance arm of the Volvo Group, to offer tailored financing solutions that are directly linked to individual customer needs.

"We have struck a deal with Volvo Financial Services aimed at providing our customers with straightforward payment options that can help businesses optimise cash flow and reduce administrative workload. Customers will also enjoy the benefits of extremely competitive interest rates and flexible repayment terms," concludes Vaughan. ●

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With simplified servicing, longer change intervals and easy component access, servicing is now quicker and easier than ever before, maximising uptime and reducing costs. Industry-leading greasing intervals of 250 hours also eliminate the need for daily or weekly greasing, boosting productivity and reducing downtime. What is more, Volvo articulated haulers are said to require less fluid volume compared to the competition, benefitting the environment and reducing operating costs.

### Main highlight

The major highlight of Babcock's June launch will be the introduction of the all-new A50 model, which expands customer opportunities in the demanding hauler segment. A key feature on the new A50 is the fully hydraulic suspension concept. Pioneered by Volvo CE in 2007, the full suspension has proved to be a reliable system for the toughest of driving conditions.



## SOLID PARTNERSHIP DRIVING LOCAL CRUSHING AND SCREENING MARKET

**ELB Equipment and Powerscreen solid 30-year partnership has driven the local market for decades. This year Powerscreen celebrates three decades as the single most dominant force in crushing and screening in all industries across the country.**

**T**he manufacturer's longstanding relationship with its sole distributor, ELB Equipment, has been the driving force behind Powerscreen's dominance. It has established itself as a market leader with an estimated 50% to 60% market share in Southern Africa and an unmatched range of mobile crushing and screening solutions.

Powerscreen remains the top-selling brand of mobile crushing, screening and conveyors in the country. Its products are a mainstay of the local mining and construction industries with ever-growing applications in recycling, agriculture and other industries.

Wakefield Harding, divisional director at ELB Equipment and Heath Dickson, mining product application manager, say the machines are the ideal match for local operations combining world-class productivity with rugged and durable equipment that is tough enough for harsh African conditions.

In addition, they attribute the success to ELB Equipment expertise with years of experience, deep product knowledge and a team driven by application-focused solutions. "With Powerscreen approaching its 60th anniversary and ELB Equipment celebrating 30 years as the Southern African agent, it is a significant milestone," says Wakefield.

He adds that one of ELB Equipment's key strengths lies in its extensive product range that caters to everyone from startup operations needing small screens for sand mining, composting or agricultural screening, right up to large-scale mining. This kind of versatility ensures their customers get the right machine for their needs without having to overinvest or compromise.

"We also hold by far the largest stockholding of machines in South Africa. This translates into fast delivery times and minimised downtime. Our inventory and well-organised logistics also mean we can

help clients immediately and our team runs like a well-oiled machine in terms of application knowledge as well as scaling new machines, maintaining parts supply throughout the region and providing maintenance and servicing of equipment.

"Our vast regional footprint further strengthens our service capabilities with three parts and service branches in major regions and a total of eight Sales and Service branches across the country. Whether a client is working in Witbank, Cape Town or Port Elizabeth our branches provide consistent, high-quality service wherever it is required."

Recent additions to the Powerscreen line include the Chieftain 1700X triple-deck incline screen and the Premiertrak 450 jaw crusher which demonstrates Powerscreen's commitment to staying ahead of the game and evolving to meet changing market demands. For instance, the Premiertrak 450 offers a massive jump in crushing capabilities, handling up to 500 Newton-metre crushing strength. The Chieftain 1700X also raises the bar with the unique patented four bearing double or triple deck screenbox and its ability to reverse the direction of the screenbox for difficult screening applications.

With decades of application experience in the screening and crushing market, Heath says that throughout the years it has been service excellence that remains a



cornerstone of ELB Equipment's offering.

"We're increasingly selling service agreements with our machines, which gives customers peace of mind with predictable costs over 2 000 or 3 000 operational hours and reduces unexpected expenses. Our finance options have also evolved to support client needs as many sales today hinge on offering flexible finance solutions and, as a result, we are geared to provide various options to make acquiring equipment more accessible," he says.

As the dominant player in crushing and screening in Southern Africa and as the company expands its reach into larger mining operations with its new range of LiuGong excavators and dump trucks, the future looks bright. "We're excited about the doors this opens for us. We've laid the groundwork and now it's time to show the market what we're truly capable of."

Despite all the recent developments and successes, Wakefield explains that ELB Equipment's foundation remains strong. "Our relationship with Powerscreen is a key pillar of our success. We've been market leaders for 30 years and our experience and expertise are second to none.

"Our efforts have also been recognised by Powerscreen and we were recently announced as Regional Dealer of the Year. We see this as a testament to our team's dedication and the strength of our partnership and we look forward to building on this legacy and delivering even greater value to our customers in the years to come," he says.

Looking ahead, ELB Equipment remains committed to growth and innovation. It has been on an impressive growth path over the past five years and it is not stopping. The company's new 'Future Now, Future Next' strategy is being implemented at all levels and as part of its drive will see the introduction of new equipment and advanced solutions through partnerships with brands like LiuGong and Furukawa alongside Powerscreen's evolving technology. ●



ELB Equipment's Heath Dickson (left) and Wakefield Harding.

## KEY TAKEAWAYS



The manufacturer's longstanding relationship with its sole distributor, ELB Equipment, has been the driving force behind Powerscreen's dominance.



Versatility ensures their customers get the right machine for their needs without having to overinvest or compromise.



The 'Future Now, Future Next' strategy will see the introduction of new equipment and advanced solutions through partnerships with brands like LiuGong and Furukawa.



The relationship with Powerscreen is a key pillar of ELB's success.



## EMPOWERING DRILLING EXCELLENCE: **POWERBIT ROCKTOOLS LEADING THE WAY**

For over two decades, Powerbit Rocktools has set new standards in the drilling industry and innovation, solidifying its position as a trusted partner for drilling professionals worldwide.

”

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



Thomas Chao, Managing Director of Powerbit Rocktools.

**T**he company's focus on building long-term partnerships is exemplified by its collaboration with clients like Torque Africa Exploration, where downtime is not an option. Due to Powerbit's presence in Africa since 1996,

the company has evolved to address the continent's unique drilling demands with unwavering commitment and excellence.

The company distinguishes itself through its steadfast commitment to understanding and addressing customers' unique challenges. Nardus Bezuidenhout, Director at

Torque Africa Exploration, attests to this, emphasising that Powerbit is not just a supplier, but a collaborative partner in creating tailored solutions for their water drilling business.

Bezuidenhout says, "There is great satisfaction in knowing that, whenever I need support, the Powerbit team is just a phone call





away. They always go the extra mile to make sure I have no downtime and can always rely on the quality of their products.”

Powerbit's extensive product portfolio, spanning DTH hammers and bits, RC hammers and bits, tri-cone bits, top hammer bits and rods, casing systems, grinding machines and more, is remarkably affordable, but maintains the highest levels of quality and cutting-edge technology.

Recognising the ever-changing nature of the drilling industry, Powerbit engages in global collaborations with advanced research centres and technology experts

in Taiwan, China and Japan. This proactive approach ensures that Powerbit remains at the forefront of technological advancements, enabling them to meet clients' evolving needs effectively.

Collaboration with these cutting-edge research centres in Asia also ensures that Powerbit can tailor its products to meet clients' specific needs effectively.

Powerbit's product range is purposeful and comprehensive, catering to diverse drilling needs across industries. Each tool, meticulously engineered for efficiency and longevity, is a testament to Powerbit's commitment to empowering progress in drilling operations.

The value of reliable, cost-effective drilling tools in today's industry cannot be overstated. Powerbit recognises these tools' vital role in enabling clients' success and driving infrastructure projects that underpin local economies.

From DTH hammers and bits to top hammer drilling tools and RC hammers and bits, Powerbit's versatile range is engineered to ignite the power of remarkable rock drilling in various working conditions and industries.

Experience the power of precision-engineered rock drilling tools and exceptional customer support with Powerbit Rocktools. Connect with us and embark on a journey of progress and empowerment that has been driving the southern African mining industry for almost two decades. ●



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- Diverse product ranges for various conditions

**Top Hammer Drilling Tools:**

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- International standard thread types
- Excellent abrasion resistance, fast drilling speed

**RC Hammers and Bits:**

- Achieve high drilling speed, ideal energy transfer
- Long service life, easy repairs
- Carbonised sample collection tube surfaces

**Tricone Bits:**

- Various drilling options, carbide button types
- International standard thread types
- Excellent abrasion resistance, fast drilling speed

**Casing Systems:**

- Various options available
- Hardened part surfaces for anti-wear properties
- Unmatched drilling speed and reliability



# SCIENTIFICALLY DESIGNED LINERS WITH 3D SCANNING TECHNOLOGY

Multotec has successfully supplied scientifically engineered rubber mill and scrubber liners to mining operations across the globe, including the USA, Zambia, Ivory Coast, Botswana, Namibia, and South Africa for various customers in the diamond, PGM, iron ore, zinc, lead, copper, gold, and coal processing industries. These liners were developed using advanced computer simulations to ensure optimal configuration for efficient performance and have been implemented in mills, chutes, and plants.



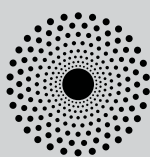
Ralph Hollenstein, Senior Mechanical Engineer, Multotec.



## SNAPSHOT



Multotec places a strong emphasis on ensuring that its liner design is optimal for the life of the liners and performance.



Multotec's liner optimisation system integrates advanced tools, including MillTraj (a first order simulation tool), DEM (for advanced multiparticle simulation), and 3D scanning technology for mill liners.



This data-driven approach allows the company to create precise liner replacement schedules and estimate the remaining lifespan of the mill liners, ensuring efficient relining operations.



What sets Multotec apart from its competitors is its focus on the entire comminution circuit as a whole rather than just mill liner design, which ties in with conducting plant audits to assist customers to optimise their efficiency.

**M**ultotec demonstrated the power of 3D scanning technology during a mill liner installation at a gold processing facility in Alaska, marking the first time it used this technology to support an installation. This approach enabled precise fitting

and optimised liner performance.

Multotec places a strong emphasis on ensuring that its liner design is optimal for the life of the liners and performance. The company also conducts condition monitoring on installed liners to ensure maximised uptime by facilitating proactive maintenance.

Ralph Hollenstein, Senior

Mechanical Engineer at Multotec, notes, "In this case, the client supplied us with 3D scans of the mills, allowing us to design the liners remotely, creating shorter turn-around times and greater accuracy. The liners were then designed, manufactured, and fitted perfectly in the mill."

## Scientific design approach

Multotec adopts a scientific approach in its mill liner design, focusing on process flow and charge trajectories to enhance both performance and durability of the liners. By using advanced modelling techniques, Multotec provides mill operators with precise guidelines to keep the mill operating in its optimal regime.

As part of the design process, Multotec utilises the Discrete Element Method (DEM) to predict the behaviour of the mill charge – comprising ore and grinding media – and the performance of the mill throughout the lifespan of the lifter. DEM is also employed to predict liner wear and the evolution of the liner profile over time.

"This technology enables us to simulate wear on the liners and track how the material interacts with the changing liner profile as it wears down. From these wear simulations, we can identify areas of high wear within the mill and use this information to optimise





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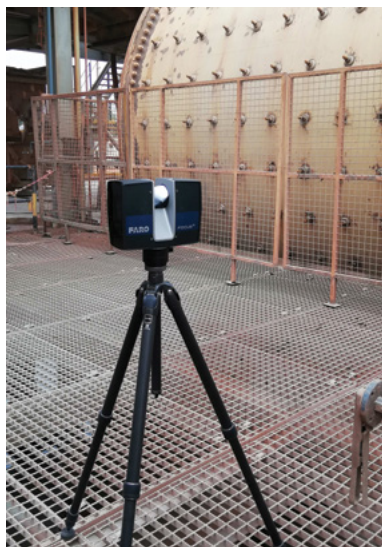
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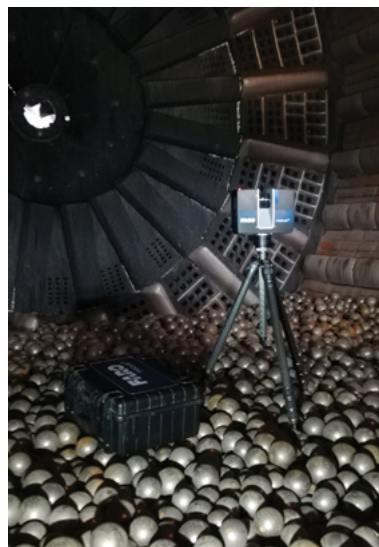
**MULTOTEC**

[www.multotec.com](http://www.multotec.com)





Multotec leverages cutting-edge technology to scientifically design mill liners, optimising process flow and charge trajectories for enhanced performance and durability of the liners.



3D scanning technology enables Multotec to design mill liners using a point cloud, reducing or in some cases eliminating the need for on-site personnel to physically measure the mill.



Multotec takes a holistic approach to the comminution circuit, providing plant audits and condition monitoring to help customers optimise efficiency and performance.

the liner design – adding material in high-wear zones while reducing material in areas that don't require as much reinforcement," Hollenstein explains.

Multotec's liner optimisation system integrates advanced tools, including MillTraj (a first order simulation tool), DEM (for advanced multiparticle simulation), and 3D scanning technology for mill liners. These tools enable precise condition monitoring, comprehensive management, and effective liner design for enhanced performance.

MillTraj focuses on the trajectory modelling of grinding mill liners and lifters. Its key applications include:

- Simulating lifter designs and configurations to understand their impact on the motion of the grinding charge (balls and material) inside mills.
- Optimising mill liner profiles to improve grinding efficiency and reduce wear.
- Providing insights into the trajectory of grinding media to ensure optimal energy transfer and to avoid damaging the mill shell.

Furthermore, Rocky DEM offers extensive capabilities for simulating particle dynamics across various industrial processes. Its functionalities include:

- Simulating particle dynamics such as collisions, breakage, and flow, for a range of material types.
- Modelling and optimising equipment like mills, crushers, conveyors, and screens to improve performance.
- Conducting wear analysis to predict and mitigate component degradation, ensuring longer equipment life.
- Handling complex particle shapes, providing more accurate simulations for irregular materials.

### Advanced 3D laser scanning

Multotec employs advanced 3D laser scanning technology to accurately assess mill liner wear. This data-driven approach allows the company to create precise liner replacement schedules and estimate the remaining lifespan of the mill liners, ensuring efficient relining operations.

"The 3D scanning is a service we provide to our customers for condition monitoring in various countries and across multiple commodities. In some cases, customers use similar scanners to perform the scans themselves. They then send us the scan data, and we interpret the results and generate detailed reports," says Hollenstein.

Additionally, what sets Multotec apart from its competitors is its focus on the entire comminution circuit as a whole rather than just mill liner design, which ties in with conducting plant audits to assist customers to optimise their efficiency.

"When we work with customers, we don't simply sell them mill liners. We take a more holistic approach by helping them to assess and identify any problem areas and work with the entire plant/milling circuit to resolve those issues. Through plant audits, we gain an understanding of the customer's operational constraints and where they want to improve their operations," says Hollenstein.

Additionally, the company also offers ongoing condition monitoring services to further enhance plant performance and efficiency. ●



# LOCALLY MANUFACTURED MODULAR EQUIPMENT **SHOWCASED AT ASTEC OPEN DAY**

Leading global equipment manufacturer Astec Industries opened the doors of its South African manufacturing facility to clients, partners and industry stakeholders at a special Open Day event.

**A**mong the machines in the spotlight at the Astec Equipment Showcase and Factory Tour, which took place on 15 May 2025 in Elandsfontein, Johannesburg, were Astec's locally manufactured modular solutions. These include screens, jaw crushers and cone crushers, all of which are backed by local service, spares and after-sales support from Astec.

There are significant benefits for clients choosing modular plants, Astec states. These include reducing the engineering requirement for the construction of a new plant. A further advantage is that the plant can be disassembled quickly and relocated to another site. Astec's modular jaw crusher, cone crusher and screening plants are easy to build and are mounted on skids, so they are easier to set up. They are also easy to transport and re-erect on a new site. These plants are designed to fit into containers when they are dismantled, which makes transportation easier and cheaper. Featuring Astec's world-renowned jaw crushers, cone crushers and screens, this is a recipe for success, says Calvin Fennell, Astec Industries Africa and Middle East Regional Sales Director for Infrastructure Solutions.

"Modularity doesn't just simplify logistics - it gives our clients the critical ability to scale and adapt quickly in fast-changing operating environments. It's a smart solution for the challenges our customers face in mining and quarrying today.

"Because Astec's modular jaw crushers, cone crushers and screens are manufactured in Johannesburg, customers in South



Africa and across the continent also have the advantage of reduced lead times and faster delivery and commissioning. They have full access to locally stocked spares, to minimise downtime, as well as local service, support and technical expertise, and direct communication with Astec engineering and support teams in South Africa. In addition, local manufacture contributes to job creation and the growth of the South African economy."

Along with its modular solutions, Astec also showcased other equipment in its expansive "Rock To Road" range at the event.

During the day, attendees had the opportunity to tour Astec's state-of-the-art manufacturing facility and see firsthand the precision and quality that goes into every Astec machine. They also met Astec leaders from South Africa and the USA and engaged with the engineering and support teams.

"Our clients aren't just buying equipment - they're investing in a

long-term partnership," Fennell stresses. "We're here to support them from manufacturing, installation and commissioning through to maintenance, upgrades and beyond."

The Astec Equipment Showcase and Factory Tour also serves as a platform for knowledge-sharing and industry collaboration. ●

The following units were on display, for guests to get a close look at:

- Telestack TC424X
- SX600 Soil Stabiliser
- RX600 Cold Planer
- BTi Breakers (BXR50)
- GT205 Mobile Screen
- FT200 Mobile Track Cone Crusher)
- GT125 Mobile Jaw Crusher
- Modular Jaw Structure
- Modular Cone Structure
- 6X20 Modular Double Deck Screen



## FAKE PARTS PUT CRUSHER AND SCREEN OWNERS AND STAFF AT RISK

Genuine parts for crushers and screens are an essential part of the promise that OEMs make to the market – to keep their customers' projects profitable and their businesses sustainable.

**O**n the other side of the coin, however, are the risks that non-genuine, counterfeit or fake parts place on operations, according to Francois Marais, Sales and Marketing Director at local Metso distributor Pilot Crushtec.

"OEMs like Metso spend decades developing and supporting technologies that provide customers with reliable and high performance solutions for crushing and screening," says Marais. "However, this work is quickly undone when non-OEM parts are installed in our equipment, supposedly to save a few rand in maintenance costs."

He highlights that the

performance and reliability of Metso's high-tech equipment is based on its proven design and precision engineering – which includes the various components and wear parts that must be replaced from time to time. Copied parts from other sources do not carry this technical heritage, and simply undermine performance and reliability, he says.

It also erodes the value of the relationship that OEMs work so hard to build with their customers, explains Merja Tyyni, Vice President Aftermarket Distribution Metso.

"Our customer relationships focus on the whole process of delivering value to their operations," says

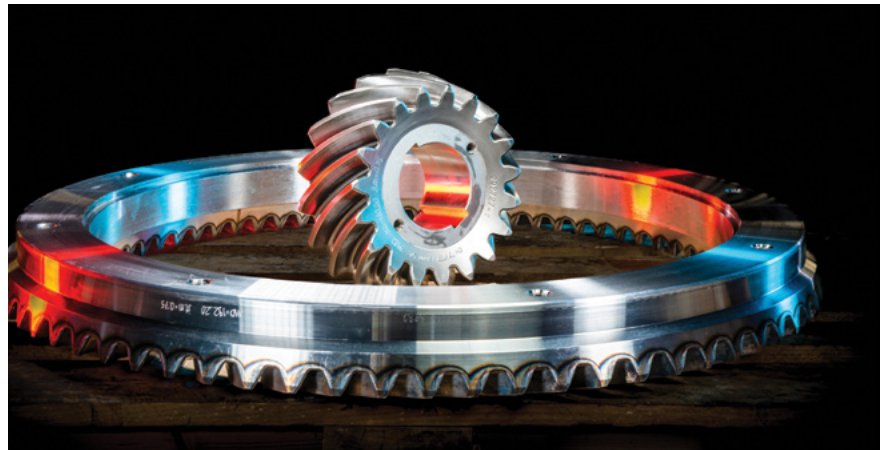
Tyyni. "We pay attention to the end-product value, where we can supply not only the appropriate capital equipment, but also the follow-up trouble-shooting, repairs and overall technical advice."

The quality of these solutions and services is based on many years of research, development and testing – as well as continuous investment in the necessary technical infrastructure and capability to respond quickly to customer needs. However, all these efforts are compromised when customers place non-OEM parts into their machines – as the quality chain is only as strong as its weakest link.

Karima Dargaud, Head of



Metso crushing and screening plants are built for high performance, reliability and efficiency, ensuring maximum productivity in every operation.



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



## SNAPSHOT



Copied parts from other sources do not carry the necessary technical heritage, and simply undermine performance and reliability.



Metso wear parts have been designed and manufactured with specialised material and hardening techniques, for instance, to ensure both safety and performance.



OEMs have in-depth knowledge of their equipment that allows customers to achieve results which are both optimal and predictable.



There are important safety implications when not using the specified parts in crushers and screens as there are extreme forces and speeds at play – especially in crushing equipment.

Durability and efficiency are ensured with the OEM pitman which is designed for optimal performance and reduced wear in every crushing operation.

Aftermarket Europe, Middle East, Africa and Central Asia Metso, points out that OEMs have in-depth knowledge of their equipment that allows customers to achieve results which are both optimal and predictable.

“Our OEM spares are an essential aspect of the support we provide, so that customers can reliably meet their production targets and avoid costly penalties,” says Dargaud.

“Customers build their reputations on this consistent performance, by

producing the right results safely, on time and within budget. Using non-OEM spares only puts this reputation at risk, as machines then become unreliable.”

Marais also points to the all important safety considerations of not using the specified parts in crushers and screens, emphasising that there are extreme forces and speeds at play – especially in crushing equipment. Metso wear parts have been designed and manufactured with specialised

material and hardening techniques, for instance, to ensure both safety and performance.

“Fake parts will compromise worker safety, as there are normally a number of people in close proximity to this equipment who could be affected by a failure,” he says. “A business that buys and fits pirate parts runs the risk of sending a negative message to its operators – that saving money is more important than the safety of crews on site.” ●



## UPDATE ON BEOWOLF MINING'S NEW INTERLOCKING SYSTEM

Because Beowolf Mining places high emphasis on research and development for technical, endurance and value for money regarding specific geological applications, it started tests with its new interlocking system.

**T**his is the interlocking system between drill bit and drill rod for top hammer drill applications regarding underground and open pit mine use.

With the new interlock system, the loss of drill bits is significantly reduced. On the current tests which involve T51 drilling equipment, the tests are very promising.

Beowolf Mining also established less wear on the part of the rod nearest to the drill bit. After finalisation of the tests, Beowolf Mining will be in a position to give customers a complete customised package regarding drilling equipment on top hammer drill applications.

This will include drill bit design regarding flushing, carbide selection, gauge hardness etc. "We will keep our existing and potential customers up to date with progress and final results in due course," says Riaan Theron, Beowolf Mining's Director of Sales. "On the down the hole drilling range of products we also improved our technical flexibility regarding

hammer application. We are now in a position to make customised changes on the outer cylinders regarding thickness, different material alloys and the use of carbide welding methods on the external cylinder as well as the drive chuck to slow wear down," Theron says.

These technical applications can be done within a short time to suit the customers' needs.

"Combined with our drilling equipment management App, we are confident that with the correct products and paperless management system, drilling costs can be maintained to the minimum," he expands.

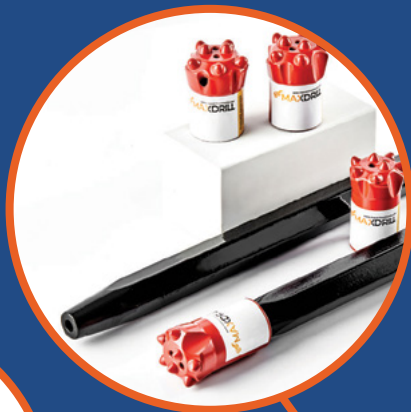
"Our aim is to make the necessary technical changes on products that will face difficult drilling conditions fast to enable a quick turnaround time regarding availability," Theron says.

Once the correct product applications are established, Beowolf Mining will ensure adequate inventory at its offices in Rustenburg (Northwest Province) and Kathu (Northern Cape Province). ●



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Marnus Koorts, General Manager  
Original Equipment at Weir.

## WEIR'S WEAR REDUCTION TECHNOLOGY CUTS ENERGY COSTS IN PUMPING

As part of Weir's mission to support its customers' sustainability efforts, Wear Reduction Technology (WRT®) upgrades have made both **WARMAN®** and **ENVIROTECH®** pumps more energy efficient and longer lasting.

**W**ith Weir's large installed base of **WARMAN®** and **ENVIROTECH®** pumps around the world, the most impactful sustainability strategy was to improve the efficiency of equipment already in the field, according to Marnus Koorts, General Manager Original Equipment at Weir. The best place to start was with its renowned **WARMAN® AH®** pumps which are used by almost every mine on the planet.

"Our aim was to enhance our current models to deliver

superior wear life and energy efficiency," he says. "The WRT component combination does this by allowing upgrades that integrate seamlessly into existing infrastructure without extra capital investment."

Introduced to the African market in 2010, WRT® components deliver an energy saving of 3 to 5% to **WARMAN® AH®** pump owners and have extended the lifespan of these pumps by from 30% to 50%. This has meant direct on-site cost savings and significantly reduced energy consumption from the large number of these pumps in operation worldwide.

At the heart of the WRT®

component breakthrough is improved hydraulic efficiency, achieved through advances such as the optimised design of the impeller and throatbush. For instance, the WRT® impeller features specially developed vanes that guide fluid more efficiently, reducing turbulence and minimising energy loss.

"The design of the WRT impeller improves flow characteristics, compared to older designs with steeper vane angles," he explains.

In another innovation, the new design of the impeller guides fluid more efficiently to mitigate against the creation of eddies. These eddies are swirling circular



currents of fluid which form within the pump volute due to turbulent flow, and lead to fluid moving against the main flow, wasting energy and increasing wear on internal components.

"We have also improved efficiency by minimising the surface area of the WRT impeller, by reducing the number of vanes from five to four," he says. "This creates more space for the material to flow while still delivering the same duty."

Critical to the impact that the WRT® component upgrade has had on energy efficiency in pumping operations is its enthusiastic uptake by the market. Koorts highlights that Weir's strategy was to make the transition for customers as easy and economical as possible. Being interchangeable with WARMAN® pumps' older technology, the WRT® components allow customers to switch over without extra capital expenditure – by changing to WRT® options when existing parts need to be replaced.

"This has already allowed most of our customer base to adopt the latest energy-efficient options," he says. "In Africa, for instance, all new WARMAN AH pumps sold contain WRT technology and a majority of our existing WARMAN AH pumps have already been converted."

With Africa being home to a large installed base of ENVIROTECH® pumps, the WRT® component technology has been extended to this popular range. Koorts notes that the company is committed to Africa and to the technologies currently in use.

"For the past two years, therefore, we have been



Engineers at Weir work on designing components before moving to physical testing in the field.

supplying our ENVIROTECH pumps with WRT as standard," he says. "Today, more than half of all our ENVIROTECH pump spares sales are WRT designs."

Underpinning these technical advancements is Weir's local investment in production capacity, which allows the company to cast and machine its pumps and components in South Africa. ●

## SOME TEAMS WORK BEST UNDER PRESSURE.



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# REAL-TIME, ACCURATE TYRE PRESSURE AND TEMPERATURE DATA

DAEX is the official distributor of Doran's innovative tyre pressure monitoring systems (TPMS) designed for any vehicles operating on air-filled tyres. Its TPMSs are deployed across various industries and locations nationwide and has a strong presence in markets requiring heavy-duty equipment. The system's versatility and reliability make it suitable for a broad range of industries across the country. *Modern Quarrying* spoke to DAEX Director, Andrea Nel at the Institute of Quarrying South Africa's conference where DAEX was present for the first time.



Suitable for any industry, sending notifications to in-cab display or telematics.

**“W**e focus on providing businesses with technology solutions that enhance safety, improve operational efficiency, and reduce maintenance costs specifically relating to tyres,” Andrea Nel, Director of DAEX Tyre Management says. “Our systems allow for real-time monitoring of tyre pressure and temperature, ensuring optimal performance at all times, reducing downtime and enhancing safety.”

“Our goal is to reduce operating costs for our customers by extending tyre lifespan, optimising fuel efficiency through continuous, real-time monitoring, and reducing costs associated with manual tyre monitoring,” says Nel.

In addition to being cost-effective, DAEX's system also enhances driver safety by providing warnings whenever tyre



pressure fluctuates outside of a set range or the temperature rises

to dangerous levels, which could potentially cause fatal accidents.





DAEX Director, Andrea Nel.

### How the system works

The DAEX TPMS was developed by industry experts with a deep understanding of the needs of industrial vehicle fleets. The system is engineered by Doran Manufacturing, a leader in tyre monitoring solutions, ensuring that the technology is based on cutting-edge innovation and expertise in tyre monitoring.

The product continuously monitors the tyre pressure and temperature of

all wheels on the vehicle. Using OTR tyre pressure sensors attached to the valve stem on each tyre, the system collects data and transmits it to the display located inside the driver's cabin. "This data is then displayed in real-time, allowing drivers or fleet managers to make informed decisions and take action before tyre issues lead to breakdowns or accidents. Our system can integrate very well with any telematics system, allowing fleet managers to bundle it with their current system," Nel explains.

The system is fully integrable with existing fleet management systems. "Our technology is designed to provide seamless integration, allowing for easy monitoring of tyre health alongside other fleet data. This ensures that managers can have a unified view of vehicle performance, reducing the complexity of having multiple separate systems thereby improving overall fleet management," says Nel.

### The system in the quarrying industry

"The tyre monitoring system can

significantly benefit the quarrying industry by improving vehicle safety, reducing tyre wear, and preventing costly and fatal breakdowns," says Nel. The system helps monitor heavy-duty equipment in real time, ensuring that tyres are always running on optimal inflation, crucial in harsh quarry environments where tyre failures can lead to significant operational delays and costs."

Unlike other TPMS products, the system is very easy to install as an after-market fitment, offers a higher level of integration and user-friendly features. "The DAEX system not only monitors tyre pressure and temperature but also integrates seamlessly with existing fleet management platforms, providing a more holistic approach to fleet management. Its rugged design and accuracy make it ideal for heavy-duty applications in industries. Many companies tend to spread their offerings, whereas we fully focus on the TPMS. This allows us to excel in and deliver a strong, lasting product." ●



## Tyre Safety and Costs



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# VALUE OF PDS GROWS WITH DATA AND SENSING TECHNOLOGY

Rapidly developing technology is constantly being harnessed by Proximity Detection Systems (PDS) to deliver steadily improved functionality to customers, according to Anton Lourens, CEO of Johannesburg-based PDS pioneer Booyco Electronics.



**T**he world of electronic technology is an ever-evolving space with newer solutions and offerings being made available quicker than ever,” says Lourens. “Based on our experience in this space, we see improved PDS solutions being developed; one such instance is the combination of multiple different sensing technologies into a single fully integrated solution.”

This integrated sensing solution is then optimised through functional performance driven mainly by software for these specific comprehensive PDS requirements, he adds. As PDS technology evolves and matures, he notes that the

demand for processing power, and the ability to process multiple sensors, has increased dramatically since the first basic PDS units were developed.

“Fortunately, in our continuously evolving electronic world – including the global development of artificial intelligence (AI) solutions and big data mining – the PDS industry can access the required processing platforms,” he explains. “Similarly, sensing technology is also expanding rapidly; this is introducing more suppliers of specific technology solutions, often making available different and better functions.”

Lourens argues that PDS is definitely playing a vital part in mine automation; indeed, it is seen by

some stakeholders as the foundation for autonomous vehicles, specifically with the enhancements around Level 9 engineering control solutions for trackless mobile machines (TMMs). In another important trend, various mining stakeholders and organisations are engaged in workstreams to clearly define specific PDS requirements that are applicable to different operations.

“For instance, labour intensive operations have different requirements to automated operations,” he says. “At the same time, we are also experiencing more engagement from OEMs, who have an integral role in the overall proximity detection ecosystem. This is also driving their own standards and regulatory compliance.”

In general, Booyco Electronics is seeing more collaboration from a variety of stakeholders to ensure improvements on safety standards – actively promoting the drive towards Zero Harm. As a leading player in PDS technology, the company remains committed to continuous improvement and meeting best practices that include integrated real-time data solutions for customers, says Lourens.

“In addition to the standard PDS functionality, the user gains significant benefits from using the data as a tool for change management,” he explains. “Beyond the ability to analyse traffic flow, for example, mines can identify actual high-risk areas and apply mitigation interventions.”

“With the deployment of additional integrated technology, the value of this data can be further extended to include the measurement and improvement of operator behaviour, which in turn could lead to productivity increases,” he concludes. ●



# SISI SAFETY WEAR'S WOMEN-SPECIFIC PPE

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

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

"Women in these industries face the same dangers as their male counterparts, from electrical hazards to tough, abrasive surfaces yet their

safety footwear has not kept pace with their growing representation in the workforce," says Jamie-Lee Bishop from Sisi Safety Wear.

## Introducing the Fuse Safety Boot

Developed in direct response to market demand and feedback from safety professionals, the Sisi Fuse Safety Boot is the first locally manufactured PU/rubber safety boot specifically engineered for women.

Designed for sectors including mining, electrical utilities, manufacturing, and heavy industry, the Fuse Boot features a full-grain leather upper, abrasion- and slip-resistant PU/rubber sole, and a reflective strip for enhanced visibility in low-light environments.

The PU/rubber sole not only offers superior durability but is specifically designed to resist cuts, abrasions, and slips while its tread pattern channels water and debris away, improving grip and preventing slips in harsh working conditions.

## Responding to real-world industry needs

The Fuse Boot was developed after years of industry feedback emphasising the need for women-specific safety boots with a PU/Rubber sole capable of enduring tough working conditions.

"This boot is far more than a checklist item—it is a solution born from real, on-the-ground challenges," adds Bishop. "It is designed to withstand tough terrain and electrical dangers, offering reliable protection without compromising comfort."

## Advancing inclusive safety standards

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

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



Schauenburg Systems (Pty) Ltd  
26 Spartan Road, Spartan Ext.21  
Kempton Park, 1619  
Tel: +27 (11) 974-0006  
Email: sales@schauenburg.co.za

### Transforming Schauenburg Systems into a Data-driven Technology Enterprise



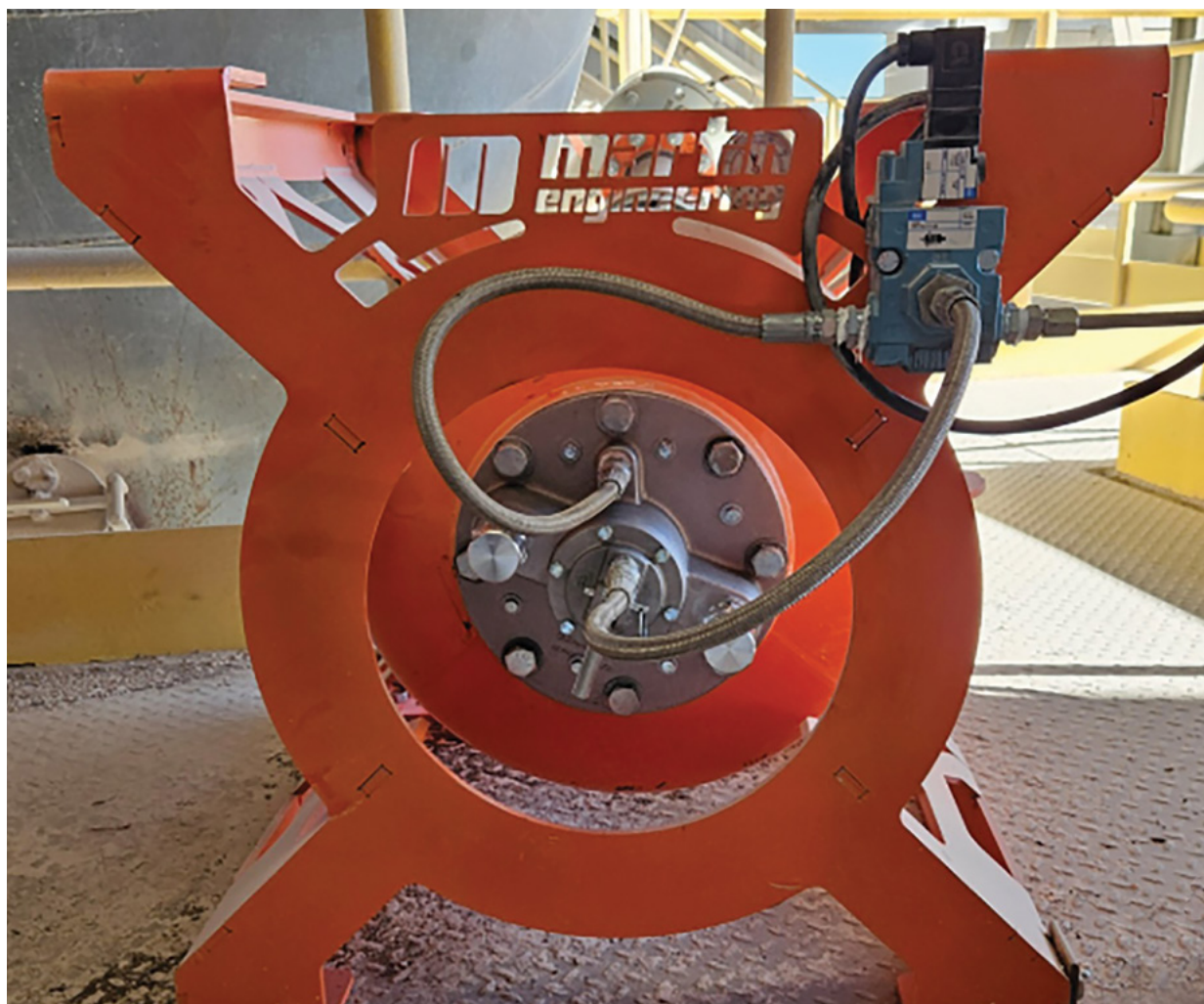
Diagram illustrating the transformation of Schauenburg Systems into a data-driven technology enterprise, centered around SmartMine IoT. The diagram shows various IoT devices and communication protocols (LTE, S-LINK, LoRa, WiFi) connected to a central hub. The hub is divided into four quadrants: Monitor, Diagnostics, Predictions, and Data Analytics & AI. The central hub is labeled SmartMine IoT. The diagram also shows various IoT devices and communication protocols (LTE, S-LINK, LoRa, WiFi) connected to the central hub.



**SCHAUENBURG**  
Systems

A company of the SCHAUENBURG International Group

[www.schauenburg.co.za](http://www.schauenburg.co.za)



Martin® X-Stand organizes air cannons and protects maintenance staff.

## MARTIN® X-STAND IMPROVES AIR CANNON EFFICIENCY AND SAFETY

The global leader in bulk material flow technology, Martin Engineering, has introduced a heavy-duty air cannon mounting system. The Martin® X-Stand is an organisation system that safely keeps air cannons away from super-heated or potentially hazardous areas while offering easy service access. The result is clearer walkways, improved safety, and greater maintenance efficiency for a lower cost of operation.

**T**hough secure when held in place by pipework, air cannons can be precariously placed around preheaters, hoppers, and drop chutes, making them hard to get around or reach by maintenance crews,” said Sid Dev, Product Manager of Air Cannons at Martin Engineering. “Some of these applications can also be in high-heat

environments in loading zones, so we worked with customers to formulate a more practical and long-term solution. The X-Stand ended up having more benefits than we initially thought!”

### Air Cannon X-Stand specs

The X-Stand is a rugged steel cube frame that comes in three sizes to fit the 35-litre, 70-litre, and 150-litre air cannon tanks. These fit Martin® Hurricane and Typhoon

Air Cannons. The largest model measures 91,5 x 91,5 x 91,5 cm) and weighs 80 kg.

Each cube has a sturdy cross-bar frame designed to distribute weight and absorb vibration from the cannon’s firing. The central top hole allows easy access to the valve and attachments, while the bottom hole accommodates a standard 10 cm, 68 kg, 8-bolt ANSI (American National Standards Institute) flange to





Martin® X-Stand organises air cannons and protects maintenance staff.

hold the cannon securely in place. The open sides allow easy access to the flange, hose connection, and tank removal. Solenoid boxes that enable manual firing and control the firing sequence can be conveniently mounted on the side of the rack.

The X-Stand is specially designed to fit different spaces and stack in several configurations for optimum space-saving, safer access, and ease of maintenance. The air cannons are still secured with a tether for added safety. X-Stands are delivered in assembled blocks with all the bolts and nuts required to secure them using standard tools. Air cannons are sold separately.

#### **Air cannons prevent downtime from clogs**

Air cannons are the most effective way to clear material that's adhered to preheater vessels or silo walls, as well as clogs in hoppers, bins, and drop chutes. Instead of exposing workers to extreme heat, having them beat vessel walls with hammers, or entering dangerous confined spaces, air cannons do the job safely and remotely.

They comprise a 35, 70, or 150-litre tank connected to a compressed air system that delivers a powerful shot triggered from a solenoid box up

to 200 feet away. Pointed in the direction the material flows, the high-velocity air passes through a nozzle across vessel surfaces to dislodge adhered material and clogs, promoting efficient throughput with minimal downtime.

Martin Engineering just celebrated the 50th anniversary of inventing Air Cannon technology. It holds the intellectual property for low-pressure cannons and continues to work on incrementally improving the technology for greater efficiency.

#### **The X-Stand solves several issues**

Air cannons are commonly





Martin® X-Stand organises air cannons and protects maintenance staff.



Martin® X-Stand with a solenoid box mounted on the side for better access.

secured to a nozzle assembly next to the vessel. A wire tether ensures the tank doesn't fall should it suddenly detach from the assembly. This positioning can make access a challenge, particularly when the units are set close to a hot wall like a preheater or kiln.

The positioning also becomes an issue when air cannons jut into narrow walkways, or workers must step over 4-inch tubing to access maintenance areas. Since trips and falls commonly top the list of

workplace injuries, proper headspace and unobstructed walkways help staff move through the area easily – particularly important when carrying large or unwieldy equipment or replacement parts.

Installing an X-Stand system allows air cannons to be placed in the optimum position and provides the opportunity to rearrange tubing leading to nozzles. Moreover, equipment can be moved away from areas of extreme heat. This reconfiguration ensures safe passageways and maintenance access, improving workplace safety.

"Through testing, we've found that there is negligible air blast power loss by extending the distance a few feet, and only about 5% power is lost with each elbow in the pipe," Dev pointed. "With strategic placement, the X-Stand will deliver safety results that justify any increase in the number of shots per sequence."

Some air cannon installations require mesh tubing to properly accommodate the tank's position and handle vibration from firing. Although commonly made with metal strands, the mesh tubing is considered a wear part that needs changing after long-term exposure to the punishing production environment, heated walls, and constant vibration. The X-Stand promotes the use of hard pipes with a longer equipment life and less maintenance for added safety and a lower cost of operation.

### Improving safety and access

After testing, participating operators said they liked the more organized approach in helping to keep congested operational areas as clear as possible. They were impressed with the cleaner look and the innovative solutions to pipe placement. Participants in field tests recognised no substantial change in performance from the original configuration.

"Martin is always listening to customers for ideas to improve safety and efficiency," Dev concluded. "The X-Stand is a result of that and is the next step to a clean, safe, and efficient bulk handling operation." ●



# PIONEERING TRU-TRAC INTELLIGENT BELT SCALE

## LAUNCHED AT BAUMA 2025

In an era where data-driven decisions are critical, Tru-Trac Rollers unveiled its intelligent belt scale system at bauma 2025. Featuring integrated AI-driven continuous calibration checking and real-time load cell monitoring with traditional belt scales, this next-generation solution goes beyond measuring tonnes per hour (tph) to deliver advanced conveyor belt monitoring.



The next-generation Tru-Trac belt scale combines cutting-edge AI, diagnostics and automation for industry-leading performance.

**I**ntegrating seamlessly with the award-winning Rip Prevent+ system, which Tru-Trac debuted to its African customers at Electra Mining Africa 2024, this innovation leverages artificial intelligence (AI) to detect anomalies or rip events on all conveyor belt types including steel cord, pipe, and fabric belts.

"This intelligent belt scale sets a new standard," says Tinus Ludik, Sales Manager – Bulk Materials Handling Division at Tru-Trac. "It is not just technologically advanced but also user-friendly, providing unprecedented data that



Tinus Ludik Sales Manager - Bulk Materials Handling Division at Tru-Trac.

conventional belt scales simply don't offer."

A standout feature is real-time load cell monitoring ensuring millivolt (mV) signals remain within optimal range. Any deviations trigger proactive warnings, allowing for timely intervention and reducing the risk associated with inaccurate or inconsistent readings. By continuously assessing load cell health, the system enhances reliability, repeatability, and accuracy.

Unlike traditional systems that require manual recalibration, Tru-Trac's intelligent belt scale automatically detects and corrects inaccuracies. Advanced AI algorithms analyse and cross check the belt scale readings against mass flow measurements, identifying deviations and self-adjusting to maintain precise measurements. This eliminates the need for manual intervention, improves reliability and reduces maintenance.

Beyond weighing, the system also monitors conveyor health, ensuring consistent material flow. Continuous mV readings assess belt alignment, flagging potential misalignment caused by off-centre loading.

The belt scale doesn't just focus on immediate accuracy – it delivers valuable long term operational insights. By tracking key performance indicators (KPIs) in real time, customers gain a deeper understanding of plant efficiency and productivity trends.

"The system's anomaly detection continuously analyses operational parameters," adds Ludik. "If any irregularities arise they are flagged instantly, allowing for corrective action before small issues escalate. This real-time oversight fosters constant optimisation and operational excellence."

With its groundbreaking combination of AI-driven automation, real-time monitoring and advanced diagnostics, Tru-Trac's intelligent belt scale is set to redefine conveyor performance. ●



## AN APP FOR DATA-DRIVEN INSIGHTS

Innovation isn't just a buzzword for Loadtech - it's the foundation of the company's identity and growth. As a leader in load cell technology and weighing solutions, Loadtech operates in industries that are constantly evolving. To stay ahead, the company places a high priority on developing new products, enhancing existing ones, and continuously finding better ways to serve customers.

"Innovation is at the heart of Loadtech's strategy," says Glen Webster, Operations Director at Loadtech. "It drives product development, customer satisfaction, and market leadership for payload management systems. From developing cutting-edge load cell systems to now launching our data-driven platform ViewIT, Loadtech shows that embracing innovation is essential not just for growth, but for survival in today's technology landscape."

"Loadtech leverages feedback from customers, partners, and market trends to guide product roadmaps. This 'customer-first' approach helps Loadtech ensure that its solutions remain relevant and valuable," says Webster.

ViewIT is a product that provides users in the mining

### SNAPSHOT



**Unified Data Management:** By consolidating various data processes, Loadtech ViewIT eliminates the need for multiple disparate tools, streamlining operations and reducing complexity.



**Real-Time Insights:** The platform's ability to provide immediate analytics and trend predictions enables businesses to respond promptly to changing conditions and make proactive decisions.

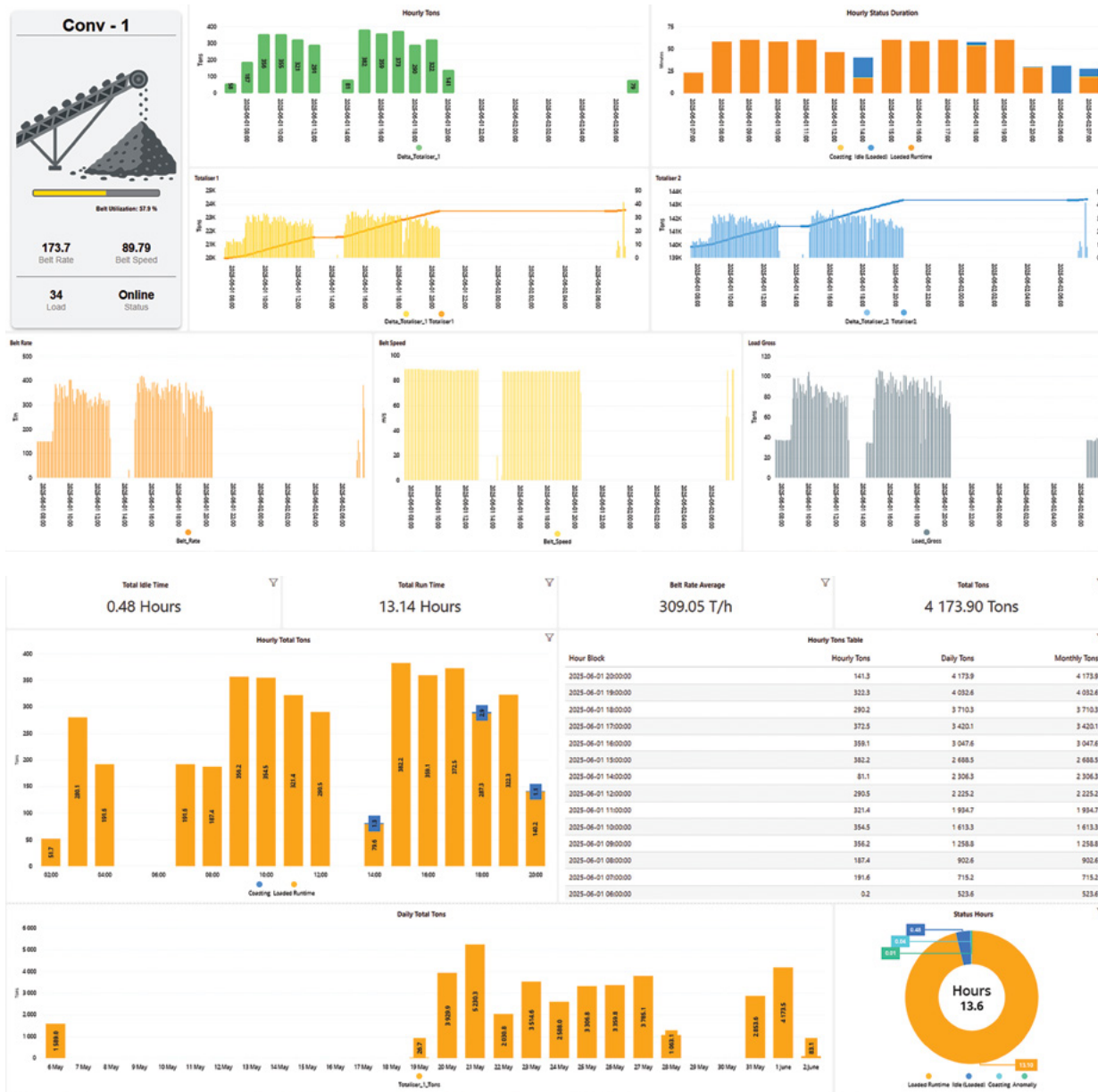


**Machine Learning Integration:** Incorporating machine learning capabilities allows for advanced data analysis, uncovering patterns and insights that might be missed with traditional methods.



**Accessibility Across Devices:** Designed for flexibility, Loadtech ViewIT is accessible anytime, anywhere, and on any device, ensuring that critical data is always within reach.





industry a competitive advantage as it enables companies to make decisions faster because they leverage data analytics. “The mining industry is increasingly embracing digital transformation, using analytics as a cornerstone to innovate new processes, develop autonomous systems, and even explore AI-driven optimisation,” says Webster. “In a tight and competitive market, this is paramount.”

The Loadtech ViewIT app was launched on 11 October 2024 for Android devices, and on 15 November 2024 for iOS devices. “We started developing this platform late 2023 and had test units in the field by early 2024,” Webster explains.

The ViewIT App introduces Loadtech’s AI-powered data intelligence platform, designed to provide businesses with real-time insights through data ingestion, storage, visualisation, analysis, and trend prediction. “The Loadtech ViewIT app took six to nine months to develop. It also incorporates a MQTT message system and AI,” Webster explains.

“The app was developed in-house. Our product

support and sales teams ran a project to ascertain what the customers’ needs were, specifically what makes it easier for them to know what is happening with their assets and top end. Most of the app’s early adopters such as Blurock Quarries and Afrimat have seen an increase in profitability since using Loadtech’s ViewIT app,” says Webster. “We can also format and customise the platform to suit any specific needs a client may have.”

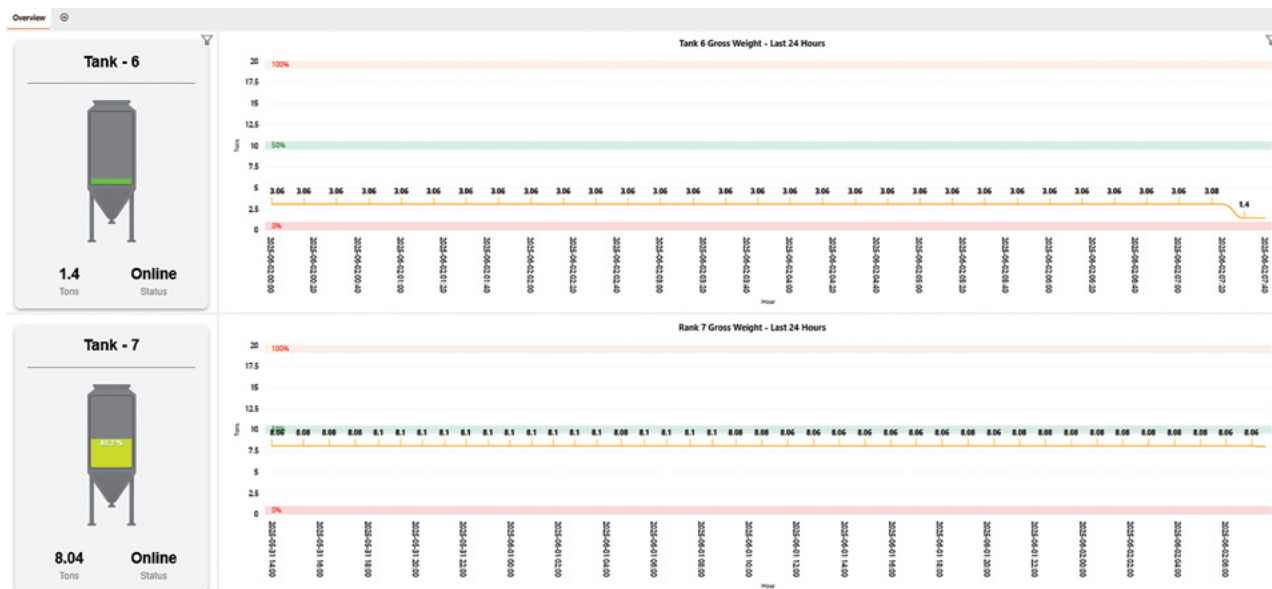
### The main thinking behind ViewIT

The Loadtech ViewIT app, available on both the Google Play Store and Apple App Store, is designed as a comprehensive data intelligence platform for businesses. The app integrates various data management and analysis tools into a single, user-friendly interface.

It aims to streamline the process of data handling and analysis by offering the following features:

**Data ingestion and storage:** It facilitates the collection and secure storage of large volumes of business data.

**Data visualisation:** The app provides tools to create



intuitive visual representations of data, aiding in better understanding and communication of insights.

**Analytical tools:** ViewIT incorporates analytical capabilities to examine data trends and patterns.

**Trend prediction:** Machine learning algorithms are utilised to forecast future trends based on historical data.

**Real-time insights:** Up-to-date information is offered to support timely decision-making processes.

**Accessibility:** ViewIT Ensures that the platform is accessible anytime, anywhere, and on any device, promoting flexibility and continuous data engagement.

"By integrating business intelligence, data automation, and machine learning, Loadtech ViewIT empowers businesses to make informed decisions and stay ahead in their respective industries," says Webster

### Satisfying data-driven needs

The surge in data-driven decisions and analytics adoption in the quarrying and mining industry is driven by several intertwined factors.

"Modern quarrying and mining equipment is equipped with sensors that continuously collect data on everything from equipment health to productivity and environmental conditions. This real-time data provides a wealth of information that operators can analyse to improve operational efficiency," says Webster.

"Advances in cloud-based infrastructure have made it easier and more cost-effective to store, process, and analyse massive volumes of data collected from mine sites and quarries. This has enabled companies to turn data into actionable insights faster than ever," he explains.

The quarrying and mining industry faces constant pressure to optimise costs due to fluctuating commodity prices and increasing operational costs. "Data analytics help identify inefficiencies, reduce waste, and optimise resource allocation," says Webster. "Data-driven insights allow for real-time monitoring and predictive maintenance, reducing unplanned downtime. They also enable better planning of drilling, blasting, and hauling schedules, boosting overall productivity."

### Improved safety and compliance

Data analytics supports advanced safety management by identifying patterns that might lead to accidents or health hazards, enabling preventive measures.

"Environmental regulations are becoming stricter. Data analytics enables continuous monitoring of dust levels, water usage, emissions, and more, ensuring compliance and reducing the risk of fines," Webster explains.

"As environmental concerns grow, mining and quarrying companies are under pressure to adopt sustainable practices. Analytics helps track and reduce energy usage, minimise waste, and optimise resource extraction, aligning with ESG (Environmental, Social, and Governance) targets. By analysing data on energy consumption and emissions, companies can also make informed decisions to reduce their carbon footprint," Webster concludes. ●

### Key benefits of using Loadtech ViewIT

#### Comprehensive Data Integration

Loadtech ViewIT consolidates data ingestion, storage, visualisation, analysis, and trend prediction into a single, unified platform.

#### Real-time insights and predictive analytics

The platform provides real-time data insights and leverages machine learning to predict trends, enabling businesses to make proactive, informed decisions.

#### Accessibility across devices

Designed for flexibility, Loadtech ViewIT is accessible anytime, anywhere, and on any device.

#### Enhanced operational efficiency

By providing intuitive tools for comprehensive data analysis, the platform enables businesses to identify inefficiencies, optimise processes, and improve overall productivity.

#### Scalability and customisation

Loadtech ViewIT is designed to scale with your business, accommodating growing data needs and allowing for customisation to fit specific operational requirements.





## 7 WAYS ROKBAK HAUL TRACK TELEMATICS

### PROMOTE BETTER FUEL EFFICIENCY

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

**E**very drop of fuel matters, when it comes to running a quarry, mine or construction site. That's why the Rokbak Haul Track telematics system isn't just about collecting data – it's about using it to make your job site more efficient, more cost-effective and produce fewer CO<sub>2</sub> emissions.

In this article, Garry Moore, a customer support manager for the Scottish articulated dump truck (ADT) brand, shares seven tips to help you cut fuel costs, reduce environmental impact and keep operations running smoothly.

#### **Staying on top of maintenance keeps engines efficient**

A well-maintained engine runs more efficiently, using less fuel and producing fewer emissions. Haul Track helps you stay informed of key health indicators and address issues such as clogged air filters or inefficient fuel injection to prevent engines from overworking unnecessarily and wasting fuel. Acting on the machine alert and service reminder notifications Haul Track sends to your designated email

account ensures your ADTs perform at their best, keeping fuel consumption to a minimum.

#### **Idling data highlights loading and hauling unit mismatches**

Fuel isn't being used efficiently when your ADTs are sitting in a queue waiting for the loading unit to be ready. Idling times combined with the GPS location data can help you spot these inefficiencies and address them by making changes to your fleet, which could include changing the size and capacities of both your loading and hauling units. With fewer delays, you can minimise wasted fuel and unnecessary CO<sub>2</sub> emissions, while maximising productivity.

#### **On-Board Weigh eliminates wasteful underloading**

Underloading trucks might seem harmless, but it means operators making more trips to meet material movement targets, leading to lower productivity, higher fuel consumption and greater machine wear and tear. The Rokbak On-Board Weigh system, inte-



Garry Moore, a customer support manager for the Scottish articulated dump truck brand, Rokbak.



## SNAPSHOT



Fuel efficiency is all about working smarter.



If one hauler is using noticeably more fuel, it could be a sign that additional operator training could help.



Fuel isn't being used efficiently when your ADTs are sitting in a queue waiting for the loading unit to be ready.



With fewer delays, you can minimise wasted fuel and unnecessary CO<sub>2</sub> emissions, while maximising productivity.

grated with Haul Track, provides live payload data so that operators can ensure their trucks are carrying the optimal load every time. This real-time feedback keeps operators efficient and helps you hit your target tonnes per hour production, without wasting fuel.

### GPS data provides insights to optimise site layout

Long haul roads and bottlenecks on site eat into fuel efficiency.

Haul Track telematics gives you the tools to analyse your fleet's movements, regardless of the brand of equipment you're using. By coupling GPS data with reports on idle time and fuel consumption, you can identify problem areas and optimise haul road lengths, routes and flow. Shorter, more efficient routes mean lower fuel bills, lower environmental impact and less machine wear.

### Fuel consumption data and operator behaviour alerts flag opportunities for training

Did you know that excessive acceleration, harsh braking and inconsistent driving habits can cause significant variations in fuel use? Haul Track telematics allows you to compare fuel consumption across units performing the same tasks. If one hauler is using noticeably more fuel, it could be a sign that additional operator training could help.

It's not about pointing fingers, rather helping everyone perform at their best. By identifying habits such as harsh braking or unnecessary idling, you can provide targeted training that makes a big difference to fuel efficiency.

### Maximise efficiency and tyre life with Haul Track guidance

Maintaining the correct tyre inflation pressure on Rokbak articulated haulers is crucial for optimal performance and efficiency. Underinflated tyres increase rolling resistance, which forces the engine to work harder and results in higher fuel consumption, excessive tyre wear and reduced machine stability. Haul Track helps prevent these issues by continuously monitoring tyre pressures in real time, allowing operators and fleet managers to quickly identify and correct low-pressure conditions, maximising fuel efficiency, prolonging tyre life and keeping operations running smoothly.

### Accurate data enables effective benchmarking and goal setting

Haul Track telematics data allows you to set performance benchmarks for fuel efficiency and measure progress over time. Operators and site managers can work toward realistic targets, with clear feedback on their performance. By regularly reviewing this data, you can spot trends, make informed decisions and motivate your team to continuously improve.

Fuel efficiency is all about working smarter. Rokbak Haul Track telematics deliver actionable insights that help you make informed decisions and drive continuous improvement for the sake of your bottom line and the environment. ●





**ASPASA**

Small surface mine association



**BOOYCCO**  
ELECTRONICS



**DANOHER**



crushing | screening | materials handling

**BRAUTESETH**  
BLASTING



**WEH**

Mining technology for a sustainable future



**LOADTECH**



ON BOARD WEIGHING



**ORECRUSHER**  
Impacting innovation



**ZEGA**  
SOUTH AFRICA



**POWERBIT**  
ROCKTOOLS



**MODERN**

**QUARRYING**







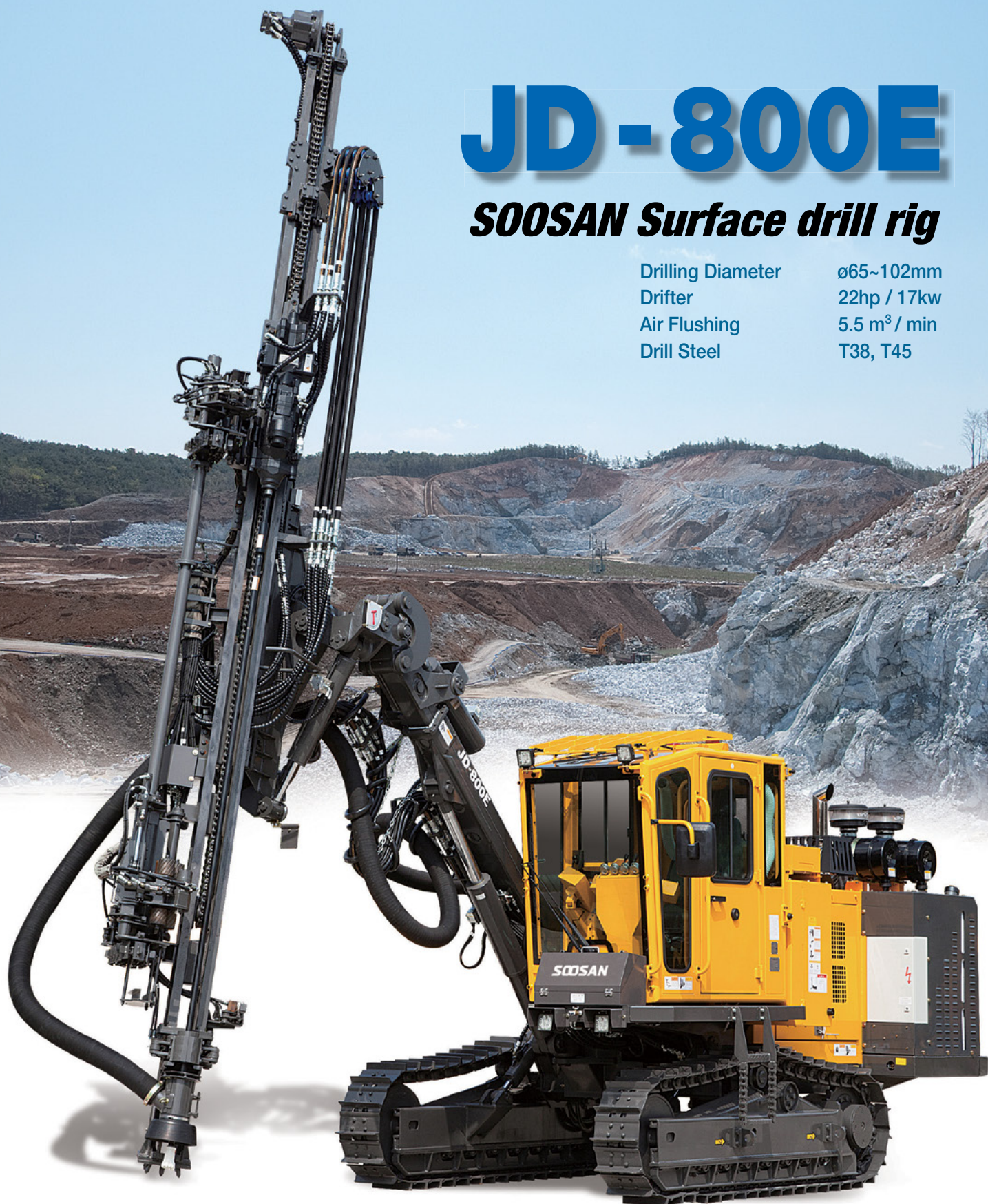
**JMH EQUIPMENT**  
(PTY) LTD

**SOOSAN**

# JD - 800E

## ***SOOSAN Surface drill rig***

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



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