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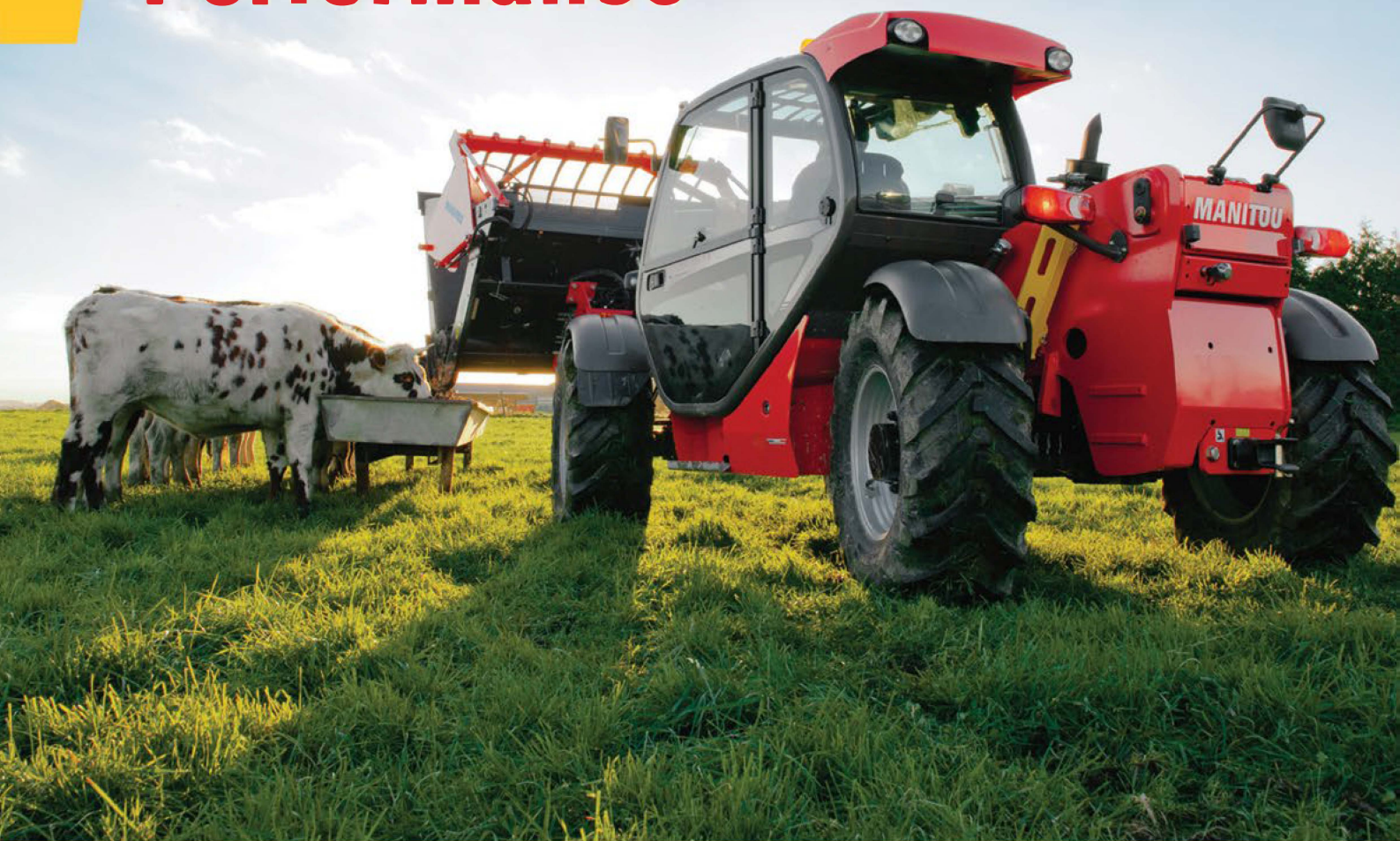
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MINI EXCAVATORS: Industry-first features that enhance operating efficiency

MANUFACTURING: Agility helps Sandvik Rock Processing to meet rising demand

Powerful Precision Performance



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EVS ARE TAKING OVER, BUT DID YOU CONSIDER FIRE SAFETY?

As South Africa embraces green energy solutions and adopts electric vehicles (EVs) in various sectors like construction, transport and mining, the country faces a pressing concern—lithium battery safety.

In this month's issue, we see that electric forklifts (page 16) are establishing themselves well in materials handling, while EV transport is on the rise (page 30 and 31). On top of that major expos such as bauma (that took place at the end of 2022 in Germany) and CONexpo which took place earlier this year, provided platforms for equipment manufacturers to display their new equipment that is emissions-free and kitted with lithium batteries.

The increasing use of lithium batteries in EVs and portable devices has led to a growing global problem of lithium battery fires. South Africa, in its pursuit of sustainable energy and off-the-grid power systems, is no exception to these challenges. Stakeholders, including insurance providers and fire departments, are now taking proactive measures to address the rising risks of lithium fires.

What is interesting is that there are simple solutions to the potential of

battery fires, and the transition or new technology of EVs does not mean we need to recalculate safety in its entirety.

SafeQuip, an innovative fire safety solution in South Africa, spearheads a lithium fire extinguisher solution. This development promises to revolutionise fire safety in the country and addresses the specific concerns arising from the use of lithium batteries.

The increasing prevalence of lithium batteries in EVs, portable devices, and energy storage solutions has brought the issue of lithium battery fires to the fore. The fires are challenging to control due to the unique properties of lithium batteries, which can lead to thermal runaway and severe risks.

Recognising the escalating threat of lithium battery fires, stakeholders such as insurance providers and fire departments are taking proactive measures to address these concerns. Knowledge-sharing and the development of global standards and protocols are underway. Ensuring the effectiveness of products designed to combat, suppress, and prevent re-ignition of lithium battery fires is now a key focus.

In collaboration with AVD Lithex, SafeQuip has embarked on a three-year journey to address this critical issue. Their efforts included advocating for amendments to the SANS 1910 standard, to allow the use of water-based extinguishing agents. This milestone was achieved when the revised standard was published in November 2022.

SafeQuip has subsequently submitted product samples for certification by BSI, working diligently towards this goal for the past eight months. While the certification process is challenging, completion is expected by November 2023. Once certified, SafeQuip will offer the only SANS 1910-approved

fire extinguisher with lithium fire extinguishing capabilities in South Africa.

This is important to mention. While SafeQuip works relatively simply – it is something new that anyone switching to an EV needs to be aware of: the potential of fire is different, and dealing with that fire is also different.

SafeQuip's product, based on vermiculate patented technology, offers three critical features for combating lithium fires.

First it cools and encapsulates a fire, preventing spread and escalation.

It then actively stops the propagation of the fire, limiting its impact. Most importantly the SafeQuip Lithium Fire Extinguisher is specifically designed to prevent re-ignition, even after initial suppression.

AVD Lithex's groundbreaking technology has also been applied to fire blankets. These versatile blankets are designed to withstand temperatures above 1000°C, making them invaluable for containing fires until they self-extinguish. In a landscape where lithium batteries play an increasingly prominent role, the fire blankets provide an additional layer of protection.

As South Africa's transition to greener energy solutions accelerates, the safety of lithium batteries becomes paramount.

It should be applauded that SafeQuip, in partnership with AVD Lithex, is taking significant steps to ensure that lithium battery fires can be effectively managed and prevented. With the exciting changes to fuel-alternatives, sometimes fire safety is not top of our minds, and the system allows South African EV owners to be safe. This line of fire safety can protect businesses and industries but also safeguards South Africa's evolving EV landscape in construction, transport, and mining. 🌟

Adriaan Roets - EDITOR



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SCANIA

Affordable drill-rigging in South Africa

Furukawa Rock Drills (FRD), a Japanese manufacturer, has unveiled a game-changing solution for the drilling industry in southern Africa.

With a focus on reducing drilling costs, FRD has developed the HCRL100-E3, a cost-effective and tailored drill rig designed to excel in local operating conditions.

The HCRL100-E3 represents the evolution of the well-established FRD HCR 1500 ED-II model, a trusted choice for mines, quarries, and construction contractors across the region. This transformation was driven by valuable input and feedback from their long-time distribution partner, ELB Equipment.

James Linton, the company's national product manager, highlights that the enhancements are the result of decades of successful operations in the African field.

FRD's commitment to fine-tuning performance, speed, and cost-efficiency is evident in this latest offering.

Linton explains, "It's a tough task to improve on one of the most successful drill ranges in the industry, but FRD has accomplished it with the assistance of our customers' feedback and experiences."

The FRD HCRL100-E3 boasts a more powerful 280 kW engine and a larger compressor, enhancing efficiency at reduced RPM. Its new Super Economy Mode ensures power is used only when necessary, thanks to automatic throttle control, idling, and compressor low-pressure standby. This results in an impressive fuel consumption reduction of up to 8.5% while delivering more power for increased drilling speed and capacity, accommodating bits up to 127mm in diameter.

Intelligent Drilling System (IDS) takes fuel efficiency to the next level by utilising power judiciously, contributing to the rig's legendary Japanese reliability and ease of operation. FRD's upfront engineering design ensures simplicity, reducing the need for complex mechanical and electrical systems, and making maintenance and repair easier in African conditions. Simplicity extends to the controls and cab, offering operators an unobstructed view of all operation parameters. Smart controls are seamlessly integrated with IDS inputs. The ergonomic cab provides operators with a comfortable workspace with air conditioning and other amenities to ensure alertness and productivity. Safety features align with local requirements, ensuring a secure working environment. 🌟

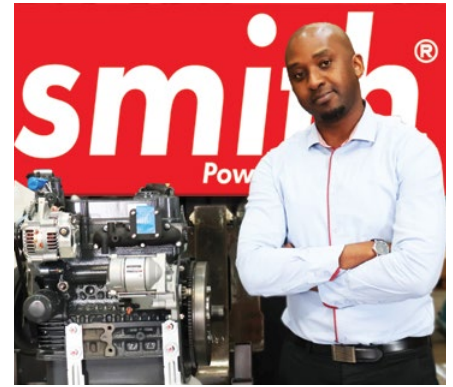
Versatile diesel engines for a range of applications

With an engine for nearly every application, Japanese engine manufacturer Kubota has expanded its range of diesel-only engines to include everything from 5 kW motors for pump and lawnmower applications to powerful 160 kW motors for large tractors and bespoke industrial applications.

The engines also power many equipment manufacturers' machines and are a first choice wherever reliable performance is required. For over 30 years Kubota in South Africa has been represented by its longtime distributor Smith Power Equipment with its substantial network of dealers that is able to service customers in all parts of the country and across borders.

In most instances, spare parts and direct engine swaps are available to support machines with Kubota engines, except in some instances where original equipment manufacturers (OEMs) enter into specific agreements or modify engines to not accept standard Kubota parts. In the case of new builds or where the engine is required to replace another manufacturer's engine the Smith Power Equipment team is also technically trained to assist with design-specific requirements to ensure the Kubota engine is installed and fit for purpose.

Clement Ngamlana of Smith Power Equipment adds that the engines are industrial variable speed motors good for dusty agriculture equipment, construction machines, fire pumps, chippers, crushers, air compressors and many other factory applications. "The main reason our customers specify the product is a piece of mind arising from its long and proven track record spanning decades in the country. Our engines



Clement Ngamlana of Smith Power Equipment

are also comprehensively covered by a 2-year / 2000-hour manufacturer's warranty. They also run at low revs for low fuel efficiency and less strain which also equates to lower emissions.

"One of our clients recently enquired about replacing his 14-year-old borehole pump engine that has worked flawlessly day in and day out. It's still running but he thinks it may be time to upgrade and this just speaks volumes about the quality of Kubota engines and makes it a truly unbeatable option in any suitable application," says Clement.

He adds that typical easy-to-service Japanese engineering ensures quick maintenance and there is field service staff available to assist end users wherever it is required. Buying a Kubota is all about uptime and we are available to make sure that it keeps running reliably for as long as it is needed. Whether specifying Kubota for an entire range of equipment or just buying one to use in a standalone application, it is an investment in quality and is well-supported and competitively priced for the South African market. 🌟

Bobcat employees volunteer at local communities

One thousand Bobcat employees across the globe volunteer for the benefit of their local communities. In South Africa employees went to a children's home in Alrode to help.

In recognition of its commitment to communities and sustainability across the globe, Doosan Bobcat (Bobcat) employees and members of its leadership team have been celebrating the company's support of nearly 100 organisations and municipalities through volunteer efforts to benefit the places where Bobcat employees live and work.

On 12 September, more than 1000

employees in 12 countries across Bobcat's global footprint participated in company-organised projects, volunteering thousands of combined hours.

"As an organisation, we aim to create positive social impact to enhance the communities where we live and work, as well as benefit our neighbours," said Scott Park, Doosan Bobcat CEO.

"Our community engagement initiatives are a company tradition and over the years we have supported hundreds of organisations with thousands of volunteer hours all with the goal of creating a better tomorrow."

In Dobris in the Czech Republic, where Doosan Bobcat's headquarters for Europe, the Middle East and Africa (EMEA) are located, 179 executives and employees participated

Keestrack develops Long Life Grease

Keestrack scalpers K3, K4 and K5 will be standard equipped with Long Life Grease (LLG).

To increase uptime, Keestrack decided to standardise the Long Life Grease on the K3, K4 and K5 scalper in their Czech factory as of the start of September, due to great testing results since 2021.

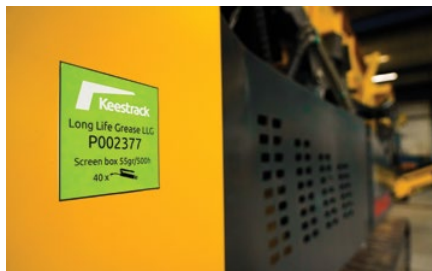
Keestrack LLG contains anti-wear and anti-friction additives and is resistant to water and rust. It extends service intervals and lowers costs and downtime. It expands the lifetime of the bearings of the screen box and apron feeder by running at a lower temperature.

The LLG grease is resistant to high-impact loads and vibrations and can handle an ambient temperature from -25°C to +145°C.

Due to the LLG grease, the service interval is 5 to 10 times longer, compared to standard EP2 grease. For example: greasing the screen box has been reduced from every 50 hours to every 500 hours.

The operating temperature of the bearings is much lower with LLG grease compared to standard EP2 grease. In one test, comparing the EP2 grease versus the LLG grease on the screen box of a K5, the bearings were running at an operating temperature of up to 60°C with standard EP2 grease, while with LLG grease they were running at an operational temperature of 43°C, a significant difference.

The use of LLG grease has a positive effect on the lifespan of the bearings, resulting in



LLG grease has a positive effect on the lifespan of bearings.

more uptime, less downtime and lower costs.

To emphasize the unique characteristics of this grease the cartridges are branded under Keestrack private label.

The LLG grease is available in 400 ml tubes and can be easily applied by an ergonomic hand pump. The cartridges are made with a screwable cap so they cannot be mixed up with other classic grease pumps. You can apply the grease by the hand pump single-handed or both-handed. The hand pump is designed so you can always clearly identify the LLG grease. At the bottom, it will stay clearly visible at all times.

Keestrack dealers inform their customers of this new standard on the K3, K4 and K5 screens, incorporated at Keestrack factories in the Czech Republic as of 1 September. Due to standardising the LLG grease, the central greasing option on the K3, K4 and K5 will disappear.

in activities including a city and forest clean-up project; bush and tree planting; fence painting and preparing a surface for a children's playground. Volunteers used a fleet of Bobcat equipment including skid-steer, compact track and wheel loaders with various attachments to help with the projects, making tough jobs easier while increasing efficiency and productivity.

Representatives of the town of Dobris and community employees joined Bobcat staff in these volunteer efforts. The Mayor of Dobris, Pavel Svoboda, commented: "With so many people involved at once and with the equipment used, we can really conduct meaningful and impactful projects in a short period of time to benefit all the residents and make our town an even better place. I am grateful for any helping hand."

Bobcat employees from around the world participated in the initiative, encompassing



Scott Park, Doosan Bobcat CEO (left) on the day.

the Europe, Middle East, Africa, North America, Asia, Latin America and Oceania regions. The global effort supports Bobcat's Environmental, Social and Governance (ESG) commitments to community engagement, sustainability and responsible growth as an organisation in the communities where its employees live and work. 🌱

Manitou Group's massive expansion



The opening of the new facility this month.

Manitou Group, a world reference in the handling, aerial work platform and earth moving sectors, celebrated the grand opening of its Madison, South Dakota 80,000 square foot expansion project which coincides with the company's 50th anniversary of manufacturing skid loaders.

The new expansion plan renovates and extends the existing building.

The expansion consists of an enlarged assembly line, enabling all assembly processes to occur within the same building, and promoting greater efficiency through proximity.

The number of workstations has increased by 30% from the previous set-up, now consisting of 19. They incorporate kitting and other lean concepts to optimise time and improve employee efficiency.

Additionally, a new loading dock centre has been established by repurposing one of the former assembly buildings. This enhancement enables the facility to handle shipments more effectively for the anticipated increase in production.

Success in Sydney for Rokbak RA30

Sydney-based DSA Contracting has been so impressed with the Rokbak RA30 articulated hauler in its construction and infrastructure projects in Australia, that the company has already ordered another RA30 to join its fleet.

Rokbak articulated haulers are set to play a pivotal role in ongoing operations after the RA30 quickly convinced in its role in assisting a large housing development in southwestern Sydney. The RA30 may be a recent addition to DSA Contracting's fleet but, due to the articulated hauler's success, another is already on the civil contracting solutions company's order book.

Rokbak's fuel-efficient drivetrains deliver powerful performance and meet worldwide emission standards with low cost of operation and low environmental impact. Further reducing the total cost of ownership is Rokbak's Haul Track telematics system, which has simplified operation and maintenance for DSA Contracting.

Franna Expands into Africa with the FR17 C

Franna, an Australian-based market leader in the design and manufacture of pick and carry cranes has launched the FR17 C model into the African, UAE, and Latin American markets. A cost-effective, compact pick-and-carry crane with a short turning radius of 6.77 metres, the FR17 C is an ideal entry-level crane for construction, mining, and logistics as well as city, yard and industrial applications where space is limited.

The cranes can replace the work usually completed by smaller truck cranes since they have no stabiliser legs or outriggers meaning set-up time is much quicker. They are designed to lift the load and carry it to its destination within a small radius. Coupled with a dedicated product support team, 24/7 support and a complementary range of digital tools, including the Terex Lift Plan app, Franna pick and carry cranes have the support to keep moving—safely and efficiently.

The FR17 C is the ideal crane for Franna to expand internationally as the combination of safety, comfort, and smooth steering flexibility makes it a versatile, dependable crane that will stand out in the market. The model has been engineered to provide maximum productivity with advanced safety measures, the latest technology, and robust structural design.

Offering an impressive lifting capacity



The cost-effective, compact pick-and-carry FR17 C crane.

of 17 tonnes, the FR17 C boasts a compact design that enhances manoeuvrability in confined spaces. It features an intuitive control system that enables precise and smooth operation, ensuring that operators can handle complex lifting tasks with ease. The crane's advanced safety features include overload protection, anti-tipping technology, and a comprehensive safety monitoring system, providing operators with peace of mind, and enhancing overall job site safety. Driver

fatigue is reduced since there is no clutch pedal to operate, and this along with the full-width, two-person cabin provides excellent visibility and driving comfort.

One of the key highlights of the FR17 C is its Cummins engine, renowned for its reliability and widespread availability of spare parts, ensuring easy maintenance and servicing across any region and contributing to minimal downtime, increased productivity and reduced operational costs. 🌟

Nikki Hard Hats celebrates South African heritage

With Heritage Day celebrated last month, integrated workplace safety solutions provider BBF Safety Group is highlighting the leading role its Nikki brand of hard hats has played in the industry for over 15 years.

"It is one of the hardest performing hard hats on the market today and has established a name for itself in terms of providing the best balance of performance and quality at great value," says Marketing Manager Deane Nothard. Two shell types are available, known respectively as Nikki I and Nikki II.

"Nikki has been very successful over the years, working with customers and developing for South African environments," says Nothard.

Nikki's acceptance and proven performance in the mining industry, the backbone of South Africa's industrial economy, is a testament to how entrenched the product is in the local market.

"Nikki is one of the heaviest-duty hard

hats available, especially given the fact it is specified throughout several industries," says Nothard. The Nikki 1 is also one of the few of its kind to be made from 100% virgin ABS for significantly higher durability and strength. This makes it a premium hard hat for particularly arduous applications, but at a mid-level price point that continues to boost its popularity.

The Nikki II also does not compromise on quality, using only virgin polypropylene. Both the Nikki I and II have a unique bridged construction, giving the Nikki shells among the best side impact protection on the market.

Such is the acceptance of the product that once specified, clients seldom opt for alternative products. To ensure consistency and quality, the BBF Safety Group recently invested in new moulds, further mould refurbishments and testing equipment.

"These investments are critical to maintain Nikki's status in the market and



Proudly South African hard hats.

ensure its continued longevity. Unfortunately, some of these upgrades caused production downtime earlier this year, but our production is running flat out again, and our warehouse is well-stocked," adds Nothard.

The strong heritage of Nikki is due to its tried-and-tested performance over the years, together with the BBF Safety Group using 100% virgin materials and investing in local R&D for local environments and in-house testing to ensure compliance. 🌟

Self-lubricating bushings have additional value in construction

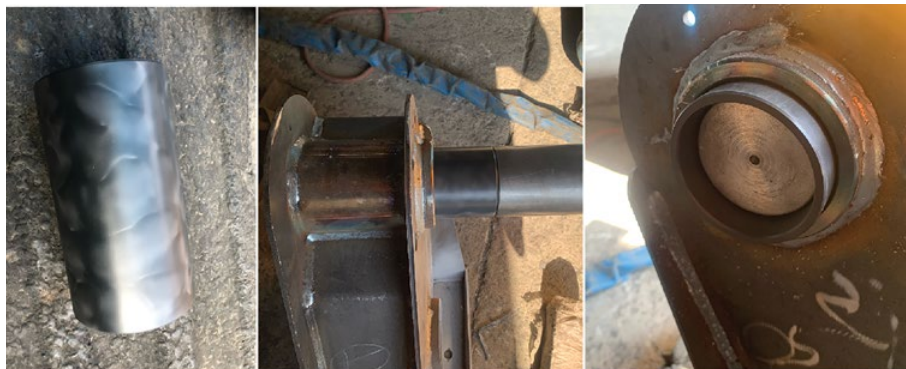
In a testament to the outstanding performance and reliability of Vesconite self-lubricating bushings, a prominent South African side-tipper manufacturer has doubled its monthly orders for side-tipper bushings.

This substantial increase in orders reflects the manufacturer's confidence in Vesconite Bearings' superior products, customer satisfaction and excellent pricing.

The manufacturer's confidence in Vesconite self-lubricating bushings is further demonstrated by a noteworthy shift in its buying patterns. In the last year, the company has adopted a proactive procurement approach by placing blanket orders and securing monthly supplies several months in advance to ensure consistent stock availability. This strategic move acknowledges Vesconite's importance as a key supplier of parts.

Vesconite self-lubricating bushings, known for their exceptional performance, are superior to materials such as nylon and bronze in this application.

Vesconite bushings are self-lubricating, a crucial benefit when dealing with abrasive materials such as sand during transportation. Unlike greased lubricants, which can turn gritty, forming an abrasive paste, Vesc-



The self-lubricating bushings.

onite's self-lubrication ensures long-lasting durability even in challenging conditions.

Another standout feature of Vesconite is its exceptional dimensional stability. This quality sets it apart from competing nylon parts, which are prone to swelling in moist environments. In contrast, Vesconite bushings remain unaffected, ensuring reliable performance in various operational settings.

The Vesconite bushings in question play a pivotal role as the connecting point between the tipper body and the chassis of side-tipper trailers.

Each side-tipper body utilises two Vesconite bushings, with a bushing employed

on each chassis pivot mounting, describes Tristen Wintershoven, Vesconite's transport application engineer.

He notes that these essential pivot points enable side tippers to efficiently unload bulk materials, such as sand, gravel, or demolition debris, adjacent to the tipper truck using a hydraulic system that tilts the tipper body.

The preference for Vesconite self-lubricating bushings underscores the side-tipper manufacturer's commitment to delivering high-quality, reliable equipment for the efficient unloading of bulk materials—a practice particularly valued in Africa's mining, construction and road-building industries. 🌟

Volvo CE expands global Fluid Analysis offer

Volvo Construction Equipment (Volvo CE) has unveiled its game-changing Fluid Analysis program, an expansion of the existing Oil Analysis offering. This innovative service encompasses a wide range of critical fluids, including lubricants, diesel fuels, AdBlue, and coolants.

The centrepiece of this remarkable initiative is an Artificial Intelligence (AI) platform-driven fluid analysis that can identify wear metals and contaminants on equipment or detect changes in fluid conditions. By harnessing the power of AI, Volvo CE has not only expanded its Fluid Analysis program but also boosted its global testing capacity by a whopping 250%, now boasting 20 labs worldwide.

The digitised process incorporates a cloud-hosted customer portal and a user-friendly Fluid Analysis mobile app, both leveraging AI data analysis to provide customers with easily understandable reports and insights of the utmost accuracy. This technology empowers customers to make well-informed decisions regarding their equipment health.

One of the most significant advantages of this AI-driven approach is its ability to expedite the testing process, resulting in quicker and more straightforward analysis. Lab technicians can now devote more attention to delicate testing issues, such as the analysis of abnormal or critical samples that are of paramount concern to clients, thereby offering more valuable insights and recommendations.

Furthermore, Volvo is collaborating with a leading testing provider to ensure uniformity and efficiency on a global scale. This partnership not only enhances testing capacity significantly but also streamlines the sampling and analysis process, reducing lead times.

Effective fluid analysis has become paramount, with a staggering 75% of repair costs and equipment downtime attributed to contaminated lubricants and fuels, and up to 65-75% of bearing failures stemming from lubrication issues. Early detection of contamination or wear empowers customers to take proactive measures, preventing unplanned downtime and costly repairs.

Volvo's streamlined approach involves taking a fluid sample from the machine and sending it to Volvo's expanded global



The analysis program in action.

laboratory network for analysis. Reports, complete with recommended actions, are promptly accessible through the user-friendly Volvo Fluid Analysis customer portal. This cloud-based platform presents reports in a highly visual and easy-to-understand format, making it the first fluid analysis solution to utilise AI data analysis, delivering consistent and straightforward recommendations.

The Fluid Analysis mobile app further simplifies the process, allowing users to register samples from anywhere globally, access sample reports quickly, and receive urgent notifications.

This transformative approach to fluid analysis has several benefits. Routine fluid analysis is proven to reduce downtime by 15%. 🌟

Konecranes' technology cuts fuel consumption and emissions by 25%.



LIFT TRUCKS THAT CAN CARRY THEIR WEIGHT

Frequent downtime, high fuel consumption and excessive emissions are the bane of equipment operators in the material handling market. Add to this lift trucks that can perform more than one function at ports, and terminals have extra value in South Africa. Heavy Lift is committed to providing solutions that are not only cost-effective but also serve up equipment that can also function as load weighing systems.

The Konecranes range of lift trucks has a history of working with leading container ports and terminals. Now, the range of trucks also offers peace of mind with the latest technology to keep the wheels turning, reduce running costs, and ensure compliance with regulations within the lifting industry.

Lenny Naidoo, Acting National Operations Manager for Heavy Lift, a division of CFAO Equipment SA that sells heavy forklifts to container handlers and the ports industry, says that for over 80 years, Konecranes has been the industry

leader in the lifting sector, offering reliable and resilient container lift trucks, reach stackers and forklift trucks for shipyard, port and terminal applications.

"From the start, Konecranes has invested in research and development to continually improve the safety, productivity and cost-effectiveness of equipment. The new technology enables us to give every one of our customers fit-for-purpose solutions for their own set of circumstances. Added to this, our service-minded attitude makes all the difference," says Naidoo.

Introducing Flow Drive

The Konecranes Lift Trucks Flow Drive concept significantly cuts down fuel consumption and emissions by up to 25%, but also enhances the driver experience and increases active operation time.

"Flow Drive, a Konecranes innovation, uses hydromechanical variable transmission



"Flow Drive, a Konecranes innovation, uses hydromechanical variable transmission (HVT) to limit power at low speed, lowering wear, fuel consumption and emissions on a heavy-duty engine that maintains full performance."

Lenny Naidoo, Acting National Operations Manager for Heavy Lift



The choice of new or used Konecranes equipment is dependent on affordability.

	<p>Konecranes' Lift Trucks Flow Drive concept reduces fuel consumption and emissions by up to 25% while enhancing driver experience.</p>
	<p>Konecranes offers CheckApp, an easy-to-use mobile app for crane users to record their findings during daily inspections.</p>
	<p>The Static Weighing System for container weighing in port operations provides 1% full-scale accuracy and can hydraulically measure the weight of lifted containers.</p>
	<p>Konecranes' lifting equipment is equipped with the TRUCONNECT remote monitoring service, which collects condition, usage, and operating data.</p>

QUICK TAKE

(HVT) to limit power at low speed, lowering wear, fuel consumption and emissions on a heavy-duty engine that maintains full performance. With greater intervals between refuelling and less maintenance, it can significantly increase productivity. It's a solution that brings concrete benefits to everyday operations and an increase in overall productivity," says Naidoo.

Active preventive maintenance

Konecranes' active preventive maintenance programme also plays a crucial role in improving productivity and safety. Since preventive maintenance can reduce downtime and increase reliability, Konecranes CheckApp for daily inspections is an easy-to-use app for crane users to record their findings when performing pre-shift and/or pre-lift inspections quickly and easily.

CheckApp allows for intuitive and reliable auditing of performed daily inspections. The

easy-to-use mobile app assists with the timely recognition of potential asset-specific safety or production risk issues. Furthermore, it can also capture videos and photos for uploading to the cloud where it can be accessed by service personnel.

Inspection results can also help to identify potential asset-specific safety or production risk issues and identify workplace improvement opportunities and operator training needs.

"The most important reason to perform daily inspections is safety. Even with regular inspections and maintenance, issues can arise for a variety of reasons including continuous or heavy use, operator behaviour, overloads and more. A daily inspection helps to spot obvious damage, excessive wear or other deficiencies and enables operators to know whether the crane is working correctly before a load is lifted," says Naidoo.

Safe and comfortable cabins

Konecranes has carefully designed its cabins for driver comfort and safety. Controls, displays, ventilation, and seating work to boost driver productivity.

There is excellent visibility in all directions. This is made possible by very large, lowered windows with no corner posts, thin but very strong roof crossmember, and curved panels. Sightlines to key working areas are clear in the front, to the sides, and to the rear.

Another safety consideration is that there is also more space for operating the foot pedals. The positioning of the instrumentation improves operating ergonomics. With an excellent seat, powerful cabin heating and ventilation, and air conditioning, the driver is provided with every possible comfort. This aids in eliminating harsh braking and sudden stops.

Static Weighing System

Konecranes also provides for its cabins to be customised for exact operational needs. The need to bolster safety, productivity and efficiency in the port environment has come under the spotlight in recent times.

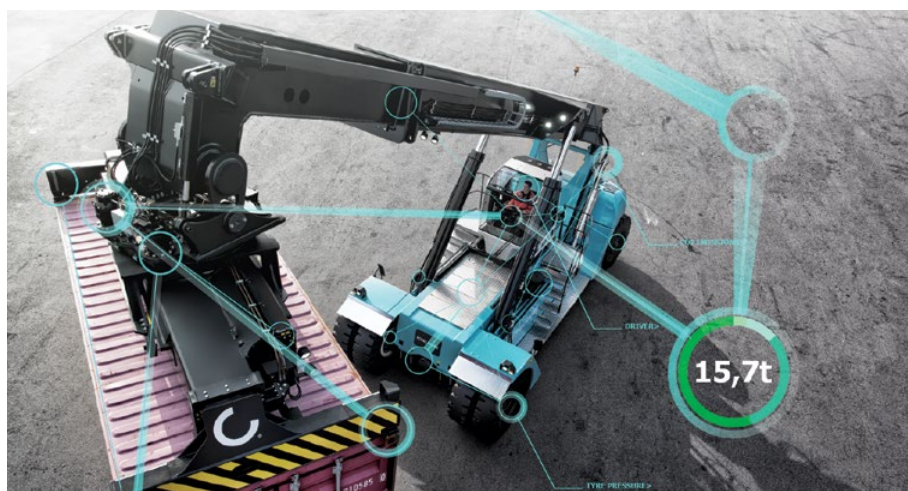
This is as amendments to the Safety of Life at Sea (SOLAS) have become more stringent to reduce any potential maritime risk.

According to SOLAS, one of the many ways the industry can mitigate any potential risk includes the weighing of containers, where shippers are to provide the verified gross mass of all packed containers, and those that fail to do so, will not have their containers loaded onto a ship.

Under the SOLAS amendments, there are two permissible methods for weighing. Method one requires the weighing of the



Konecranes CheckApp for daily inspections is an easy-to-use app for crane users to record their findings when performing pre-shift and/or pre-lift inspections quickly and easily.



container after it has been packed, and method two requires weighing all the cargo and contents of the container and adding those weights to the container's tare weight as indicated on the door end of the container.

According to Naidoo the container weighing process in port operations is a lengthy process, often leading to inefficiencies and poor productivity.

"It is for this reason that Konecranes developed its Static Weighing System. As an industry first, the Static Weighing System has seen great success since its recent launch, where reach stackers can now hydraulically measure the weight of lifted containers before they are loaded onto a ship, with 1% full-scale accuracy achieved and verified in less than five seconds," says Naidoo.

According to him, this is a dramatic improvement compared to conventional weighing methods where containers are loaded onto weighbridges.

Recent updates to the Static Weighing System include an in-cab printing system that not only provides the port and operator with a printed verified weight but automatically transfers and stores the data on the YourKonecranes cloud-based service.

This allows for seamless integration between the weighing systems and users' Terminal Operating System (TOS), Transport Management System (TMS) or Enterprise Resource Planning (ERP) systems.

The Static Weighing System is easy to operate, with the operator initiating the weighing process from a multi-touch 7-inch control display inside the cabin once the container is lifted into its transport position, and provided with an automated Verified Gross Mass (VGM) declaration using the data gathered.

The automated VGM declaration contains detailed information such as gross container mass, exact container ID, time and date stamps on each container, operator details and even lift truck data. Furthermore, the system detects the GPS coordinates of the container, making for easier container packing and loading.

Remote monitoring of equipment

Konecranes lifting equipment also benefits from TRUCONNECT remote monitoring service to enable tracking of the real usage of the lift trucks.

TRUCONNECT collects condition, usage and operating data from control systems and sensors on a machine and provides

TRUCONNECT collects condition, usage and operating data from control systems and sensors on a machine and provides alerts of certain anomalies.

alerts of certain anomalies. Remote monitoring data is used in maintenance planning and in predicting possible component or equipment failure.

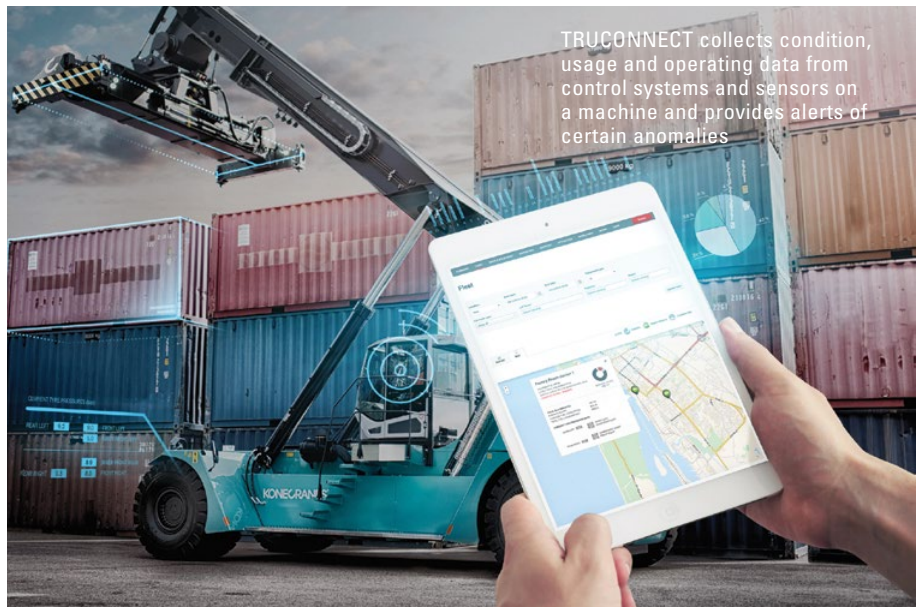
Collected data typically covers the condition and expected service life of critical components, running time, lifted loads, motor starts, work cycles and emergency stops.

Safety alerts are delivered automatically by email or text message to notify designated contact personnel of selected safety risk events.

Selecting equipment

The choice of new or used Konecranes equipment is dependent on affordability.

There are also 60-month rental and cash outright options available from CFAO Equipment SA, which sells new and pre-owned units, rental options, and value-added services. A wide range of quality pre-owned equipment sourced from short to long-term rental fleets is available. All pre-owned equipment is inspected and repaired using genuine parts. Warranties and load test certificates are offered with all pre-owned equipment and service agreements available on request.



TRUCONNECT collects condition, usage and operating data from control systems and sensors on a machine and provides alerts of certain anomalies

After-sales support

Naidoo says all Konecranes products and offerings are supported by CFAO Equipment SA's aftermarket service.

"Our after-sales service is our key selling point and differentiator in South Africa and the rest of Africa. Underpinned by a

promise of Trusted Quality Service, we are committed to offering exceptional support and providing quality service delivery and superior workmanship. This is aimed at reducing downtime and getting your operations back on track as quickly as possible," concludes Naidoo. 🌟



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Caterpillar's Next Generation mini excavators are designed for versatility. Their compact radius swing reduces overhang when working to the side, enabling these machines to excel in confined spaces.

MINI EXCAVATORS ARE REDEFINING EFFICIENCY AND VERSATILITY

A closer look at Caterpillar's innovations with mini excavators available in South Africa shows that these small machines are well suited to a variety of tasks. In the ever-evolving world of construction and excavation, the importance of efficient and versatile machinery cannot be overstated.

Their recent releases in the mini hydraulic excavator category, such as the Cat 2.7- to 3.5-ton mini hydraulic excavators and the Cat 305 CR Mini Hydraulic Excavator, are prime examples of how technological advancements are revolutionizing the industry.

In addition to these new models, Caterpillar has also expanded their Tilt Rotate System (TRS) offering, which further enhances the versatility of their mini excavators.

Next generation mini's

Caterpillar has always been at the forefront of engineering excellence, and their new line of mini hydraulic excavators is no exception. These compact powerhouses are set to redefine the 2.7- to 3.5-ton class, with industry-first features that enhance operating efficiency, servicing ease, and operator comfort.

The Caterpillar 302.7 CR, 303 CR, and 303.5 CR hydraulic mini excavators boast several groundbreaking features designed to lower costs and boost efficiency. Built on the Next Generation platform, these models offer a consistent operator experience throughout the 1.5- to 10-ton range. This

platform includes exclusive innovations like stick steer, cruise control, operator-adjustable settings, and a tilt-up canopy or cab as standard equipment. These features are not only user-friendly but also improve overall operational efficiency.

One key aspect of these mini excavators is the increased use of common parts throughout the line, coupled with a sturdy exterior design.

This combination significantly reduces parts inventory investment and lowers repair costs. Routine maintenance checks are made easy through conveniently located side doors, and the tilt-up cab design provides unparalleled access to components for servicing. With increased service intervals, these excavators spend more time on the job and less time in the workshop. Collectively, these features can lower total ownership costs by up to 5% compared to previous models.

Performance enhancements

In addition to cost-saving features, Caterpillar's new mini excavators deliver up to 10% more performance in travel and trenching. Hydraulic system upgrades enhance lifting performance and cycle times, while customisable operator



The new Tilt Rotate System (TRS) models designed to work seamlessly with Cat 302.7 through 310 Next Generation Mini Excavators.

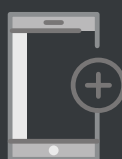
QUICK TAKE

Caterpillar's Next Generation introduced industry-first features like stick steer, cruise control, and tilt-up canopies.

The Cat 305 CR Mini Hydraulic Excavator features a deeper digging depth, compact radius swing, and enhanced fuel efficiency.

Caterpillar's Tilt Rotate System (TRS) expansion enables mini excavators to rotate work tools 360 degrees and tilt them 40 degrees side-to-side.

These innovative machines offer operator-friendly features such as touchscreen controls, sealed cabs with climate control, and the Cat Stick Steer System.



settings improve overall efficiency.

The power behind these machines comes from the turbocharged Cat C1.1 Turbo engine for the 302.7 CR and 303 CR models, and the Cat C1.7 for the 303.5 CR. These engines meet EU Stage V emissions standards and offer 17.6 kW net power. They also come with standard auto idle and auto engine shutdown features, which help conserve fuel usage, making operation more affordable and environmentally friendly.

Flexibility

Caterpillar's Next Generation mini excavators are designed for versatility. Their compact radius swing reduces overhang when working to the side, enabling these machines to excel in confined spaces. The fixed undercarriage widths for the 302.7 CR, 303 CR, and 303.5 CR provide the perfect balance between job site accessibility and lifting performance. An expandable undercarriage option for the 302.7 CR further enhances adaptability by allowing operators to retract track width for tight spaces and expand it for improved digging and lifting stability.

Interchangeable counterweight packages offer the flexibility to tailor machine weight to specific job requirements, striking the right balance between low ground pressure and lifting performance. The 'light' counterweight adds 100 kg to machine



The compact design of the TRS4, TRS6, and TRS8 ensures that mini excavators maintain high digging forces, allowing them to handle various work tools with ease.

weight, while the 'extra' counterweight adds 250 kg.

All three models offer standard- and long-stick configurations, extending their versatility. Standard digging depths range from 2450 to 2810 mm, while the long stick configuration allows the machines to reach depths from 2650 to 3110 mm.

The standard dozer blade further increases machine flexibility, making backfilling and grading tasks more manageable. An angle blade option on the 303.5 CR adds further flexibility in backfilling applications for increased productivity.

Operator comfort

Caterpillar has placed a strong emphasis on operator comfort and usability. The new 302.7 CR, 303 CR, and 303.5 CR offer enhanced machine security options, including a passcode and Bluetooth® key. An advanced touchscreen display provides intuitive machine function control and easy monitoring of critical operating parameters, such as fuel level, coolant temperature, and maintenance records.

An industry-exclusive Cat Stick Steer System simplifies machine control, allowing the operator to switch from conventional lever/foot-pedal steering controls to low-effort joystick operation. Two travel ranges with speeds reaching 4.5 km/h make moving around the job site a breeze, and standard cruise control minimises operator interaction during longer journeys between work locations.

Unique to their respective classes, these new Next Generation excavators offer the choice between canopy or cab enclosure. The sealed and pressurised cab provides a clean and quiet environment for the operator and can be equipped with heating and/or air conditioning for all-weather climate control. Additionally, the cab's large glass areas and skylight afford all-around visibility, enhancing safety and reducing operator fatigue.

The 305 CR

If the 302.7 CR, 303 CR, and 303.5 CR are too small for your needs, the Cat 305 CR Mini Hydraulic Excavator represents another leap forward in Caterpillar's commitment to delivering superior performance and efficiency. This 5-tonne marvel offers more power, improved bucket breakout forces, and deeper standard stick digging depths, resulting in a 20% increase in overall performance compared to the previous 305E2 CR model.

The 305 CR boasts a new engine that delivers enhanced machine performance, with hydraulic system improvements providing higher breakout forces for more efficient digging, especially in hard rock applications. The improved digging depth, which is 140 mm deeper than the 305E2 CR, significantly increases application flexibility.

Like the smaller Next Generation models, the 305 CR features a compact radius swing to reduce overhang when working to the side, making it adept in confined spaces. With a 1980-mm (78-in) track width and a new extra counterweight option, the 305 CR offers superior stability and lift performance, even in challenging situations.

Ease of use

The 305 CR offers an angle dozer blade option, further enhancing its versatility for backfilling and finish grading applications.

This blade can move 45 degrees left or right of centre, making final grading more efficient. Control of the angle blade movement is managed by the right-hand joystick, while the left joystick handles machine drive, minimising operator interaction.

Maintenance

Daily maintenance checks for the 305 CR are easily conducted from ground level through side doors. The expanded use of common parts throughout the line and the

damage-resistant exterior construction contribute to reduced parts inventory investment and lower repair costs.

Increased service intervals mean these excavators spend more time on the job and less time in the shop, ultimately increasing productivity and profitability for their owners.

Tilt Rotate System

At the end of 2022, Caterpillar's Work Tools Division introduced new Tilt Rotate System (TRS) models designed to work seamlessly with Cat 302.7 through 310 Next Generation Mini Excavators. These new TRS models, including TRS4, TRS6, and TRS8 S45, expand the mini excavators' versatility, enabling them to rotate work tools 360 degrees and tilt them 40 degrees side-to-side.

This innovation empowers operators to reach more work areas from a single position and manoeuvre tools over, under, and around obstructions during tasks such as excavation, grading, recycling, or pipe placement.

Reliability and efficiency

The compact design of the TRS4, TRS6, and TRS8 ensures that mini excavators maintain high digging forces, allowing them to handle various work tools with ease. A reinforced TRS gearbox, equipped with a specially designed bearing ring, distributes working forces effectively to reduce stress on the TRS and the host machine.

A no-maintenance lubrication system for the rotation system ensures efficient heat distribution. The high-torque rotation system rapidly positions work tools, and an integral self-locking mechanism enables digging at any angle required.

Another design advantage is the integration of load-hold valves for the double-acting tilt cylinder. This feature maintains holding pressures and prevents cylinder movement under load, contributing to both operator safety and work efficiency. The cylinder design includes hardened pistons and maintenance-free bearings, and its scratch-resistant, rust-proof surfaces require no maintenance.

Application specificity

The TRS4 models are designed for efficient use with the Cat 302.7, 303, 303.5, and 304 Mini Excavators, while the TRS6 models are compatible with the Cat 305.5CR and 306 CR models. The TRS8 models are designed for use with the Cat 307.5, 308, 308.5, 309, and 310, catering to a broad range of mini excavator models. 🌟

DIGITAL KEYS TO TRACK DRIVERS AND FLEETS

While there are challenges around the management and implementation of AARTO, there are also benefits that need to be understood today to ensure compliance and value tomorrow.

By Rodney Taylor, MD at Guardian Eye

The AARTO Amendment Act, 2019 introduces an automated system for traffic fines and violations that makes it the responsibility of the infringer (the person committing the traffic offence) to manage, pay and resolve all infringement notices.

The latter are submitted to infringers automatically, either electronically or by post, and are considered served regardless of whether the infringer has received it.

Currently, this Act is active in Tshwane and Johannesburg with roll-out scheduled by the RTIA and Minister of Transport. At this stage, February 2024 is stated as the beginning of the roll-out in the rest of SA.

Some important considerations come to the fore about how AARTO are revising how companies and individuals need to contest fines, particularly for companies where drivers are not the licensed vehicle owners.

In a statement released by the Minister of Transport, Sindisiwe Chikunga, the government has made progress and is targeting 01 July 2024 for the final roll-out of AARTO nationwide. A total of 43 service outlets were established across different provinces and completed the processes to implement the AARTO adjudication process and the electronic service of infringements.

Currently, the AARTO Act applies only in Tshwane and Johannesburg while the Criminal Procedure Act is applicable to the rest of the country.

In July the Constitutional Court ruled in favour of the Minister and the RTIA on the challenge to the constitutionality of AARTO brought by OUTA, the process to roll out AARTO countrywide may proceed.

As infringements are automated in the new system, the onus is on the public to ensure that they pay their fines on time. The system has been met with criticism due to the potential complexities that surround the delivery of fines and managing the new system, with many believing that this puts too much pressure on individuals and could result in unexpected fines and penalties. However, it is not entirely a bad news situation.

The government has invested a significant amount of time and money into the project which means it is very likely going to

stay the course and will be implemented nationally. This introduces some challenges that fleet owners and companies managing large volumes of vehicles and drivers need to consider, to ensure they remain prepared. When a fine is issued, it can be attached to both a person and a company vehicle. The company may accrue demerit points against a vehicle licence disc or operator card. In the latter case, exceeding the maximum demerit point threshold will result in the vehicle not being allowed to renew licence discs and operator card and the asset may not be sold until the points reduce to below the prescribed threshold.

For people who run fleets, administering this is going to be a very different process.

In the past, one person would be a proxy and go in and pay all the fines associated with vehicles under their name. Now, the failure to nominate the driver of the vehicle who committed the infringement will result in the licence discs and operator cards of the vehicles to which those infringement notices relate being debited with the fines and demerit points.

The same challenge applies to car dealerships - if a demo car gets a fine, the vehicle licence will carry the fine and demerit points if the dealership does not nominate the driver who committed the infringement. This is where the Guardian Eye artificial intelligence can provide solid support to companies that want to stay ahead of AARTO and avoid the risks.

The Guardian Eye solution allows companies to track which driver was in which vehicle at any given time. It provides live tracking and monitoring allowing the company to assess who drove the vehicle when it received the fine so they can redirect that fine with 100% confidence. The technology stack provided by Guardian Eye also provides digital proof that an employee used the vehicle at the time of the fine and adds an additional layer of asset protection for the company as well.

Companies with a digital key that provides accurate records ensure their fines are always allocated correctly, and a fleet remains secure and easily tracked.

With this tool, your company can remain ahead of the legislation and enjoy the



Rodney Taylor, MD at Guardian Eye

benefits it introduces rather than feel overwhelmed by the complexity and negativity.

Moving forward, companies need to focus on ensuring that all drivers and employees understand AARTO and its implications and risks. It is a serious complication that, if not managed correctly, can result in heavy fines and penalties and in the worst cases, vehicles being blocked from being used and drivers not being able to perform their functions due to suspended licences. 🌟

Compared to their fuel-powered counterparts, electric forklifts are more energy-efficient, resulting in lower operational costs.



CONTINUE WORK **EVEN WHEN FUEL COSTS RISE**

With the rising cost of fuel in South Africa and the added drive towards zero-emissions and carbon neutrality, electric forklifts can provide a more sustainable solution.

In a world where sustainability and energy conservation are at the forefront of global discussions, South Africa faces unique challenges, particularly when it comes to its power supply.

Frequent power interruptions, often referred to as loadshedding, have become a daily reality for businesses across the country. This unreliability and inefficiency have manifested as operational disruption, downtime, and a host of complex challenges that go beyond merely keeping the lights on. From supply chain disruptions to the unpredictable nature of loadshedding schedules, the implications are far-reaching and often costly.

The role of electric forklifts

Electric forklifts have emerged as a sustainable solution to the challenges posed by power supply interruptions and rising fuel costs. These forklifts, designed and constructed with energy efficiency in mind, offer several advantages that extend beyond their immediate functionality. Let's explore the key factors contributing to their growing popularity in South Africa.

One of the primary benefits of electric forklifts, such as the Mitsubishi Counterbalance electric forklift, is their reduced consumption of resources. Compared to their fuel-powered counterparts, electric forklifts are more

energy-efficient, resulting in lower operational costs. Additionally, their maintenance requirements are generally lower due to fewer moving parts and the absence of needs like oil changes and tune-ups. This translates into cost savings for businesses in the long run.

Businesses that rely on material handling as a key part of their operations to be operationally resilient says Masslift Africa CEO, Marco Caverni.

Caverni states that all these costs can be managed, but that this will require a long-term view and a look at the full picture.

"The best way to save on material handling costs now is to start looking at the bigger picture and the long-term. We need to say 'ok, how much is this forklift going to cost me in total over the next 5 years?' Especially if you're going to take a conservative approach and assume that market conditions are only going to get worse. Start looking at your 2025 costs and figure out what you can do today to manage what lies ahead," says Caverni.

Electric forklifts contribute to the value of the facilities in which they operate. They are designed to ensure operational continuity during loadshedding, preventing costly disruptions and downtime.

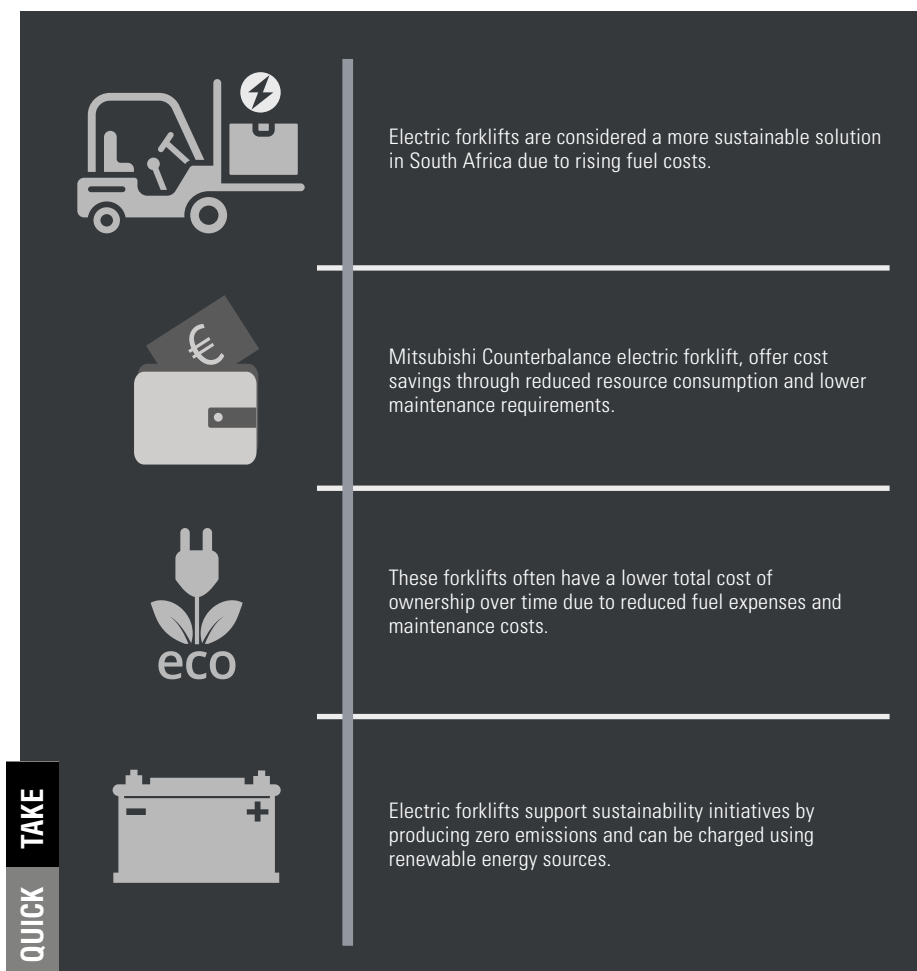
Sustainability

Electric forklifts align with this initiative



"The best way to save on material handling costs now is to start looking at the bigger picture and the long-term."

Marco Caverni, Masslift Africa CEO



operating costs over time, particularly with high forklift usage.

Well designed

In terms of forklift design, Mitsubishi is committed to creating new machines suitable for this new and complex energy conscious market. The Mitsubishi Counterbalance electric is a great option for businesses who need to make sustainable materials handling equipment part of their loadshedding strategy. With the range capacity from 1.0 Ton to 5.5 Tons, there is an electric forklift suited to almost all operational requirements.

Meeting end goals

Electric forklifts also offer businesses the opportunity to support the integration of renewable energy sources into their operations. By charging electric forklifts using renewable energy, such as solar or wind power, businesses can further reduce their carbon footprint and dependence on fossil fuels. This aligns with the global shift towards clean and sustainable technologies.

“The materials handling industry as a whole is focusing on sustainability and finding ways to increase productivity while being more energy efficient. Electrification is an important factor that Mitsubishi Logisnext are consistently considering and have put in place a series of sustainable development goals. The new Mitsubishi FB40-55N, for example, received the ‘Environmental Product of the Year’ international industry award in 2022. Building on this, Mitsubishi Logisnext is already planning a feasibility study for large electric forklifts in the 6-to-10-ton range,” Pacak adds.

For businesses planning to bring electric forklifts into their operations, Masslift Africa, the sole distributor of Mitsubishi forklifts in Southern Africa, supplies and maintains electric Mitsubishi Forklifts and provides support throughout the procurement and deployment process – and beyond. 🌱

by producing zero emissions during operation. This not only reduces the carbon footprint of businesses but also positions them as environmentally responsible operators. With a commitment to zero emissions and carbon neutrality, electric forklifts are part of a sustainable future.

Advancements in battery technology have made electric forklifts more adaptable to fluctuating power availability. The development of efficient lithium-ion batteries has extended runtime and reduced charging times. Additionally, features like battery protection ensure that the forklift's performance is optimised, and the need for recharging is signalled when necessary.

“When it comes to energy costs, electric forklifts are naturally more energy-efficient than internal combustion engine forklifts. Electricity is generally cheaper than fuel (diesel, petrol, or LPG) on a per-unit energy basis, which can result in significant savings in operating costs over time. The exact savings depend on the actual monthly usage patterns, but the ongoing fuel expenses associated with internal combustion engine forklifts in fuel costs can be substantial, especially for businesses with high forklift usage (from R40.00 – R85.00 per run hour in fuel alone depending on the brand),” says Kurt Pacak Regional Sales Manager at Masslift Africa.

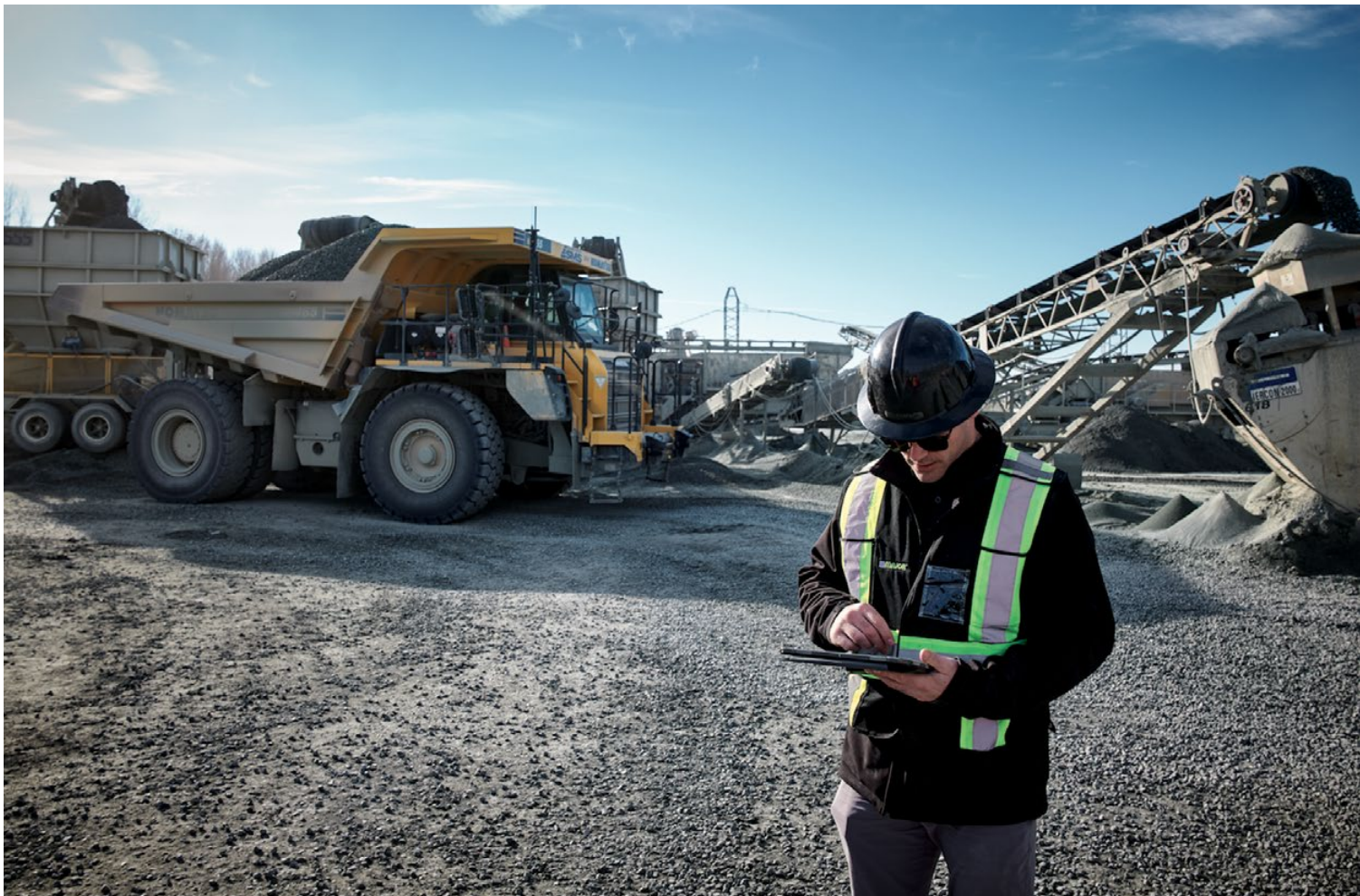
Total cost of ownership

While the upfront cost of electric forklifts may be higher than that of traditional fuel-powered forklifts, the total cost of ownership over time often proves to be lower. This is due to reduced fuel expenses, lower maintenance costs, and longer lifespans. The total cost of ownership for electric forklifts can be divided into three cost groups: initial costs, maintenance costs, and energy costs.

Electric forklifts have a higher upfront purchase cost due to the expense of the battery and charger. However, this investment can be offset by potential savings in running costs over the lifespan of the forklift.

Electric forklifts generally have lower maintenance costs compared to their fuel-powered counterparts. With fewer moving parts, there are fewer components that can wear out and require replacement or maintenance.

Electric forklifts are inherently more energy-efficient, as electricity is generally cheaper than fuel on a per-unit energy basis. Businesses can experience significant savings in



SIMPLE STEPS TO MAXIMISE SCREENING UPTIME

With the increase in infrastructure spending in the past few years, producers have plenty of work to do. To keep up with increased demand, mines and quarries need to reach and maintain high levels of productivity.

Maintaining high levels of productivity, however, is easier said than done. Unexpected downtime, increasing operating costs and Murphy's Law no doubt have their agendas.

But producers can take concrete steps to prevent breakdowns, improve efficiency and maximise screening uptime. Paying special attention to screen media selection, screen installation and vibration analysis can all help mines and quarries take advantage of increased opportunities.

Screen selection

Many producers underestimate the impact screen media choice has on their productivity and uptime.

According to Lars Bräunling, MAJOR Director of Product Technology and Development, three main screen media types are most helpful to consider, each with pros and cons depending on a mine or quarry's situation.

"Synthetic media, such as rubber or polyurethane, stands out for its long wear life but can suffer from issues with performance. Synthetic media features less open area than wire screens, limiting throughput and often causing more issues


"For the mine or quarry desiring to focus on maintaining high levels of efficiency, optimising their vibrating screens with the help of vibration analysis will not only improve their productivity but help prevent problems before they happen."

Lars Bräunling, MAJOR Director of Product Technology & Development







QUICK TAKE




Synthetic media, such as rubber or polyurethane, offers long wear life but can have performance issues.



High-vibration wire screens can increase screening efficiency by as much as 40% and reduce blinding and pegging issues.



Proper screen media installation is crucial for efficient and safe operation, including checking for cracks, loose bolts, and worn components.



Vibration analysis sensors can identify and prevent equipment issues, helping mines and quarries fine-tune their vibrating screens.

with blinding and pegging. This tradeoff might lead some producers concerned with maximising productivity to search elsewhere for their screen media solutions,” he says.

Some of the most durable options for primary decks are perforated steel plates and heavy-duty rubber.

Steel plates are desirable for applications that require durable media and high open area. The heavier media can make maintenance and operation more

challenging, however.

Rubber media can likewise provide large openings but may be limited in open area and can suffer from blinding and pegging issues that hamper screening efficiency. Despite their drawbacks, steel plate and rubber media might be the best option for applications with heavy, abrasive material.

Wire screens

Wire screens are a third option. Though

woven wire has been the traditional go-to for its high open area and inexpensive cost, it has a short wear life relative to the options previously discussed.

“High-vibration wire screens are more efficient and provide a compromise between the wear life of synthetic and woven wire media,” says Bräunling.

The wires vibrate independently, amplifying the screening process and increasing throughput by as much as 40%. Plus, the blinding and pegging issues suffered by synthetic and even traditional woven wire media are significantly reduced. High-vibration wire screens are often the optimal choice for producers searching for ways to improve their production efficiency and output.

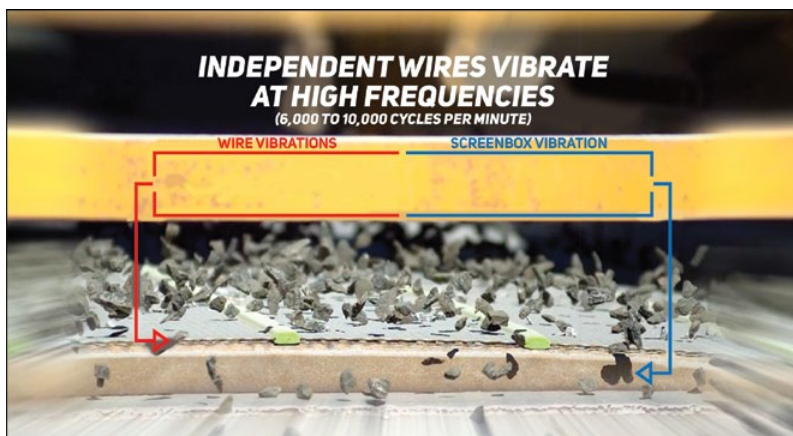
Correct installation

Proper screen media installation can ensure efficient and safe operation. Before starting the installation, the vibrating screen should be inspected.

Maintenance technicians should examine the machine frame for cracks, loose bolts and broken welds and check for worn crown bars, weak or broken leaf springs and bent clamping rails. Any issues discovered should be addressed before installing the new screen media.

“Technicians handling the screen media changeout should review the manufacturer’s instructions and ensure the panel is the proper size before starting the process. With each new set of screens, the crown bar rubber should be replaced. If not, it may not sit properly on the crown bar, which can cause the cloth to chatter and eventually break,” says Bräunling.

When working with tensioned screen media, the number one priority is proper screen tensioning. Maintenance technicians



should always tighten inner clamp rail bolts before moving to the outside bolts and changing machine sides to keep the panels centred. Tensioned screens should resemble a drum and not flex when pressed. Following these guidelines will help prevent premature wear or breakdowns, keeping the operation running and productivity high.

Vibration analysis

A final strategy mines and quarries can use to dial in their efficiency in the coming year is vibration analysis. Vibration analysis is a form of predictive analysis. It allows producers to identify and prevent issues with their equipment.

Some vibration analysis sensors are designed as tools for quick and easy screen media assessments. These innovative sensors provide information that can bring possible problems to light before they cause expensive breakdowns. Weak or damaged screens, loose bolts and cracked side plates are a few examples of issues that often fly under the radar until they cause a costly and time-consuming unplanned shutdown.

Sensors

Another benefit to vibration analysis sensors is that they can help visualise things like g-force, stroke, rpm and orbit.

An important measurement many systems do not capture, however, is lateral movement. Industry-leading sensors do all this and more. In addition to helping prevent catastrophic breakdowns and identifying maintenance issues, the data provided by the sensors allows producers to fine-tune their vibrating screens for maximum performance.

"For the mine or quarry desiring to focus on maintaining high levels of efficiency, optimising their vibrating screens with the help of vibration analysis will not only improve their productivity but help prevent problems before they happen," says Bräunling.

A worthy time investment on the front end that pays dividends in the form of efficiency and profit potential.

Gearing up

It's important to take stock when gearing up for highly demanding production requirements. Mineral processing facilities should work with an Original Equipment Manufacturer (OEM) to schedule a screen media consultation to analyse the screen media setup to prevent breakdowns, improve efficiency and maximise screening uptime. ⚙️

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THREE TIPS FOR SAFE SCREEN MEDIA CHANGE-OUTS

A regular preventative maintenance schedule can help alleviate these risks, but sometimes unplanned maintenance is necessary. Breakdowns happen. In these cases, there are steps workers can take to reduce risk in screen media change-outs.

By Serge Raymond, MAJOR product specialist

Wear personal protection

This may seem like an obvious statement, but Personal Protection Equipment (PPE) is not something to take lightly. A good example of this is hand safety. It can be tempting to forego wearing work gloves for convenience or increased dexterity when handling nuts and bolts, but the risk is never worth it. Sharp edges on the tail end of screens and at the hooks can cause cuts to workers' hands, not only posing a danger to the individual, but further delaying the operation resuming production.

To reduce risk of injuries, look for a screen media manufacturer that puts safety first. For example, some manufacturers include metal shrouds on their media. That means no sharp edges on the wire for workers to worry about during handling and installation. Though this should never be thought of as a replacement for PPE.

Take enough time

This is probably the most effective way to prevent injuries, but often the hardest to accomplish — especially in a situation where production is waiting on the change-out. In these scenarios, it's important to remember that safety and attention to detail go hand in hand. Workers must take the time they need to complete their work safely, constantly being aware of their surroundings and taking the extra steps necessary to minimize risks.

For example, if a nut becomes jammed in an impact socket, workers should always

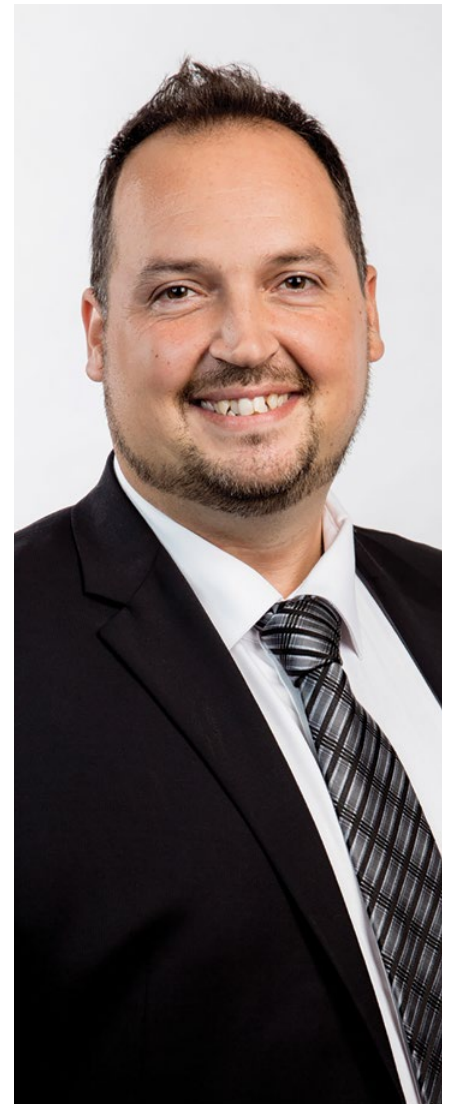
disconnect the power source before trying to remove it. Though this can take a few extra seconds, it can prevent harmful accidents to employees.

Workers should never change screens alone, ensuring there is always someone there to help should an individual get into a dangerous situation. Additionally, it's important that workers are diligent about using proper lockdown procedure, as well as wearing safety harnesses if the vibrating screen is high off the ground. While these steps may seem time-consuming in the moment, they can prevent serious and even life-threatening injuries.

Less trips up and down

Planning the job properly is extremely important to not only the job's efficiency but the crew's safety. Every trip up and down extends the process and exposes workers to more risk. We recommend bringing a toolbox along with all the necessary tools, including extra bolts, washers and nuts. A good rule of thumb is if you need to replace five, bring 15. This ensures you will have what you need to finish the job, even if a few things are accidentally dropped.

These tips should help operations minimise safety risks when changing out screen media, but they are just a starting place. Be sure that every employee is well trained on proper safety procedures when it comes to screen media installation and work closely with your OEM or OEM-certified technician.



With Volvo Reman, there is less reliance on new materials for parts and machinery.

NO SUCH THING AS UNWANTED USED PARTS

How remanufacturing, rebuilding, and reusing construction equipment is key to making machines last another generation.

TALKING POINT



"With customers keeping a new machine for an average of three years, clearly there is plenty of life still left after that time. We are, therefore, keen to ensure we get maximum life from our machines. It's good for the customer and the environment."

Anders Sjöström, Used Equipment Manager for Volvo CE Region Europe and International

TALKING POINT



"With Reman, we take used, worn parts and in many cases make them even better than they were when first bought, by including any available updates and the latest specifications."

David Forsman, Product Manager at Volvo Reman

useful life while championing sustainability.

This commitment to circularity, which involves remanufacturing, refurbishing, repurposing, and recycling, benefits not only Volvo CE's customers but also the planet.

Volvo CE's machines are designed to operate with the smallest possible environmental footprint. At every stage of development, the life cycle of each piece of construction equipment is carefully considered. The less reliance on new materials for parts and machinery, the greater the conservation of precious resources.

A new lease on life

Volvo Reman, a division dedicated to this cause, breathes new life into old components. Through a meticulous process involving dismantling, cleaning, checking, and repairing, a wide range of components, including engines, transmissions, hydraulic parts, driveline parts, and select electronics, are given a second chance.

David Forsman, Product Manager at Volvo Reman, underscores the importance of responsible resource usage, stating, "The planet's resources are finite, so we need to make sure we use them carefully and extract maximum benefit from them. With Reman, we take used, worn parts and, in many cases, make them even better than they were when first purchased, incorporating available updates and the latest specifications."

In an era marked by heightened environmental awareness and the urgent need to combat climate change, the shift towards a circular economy has emerged as a pivotal strategy to achieve net-zero carbon emissions. Among the various industries embracing this approach, Volvo Construction Equipment (Volvo CE) stands out as a trailblazer in keeping construction machines and their parts in action for longer, maximising their



Purchasing a Volvo Approved Used machine, such as the A40G articulated hauler, can save approximately 100 tonnes of CO₂ emissions.

allowing them to benefit from the latest technical specifications. Skilled engineers carry out the work, enhancing machine lifespan and efficiency.”

Certified workshops are already established across Europe, International markets, North America, Indonesia, and China, with plans to expand further to extend the lifespan of Volvo machines worldwide.

Waste not, want not

For customers seeking used machines, Volvo CE's Approved Used Equipment service offers the perfect solution. Volvo-trained technicians inspect these machines to ensure quality, performance, and reliability, and they come with a Volvo Approved Used warranty, providing customers with peace of mind.

Anders Sjöström, Used Equipment Manager for Volvo CE Region Europe and International, highlights the growing demand for approved used machines, stating, “The market for approved used machines is huge – and it's growing. The price for used machines is lower than that for new ones, and customers appreciate that these machines are ready to buy now, eliminating the long wait for delivery. By choosing a Volvo Approved Used machine, they can be confident in acquiring a high-quality machine that's ready for action.”

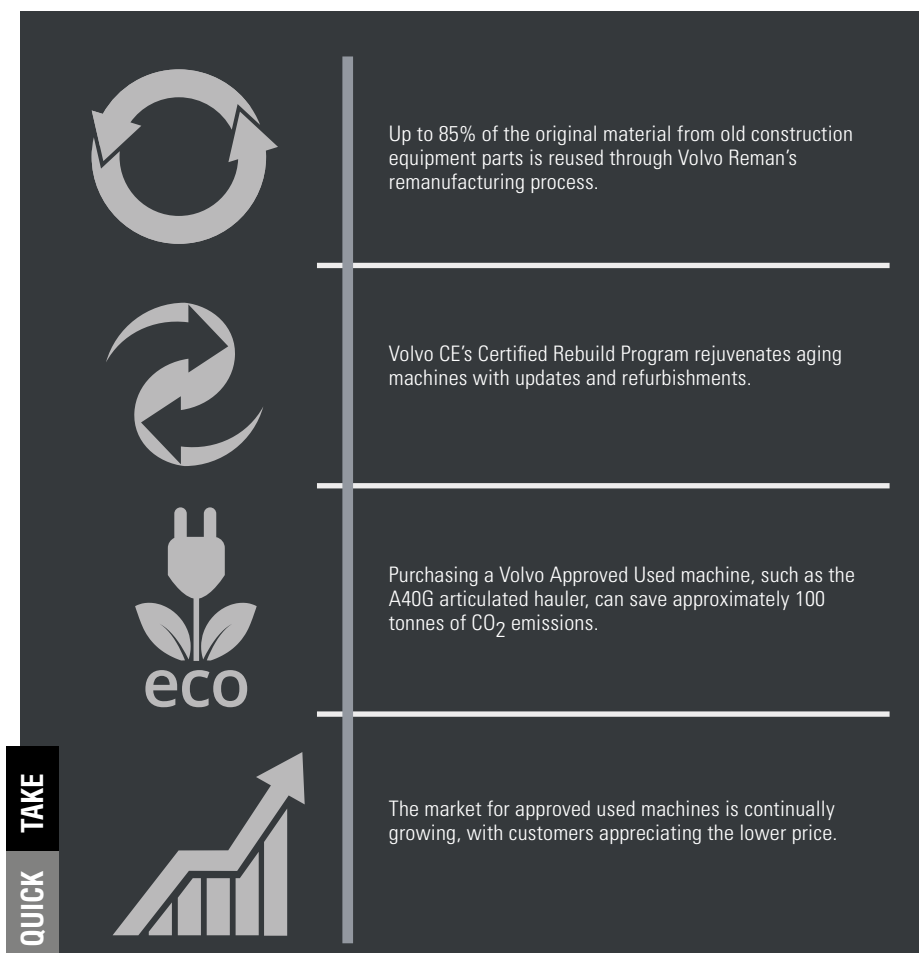
The environmental case for purchasing approved used machines is compelling. For instance, when choosing a Volvo Approved Used A40G articulated hauler, approximately 100 tonnes of CO₂ emissions are saved compared to manufacturing a new machine. Moreover, when these machines reach the end of their serviceable life, 95% of their materials can be recycled.

Anders continues, “Given that customers typically keep a new machine for an average of three years, it's evident that there's plenty of life left thereafter. We are committed to ensuring we extract the maximum life from our machines – a benefit both for customers and the environment.”

A sustainable partnership

In an era where sustainability goals are increasingly prevalent, Volvo CE's provision of used parts and machines offers a diverse array of solutions to help its customers meet their commitments. In doing so, Volvo CE not only aids its customers in reaching their sustainability objectives but also ensures that its machines will serve the needs of the next generation.

As Volvo CE continues to champion circularity, it proves that there truly is no such thing as an unwanted used part – only opportunities to preserve resources, reduce emissions, and extend the life of construction equipment for the benefit of all. ♻️



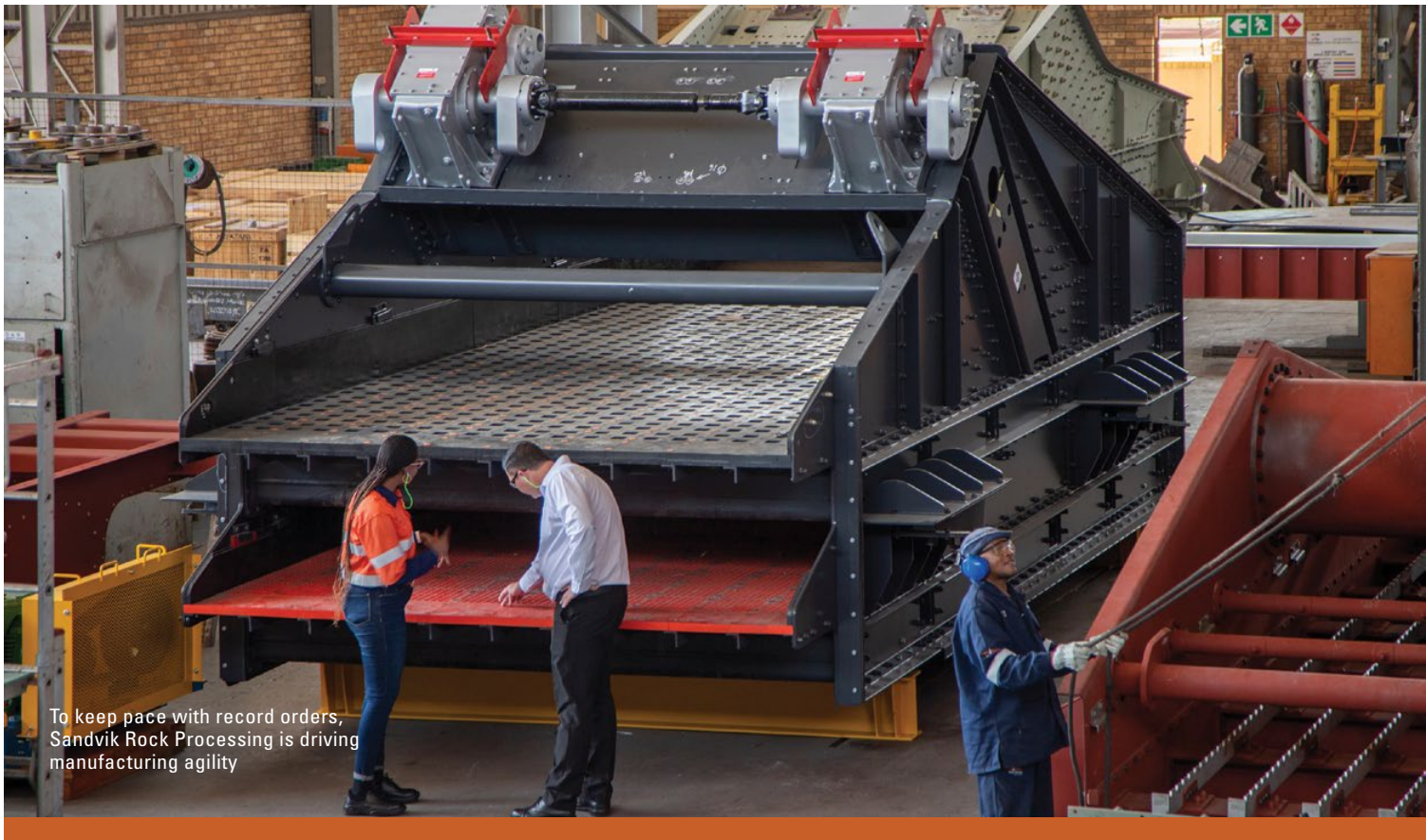
Remarkably, up to 85% of the original material is reused, and any parts that cannot be reused are recycled. The process of converting old parts into like-new condition significantly reduces energy consumption, with an 80% decrease in energy required compared to manufacturing new components, resulting in substantial reductions in CO₂ emissions.

The benefits extend beyond environmental impact. The delivery and replacement of a Reman part are faster than traditional repairs, leading to improved uptime for customers. Additionally, Reman parts come with the same warranty as brand-new components, making them an attractive and cost-effective choice for customers.

Still going strong

Volvo CE's commitment to prolonging the life of its machines goes beyond individual parts to entire machines. The Certified Rebuild Program takes ageing machines and prepares them for a second or even a third life. In Volvo-certified workshops, worn parts are either refurbished or replaced with Volvo-approved used parts. Furthermore, updates, such as air conditioning or new seating, can be integrated into the machines, ensuring they are returned to customers in optimal working conditions.

Forsman emphasises the flexibility of the Certified Rebuild Program, stating, “With Volvo Certified Rebuild, we can tailor the rebuild and updates to the customer's unique requirements,



To keep pace with record orders, Sandvik Rock Processing is driving manufacturing agility

MANUFACTURING AGILITY ALLOWS SANDVIK ROCK PROCESSING TO MEET DEMAND

In a world where adaptability is key, Sandvik Rock Processing is at the forefront of driving manufacturing agility to cater to rising demand for its vibrating screen and feeder equipment. The company, recognised as a leading original equipment manufacturer (OEM), is taking agile manufacturing to heart at its South African facility, ensuring it remains a reliable and responsive supplier to its global clientele.

Over the past three years, Sandvik Rock Processing has witnessed substantial growth in its screens product range. This expansion has firmly established Sandvik Rock Processing Solutions South Africa as one of the

leading vibrating equipment suppliers not only in South Africa but across the African continent, Europe and the Middle East.

This growth is further exemplified by the significant increase in exports, with a multitude of screens finding their way to destinations within Africa and

internationally. Notable among these is the recent supply of over 72 screens and related equipment to a large copper mining operation in Central Asia.

To meet the surging demand that has seen the production of approximately 60 machines per month, the company is embracing agility within its manufacturing processes. Agility has enabled Sandvik Rock Processing to swiftly adapt to changing market dynamics while consistently delivering quality and exceeding customer expectations.

Internal optimisation

To align with its growth and maintain production efficiency, Sandvik Rock Processing has consistently reviewed and optimised its internal processes.

"On the back of the significant growth of our screening offering in recent years, we

"Our facility is set to become the global engineering and manufacturing base for vibrating equipment for both local and international customers who are looking for quality cost-effective screening solutions that will enable them to achieve the total lowest cost of ownership."

Riaan Steinmann, Director Operations for the EMEA Region at Sandvik Rock Processing





Sandvik Rock Processing invests in its people to ensure employees are trained to adopt an agile mindset.

have seen the need to continuously review and optimise our internal processes,” says Riaan Steinmann, Director Operations for the EMEA Region at Sandvik Rock Processing.

“For example, our workshop layouts are based on job-shop lean manufacturing processes to cater for any customised components. We make use of in-house designed precision engineered jigs and fixtures to increase our production efficiencies and at the same time secure quality of these components.”

Strategic outsourcing of non-core components to carefully selected service providers has been adopted. Components such as cleats, bearing covers, gearbox shafts, and housings are now sourced externally to alleviate pressure on internal manufacturing facilities and ensure timely customer deliveries.

Close collaboration between the production and engineering teams has also proven essential in resolving design and manufacturing discrepancies during production. These teams have established strict in-house quality standards encompassing welding procedures, fastening sequences, bolt torquing, levelling, subcomponent assembly sequencing, shot blasting, and paint specifications.

“We work closely with these suppliers, most of whom are within a 10 km radius of our Spartan manufacturing facilities. While we conduct regular quality inspections at their facilities, most of them have worked with us for many years and now have a strong understanding of our quality standards,” says Steinmann.

“We also hold significant stock of various critical components to make sure our customers get the best availability and service,” he adds.

Investing in a skills

Sandvik Rock Processing places great importance on its workforce and continually invests in training to cultivate an agile mindset among its employees. This approach ensures the workforce can adapt to evolving production needs while maintaining peak productivity and efficiency.

“Upskilling our people allows us to build on our competence and stay ahead of industry needs,” says Steinmann.

“We have an above-average percentage of highly skilled and qualified staff, including boilermakers, artisans, certified welders and engineers. Having the right skills, however, is one thing, but being able to retain them is quite another.”

A significant percentage of highly skilled and qualified staff contributes to the

QUICK TAKE

Sandvik Rock Processing has experienced significant growth in its screens product range over the past three years.



To meet rising demand and changing market conditions, the company has embraced agile manufacturing processes.



Sandvik Rock Processing invests in its workforce, upskilling employees to adopt an agile mindset.



The South African facility of Sandvik Rock Processing Solutions aims to become the global engineering and manufacturing base for vibrating equipment.





Highly skilled staff include boilermakers, artisans, certified welders and engineers.



Sandvik Rock Processing has its own in-house engineering team further facilitating agility.

company's success. In addition to acquiring the right skills, Sandvik Rock Processing emphasises retaining talent through a positive working culture, resulting in low staff turnover and the preservation of critical skills.

Addressing loadshedding

The ongoing energy crisis in South Africa has posed challenges to local manufacturers. Fragmented factory operations across different locations have made it challenging to install backup power generation capacity. However, Sandvik Rock Processing is actively exploring alternative power supply sources to ensure uninterrupted operations, demonstrating its commitment to reliability and agility.

"We have invited local suppliers to tender for the supply of alternative power supply sources for all our workshops. This will require a significant investment, but on the upside it will help ensure we continue to be the same reliable and agile supplier we have always been to our customers," says Steinmann.

Global manufacturing excellence

Sandvik Rock Processing Solutions, encompassing Kwatani screen products, Schenck Process Mining screens, and Sandvik's original screening products, is well-positioned to become a global leader in screening solutions.

The company's South African facility aims to be the worldwide engineering and manufacturing hub for vibrating equipment, offering cost-effective screening solutions that contribute to the lowest total cost of ownership for customers worldwide.

"Our facility is set to become the global engineering and manufacturing base for vibrating equipment for both local and international customers who are looking for quality cost-effective screening solutions that will enable them to achieve the total lowest cost of ownership," concludes Steinmann.

Sandvik Rock Processing's dedication to manufacturing agility, internal process optimisation, and skilled workforce development underscores its commitment to meeting and exceeding customer demands while embracing a sustainable and agile future. 🌱

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We have invited local suppliers to tender for the supply of alternative power supply sources for all our workshops.

This will require a significant investment, but on the upside it will help ensure we continue to be the same reliable and agile supplier we have always been to our customers.

CAN TECHNOLOGY HELP MANUFACTURING SOLVE ITS TALENT SHORTAGE?

Supply chain shortages, inflation and economic pressures have been cited as some of the key macro-economic challenges facing the manufacturing sector in 2023. However, one of the most pressing issues is the unresolved issue of labour and talent shortage.

By Rob Sinfield, VP Product, Sage

Nearly 4 in 5 employers globally have reported difficulty in finding the skilled talent they need in 2023, which is increasing on average by 2% year over year. This is having a real impact on not only individual organisations but the economy as a whole.

For example, in South Africa, the FoodBev Sector Education and Training Authority found that of the 633 organisations in the sector, about 43% of them cited a lack of skilled people as a major reason they could not fill vacancies, while a further 27% cited an inadequate supply of suitable candidates.

How to fill the void

Technology is challenging what manufacturers do, from robotics and 3D printing, to data, cyber security, and remote working. But its capabilities in solving the talent crisis are not being fully realised.

Cloud has become incredibly important for streamlining processes, increasing efficiencies, and unlocking new opportunities for growth in manufacturing and is therefore one of the top areas of investment for manufacturers.

Cloud technology could improve data management whilst requiring little investment or expertise, and cloud-based applications have the ability to return high-cost savings whilst needing little maintenance. For example, they are often able to be automatically refreshed and updated by the vendor, instead of forcing an IT department to perform manual organisation-wide updates. And by providing manufacturers access to valuable data, they can identify patterns, optimise processes, and make more informed decisions about the impact of business operations.

For example, ERP software can benefit production by allowing manufacturers to match production levels to sales data and stock levels, and the system can manage pricing and orders and reduce mistakes, leading to a more efficient process and reduced order cycle times.

From a talent shortage perspective, cloud technology improves business productivity,

meaning organisations have more cash available to offer competitive payrates and a more satisfying work environment that is varied and smooth. And, what's more, in the world of hybrid working, it enables manufacturers to offer remote working as an option. While there was previously a perception that manufacturers needed to operate on-premises in order to succeed, the pandemic proved that to be false. Thanks to cloud technology, recent research suggests 63% of manufacturing organisations now have a hybrid working programme in place which is not only an attractive pull to people entering the workforce but also allows employers to recruit from a wider talent pool.

Building a circular economy

From a talent retention perspective, technology also has a role to play in creating a more attractive and sustainable work environment. Aside from meeting environmental, social, and governance (ESG) targets and making operational and equipment efficiencies, companies that demonstrate their green credentials are appealing to both the more conscious buyer and job candidate. According to a global study, 68% of people are more willing to accept positions from companies that are environmentally sustainable, meaning organisations that fail to innovate risk being rejected by top talent.

As a result, more manufacturers need to start looking at the circular economy, from reducing waste to repurposing materials and products. By looking at operational and equipment efficiencies, there are ways to increase the lifespan of machinery and products to make cost savings. Research suggests that 32% of manufacturers who have invested in the Circular Economy can see benefits to adopting this strategy, and IoT, Machine Learning, and Artificial Intelligence will be key to this approach, ensuring organisations have the right data to make informed decisions.

One top tip for manufacturers looking to start or enhance their circular economy and

ESG journey is to prioritise collaboration and partnerships. Why is this so important? It allows companies embarking on adopting circular economy principles to learn from these organisations. This might entail partnering with NGOs or universities. Another tip is looking at circular supply chains to optimise material flows, reduce waste and improve how you utilise resources.

The perception challenge

The final area that manufacturing needs to target is a perception issue. Contrary to its historical reputation, manufacturing today is a highly skilled and specialised sector, fulfilled in clean and modern environments. Often, people are unclear about the role of technology in manufacturing and think that at some point they will be replaced in their role by a robot or automation, exacerbating a perception that manufacturing is not an attractive career choice.

However, as AI, robotics and cloud computing become an integral part of the job description, manufacturers can set themselves apart from other industries and position themselves as compelling and exciting environments where there is potential to learn new skills. AI and robotics reduce heavily manual and laborious processes, freeing up time to spend on more high-value tasks.

Changing the image of manufacturing will be key to attracting a new and diverse group of potential employees. There is a great opportunity facing the manufacturing sector right now – and filling the skills gap will require refocusing on what the new pipeline of talent could look like beyond traditional recruitment and reskilling methods and harnessing the power of technology like never before. Making a concerted effort to support the need for hybrid working to attract a new talent pool and adopting AI and machine learning technologies to minimise time-intensive repetitive tasks, will be key to taking the sector in a new direction that offers an attractive career and is at the forefront of emerging technologies. 🌟

Ubunye Mining Services crowned global Rio Tinto Contractor of the Year

Ubunye Mining Services, a wholly owned subsidiary of Unitrans, has been awarded the prestigious Rio Tinto Safety Award for Best Contract Partner at Richards Bay Minerals (RBM).

This accomplishment holds gravitas, considering the vast scope of operations by Rio Tinto, a multinational giant engaging over 18,000 contractors globally.

The coveted Rio Tinto Safety Award is a testament to the commitment of Ubunye Mining Services and Unitrans to consistently exemplify unparalleled standards in safety, operational efficiency, and responsible practices. Unitrans emerged as an outstanding contract partner to RBM, setting an example of upholding the highest operational benchmarks.

Kobus Burger, Operations Executive for the Mining Division at Unitrans, expressed his pride in the achievement.

"This award is a testament to the dedication of our team and the transformative journey we've undertaken to prioritise safety above all else. Our commitment to fostering a culture of accountability and our collaborative efforts with RBM have been pivotal in achieving this recognition. This accolade will be a powerful tool as we expand our business and uphold the highest safety standards."

At the end of 2022, Unitrans received



The excited team at Ubunye Mining Services with the Award of their Rio Tinto Safety Award for Best Contract Partner.

the Best Contract Partner Award, following a meticulous audit of its safety performance based on RBM's Maturity Safety Model.

This award underscored Unitrans' safety track record, particularly in the demanding operational landscape of Richards Bay Minerals, where a workforce of over 5000, including employees and contractors, operates. It also seamlessly propelled Unitrans into contention for the Rio Tinto global awards, which ultimately emerged triumphant as the winner.

"We are proud to see one of our contractors achieve this recognition," says Werner

Duvenhage, Managing Director for Rio Tinto Iron and Titanium Africa Operations.

"This accomplishment validates our unwavering commitment to fostering a safety-first culture and underscores the collaborative efforts with Unitrans. As their success story becomes a beacon of safety excellence, it resonates deeply within our organisation, as we continue to find better and safer ways to operate. Unitrans' achievement reinforces our belief that strong partnerships and a shared commitment to safety can yield transformative outcomes, setting new benchmarks for the industry." 🌟

ABB ELDS designs the world-first solution for major platinum miner

When a consulting engineering company approached ABB about a specific problem that its platinum mining client was experiencing at its smelter facility in the North West, it was an opportunity for the technology provider to showcase its innovation and adaptability in responding to specific customer requirements. "There was nuisance tripping of the furnace due to an assumed earth fault caused by an unbalanced inrush current on the transformer," explains Jan van Zyl, Engineering Manager at ABB.

The solution devised was based on using the on-point switch capability of the Switchsync® PWC600. This relay is designed for single-pole operated circuit breakers, controlling each pole to close and/or open at the optimal point on the wave where inrush currents and flux generation are the lowest for the switched load.

It features unprecedented flexibility for switching various loads with diverse configurations and comprehensive monitoring functionality to track circuit breaker behaviour and handle multiple loads connected to the same breaker.

For power transformers, PWC600 can estimate the residual fluxes in the core to minimise energisation transients under all switching scenarios. It compensates for variations in environmental factors and drifts in circuit breaker properties.

The solution ultimately resulted in a significant reduction of downtime and production losses for the platinum miner. "The main focus of the client was to increase the efficiency of the furnace by removing all of this nuisance downtime, thereby boosting its profitability by a considerable margin," says van Zyl.

Fanie Delpont, Sales Specialist at ABB, says that this specific solution has now been applied to three different furnace applications for the client. The first (12 kV or 17.5 kV) has already been commissioned, while a second slag cleaning application is being finalised. The third 33 kV solution is just pending the final installation of panels. "We have provided three different solutions for three different areas of the plant," explains Delpont.

The facility was decommissioned in line with the platinum miner's furnace rebuild

programme. While the furnace was being upgraded, it was decided to refurbish the substation as well. In parallel with this programme, two substations at Polokwane were also refurbished. "Obviously, the furnace rebuild had a tight timeframe, and we had to carry out a lot of work during that limited period. We had one service team on-site that was running all three of these installations simultaneously," says Delpont.

Commenting on the technology applied for this solution, Delpont says the PWC600 was designed originally for capacitive back switching. Prior to it being upgraded to switch single-phase transformers or power transformers, ABB was already using it for this application.

A third-party engineering house was appointed to carry out the initial investigation on the relay and the intended application, whereafter it was integrated successfully with ABB's VD4 breakers. Two different solutions were applied, namely a VD4 P standard uniform breaker and a VD4 AF furnace-specific breaker used on the 33 kV application. 🌟

The financial impact of loadshedding on the mining sector

Loadshedding has had a significant impact on the South African mining sector. More hours in the dark than with power has meant that the sector has had to put extreme alternative power measures in place but, as the problem with loadshedding intensifies, so does its impact. Statistics South Africa found that mining output has decreased by 2.6% in March 2023 as compared with 2022 and the consistent decline in overall infrastructure stability - across both the electrical grid and other factors such as Transnet - has seen the sector lose R150 billion in export value over the past year.

The sector is boldly navigating these challenges with ingenuity and investment, but the fact remains that the continued loadshedding is eating away at the edges of profitability and the overall economy. Where other countries are slowly regaining their footing after the pandemic - an event that shook up the very foundations of the global economy and business - South Africa's economy and industries continue to be impacted by loadshedding and the limitations it imposes.

Max Schiff the Africa Sales Manager at Aggreko believes that to overcome this

challenging landscape, there needs to be key shifts across energy, regulations and government interventions as well as ongoing investment from the sector into solutions that allow for it to bypass reliance on the grid.

"One of the key requirements now is for regulation that encourages private investment into renewables alongside improved procurement of additional capacity in the public sector. While some steps have been taken here, progress is slow," he says.

Aggreko has seen increased interest in bespoke power solutions that will allow mining companies to better manage their control over power while also addressing challenges around ESG obligations on a local and global scale. The situation is pushing larger power consumers to accelerate their investments into renewable energy solutions that align with ESG objectives and will supercharge their ability to deliver on performance despite the energy crisis. Private investment into energy solutions is having one of the greatest impacts on the current loadshedding situation and will continue to do so over the next few years as the grid endeavours to stabilise. Aggreko can provide on



Max Schiff, Africa Sales Manager, Aggreko

and off-grid solutions designed to provide cleaner mining energy that is flexible, hybrid, optimised and capable. It is also highly customisable to suit the changing needs and expectations of the sector throughout loadshedding and can help mitigate the economic cost of the grid's instability over both the long and the short term. ☀

The benefits of optimised steam generation

Efficiency, reliability, maintenance, sustainability, fuel selection and procurement are just some of the challenges facing the mining sector – and, as one of South Africa's leading operations and maintenance service providers to the steam and boiler sector, Associated Energy Services (AES), is perfectly placed to optimise these.

AES Commercial Director, Dennis Williams, points out that AES has walked a "long and well-trodden path" with many different industries and is currently focusing on growing its footprint in this pivotal sector.

"Our ability to deliver efficient steam generation is based on reliability and the continuity of operation as well as on the cost of production. Any opportunity to improve on production costs through reduced fuel usage will definitely have a positive operational and financial impact," he says.

Williams says that, although steam is often taken for granted or even relegated to history as having no part in modern industrial processes, it is in fact an important and useful energy carrier. Within the mining context, the energy generated

from steam assists with everything from downstream ore beneficiation and specialist mining processes to on-site cooking and heating for mineworkers' accommodation.

"Typically, while a mine's steam plant is operating and supplying steam, there is little concern. However, few mines operate their steam generation facilities with the same care as their core production equipment. Hence, this aspect of their operations and maintenance tends to lag behind the others - and this is where AES can assist," he says.

AES's experienced assistance encompasses many aspects, including operational efficiencies and maintenance planning, shutdown maintenance or even supplementing the often limited steam boiler operation skills pool available to mines in remote locations.

"How are you managing spare parts procurement? Can you locate a service provider? These are things that are part of



our daily planning. Therefore, prospective mining clients can be sure that, when challenges arise, we are able to turn things around in the shortest possible time," he adds.

Efficiency and productivity are the key deliverables specified as part of its service level agreements – topped off with a performance guarantee for which the company is well-known. Furthermore, Williams says that AES takes pride in partnering with clients to create bespoke solutions based on their specific operational challenges and objectives. ☀

Goodyear DriverHub revolutionizes Mercedes-Benz trucking efficiency

The integration of the Goodyear DriverHub mobile application into the Mercedes-Benz Truck App Portal marks a significant advancement in equipping drivers and fleets using Mercedes-Benz trucks with the tools needed to enhance efficiency, competitiveness, and sustainability.

The Mercedes-Benz Truck App Portal, renowned for its digital marketplace that tailors apps to improve comfort and operational efficiency, now officially includes the Goodyear DriverHub application as a partner. This collaboration allows commercial truck drivers and fleet operators to access real-time vehicle data, particularly focusing on tire condition information, which is critical for optimizing operations.

Goodyear DriverHub is custom-designed to offer a continuous stream of precise tire data, supporting drivers in making informed decisions regarding tire management.

The app draws real-time information from Goodyear's advanced tire management solutions, including Goodyear TPMS, Goodyear CheckPoint, and Goodyear DrivePoint.

With this integration, Mercedes-Benz truck drivers gain enhanced visibility into tire conditions. The app sends instant alerts and

notifications when it detects deviations from predetermined tire pressure and temperature levels. Armed with accurate information about the affected tire and the urgency of the issue, drivers can take proactive steps to reduce breakdowns, thereby enhancing both safety and on-road performance.

Piotr Czyżyk, Managing Director of Proactive Solutions and Fleets Europe at Goodyear, expressed pride in the company's role at the forefront of digital tire monitoring solutions. He noted, "This integration exemplifies our commitment to driving efficiency, competitiveness, and sustainability in the road transport industry. By seamlessly integrating our tire data insights into the Mercedes-Benz Truck app, we empower drivers and fleet operators to make informed decisions supporting optimising their fleets' operations and contributing to a more sustainable future."

One of the standout features of Goodyear DriverHub is its predictive technology, which can alert drivers and fleet operators to pressure leaks, differentiating between fast and slow leaks. This proactive notification system enables drivers to take immediate, appropriate action and

communicate with dispatchers for further instructions. Real-time data can also be shared with fleet operators via the mobile app, reducing the likelihood of tire-related incidents and enhancing road safety.

The integration of the Goodyear DriverHub mobile application into the Mercedes-Benz Truck App Portal represents a transformative step toward creating smarter, more connected fleets. 🌟



Will EVs work in South Africa?

Although the South African EV industry is currently small in comparison to other markets, Justin Manson, Sales Director at Webfleet, has shared some of his insights regarding the potential of EVs in the South African market.

The Automotive Business Council (Naamsa) reported that new energy vehicle sales increased by 431.7% from 896 units in 2021 to 4,764 units in 2022.

Although only 502 of those were fully electric (out of 528 963 total vehicles sold), this represented the highest number of pure EVs sold to date and is expected to be exceeded in 2023.

However, with a limited charging infrastructure of just 78 charging stations across the entire country, the growth of EVs, which are still expensive relative to combustion engine cars, remains slow.

However, Naamsa gearing its original equipment manufacturers to begin negotiations with their global headquarters for investments in new manufacturing facilities or the addition of new production lines in existing facilities to include proudly South African EVs.

With more affordable models, people could be more willing to make the shift, considering the potential fuel savings. For vehicle manu-

facturers, the matter is clear, export markets for South African-produced cars, primarily European, are rapidly going electric.

One forecast predicts a 23.8% global compound annual growth rate (CAGR) of new EV sales for the period 2023 to 2030 to 45 million in use by 2030.

The South African EV market still only had around 1,700 units in use by the end of the first quarter of 2023, and the forecast for the African EV market is a CAGR of around 10% for the period 2023 to 2028. Beyond that, that growth rate should double, as the EV market becomes more efficient.

It is most likely that the fleet industry (especially last-mile deliveries) will drive the growth of EVs.

South Africa currently has issues with load shedding and a generally unstable electricity grid, which makes EV use difficult, from a planning point of view.

Businesses with vehicles driving short distances could overcome this by installing charging stations at their depots, using solar and inverters for overnight charging, and using by using artificial-intelligence-powered fleet management systems, to monitor the charging process, energy usage, charge status and remaining driving distance.



Justin Manson.

Part of the reason behind the slow uptake of electric cars has been the recurring energy issues in South Africa. Most EVs still rely on charging from a predominantly carbon-based power source.

Fleet management services launched for EVs are continuously improving as both EV and telematics technology evolve. Webfleet will continue to invest in EV technology as part of a comprehensive sustainability strategy and because the EV market is here to stay and grow, technology and real-time reporting will play an important role in the success of the EV market in the future. 🌟

Volvo and DHL Supply Chain drive down emissions in South Africa

Volvo will hand over 45 Volvo FH Euro 5 truck-tractors to add to DHL Supply Chain's South African fleet. The company already took delivery of the first five units, with the balance to be delivered by next month.

All the FH Euro 5 units were assembled in Volvo Trucks' local plant in Durban, KwaZulu-Natal. Volvo Trucks South Africa started assembly of Euro 5 specification trucks at its plant in October last year, but the company's Euro 5 variants have been available in South Africa since 2012.

"As part of our commitment to sustainability in this country, we are producing these vehicles locally, even though Euro 5 is not a legal requirement here yet," said Eric Parry, Sustainability Manager at Volvo Trucks SA. "The Euro 5 vehicles are an evolution in our mission towards a more sustainable future. More and more customers have ambitions to improve their environmental footprint, which is driving the uptake of Euro 5 models locally."

Eon Engelbrecht, DHL Supply Chain's Director of Transport Africa, said: "We are super excited to receive our first five Euro 5 Volvo trucks. Not only are they helping employees by being produced locally, but



The Volvo and DHL teams at the first handover.

they will make our environment cleaner."

Takalani Tshirame, Volvo Trucks South Africa's senior Manager of Product Support explained that the whole industry is shifting its focus to decreased fuel consumption and increased fleet efficiency, with a focus on more environmentally friendly technologies.

"Volvo Trucks uses SCR Technology and AdBlue to meet the requirements of Euro 5, and in general, the Euro 5 engines have a lower fuel consumption than an equivalent Euro 3 unit," said Tshirame.

"We also offer our customers specialised Euro 5 driver training, mainly to empower the drivers to operate their vehicles at their most efficient levels."

"We believe in the success of sustainable transport solutions, but there is no silver bullet. That is why Volvo is focused on 3 main strategic levers: Battery electric technology, fuel cell electric and combustion technology using low carbon fuels. And we're confident that our trucks, services, and operations will lead the way there," concluded Tshirame.

A collective vision shared at the Transport Evolution Africa Forum

The 11th Transport Evolution Africa Forum & Expo took place from the 20-22 September at the Inkosi Albert Luthuli ICC Complex in Durban.

During the three-day event, 20 CEOs representing Africa's port, road, and rail authorities convened at the CEO forum. In addition, the event boasted an impressive attendance of over 2600 people from more than 20 different countries. Additionally, the co-located activities encompassed the Transport Evolution Awards, formerly known as the Women in Transport Awards, as well as the SEZ (Special Economic Zone) lounge and workshop.

Africa is home to a fifth of the world's population but only processes about 4% of global container traffic, due to port capacity constraints. Many of Africa's 64 ports are poorly maintained or not fully operational and cumbersome customs procedures are among the inefficiencies to solve, along with increasing container capacity and vessel presence at ports.

Roads are the main form of transport on the continent but 53% are unpaved, which can isolate communities from basic education, health services, transport, and trade hubs.

Bowale Odumade, Vice President of

Investment at the Africa Finance Corporation in Nigeria encouraged collaboration, particularly when securing funding to take projects forward that address these shortfalls. While Africa's challenges are significant, they can be overcome by a shared commitment from stakeholders.

Seamless border crossing, efficient ports, safer and cleaner roads, and improved infrastructure are key to Africa's success.

The Special Economic Zones (SEZ) Lounge was a highlight this year to explore shared learnings.

"This event is an important and cementing factor to be able to contribute to sector growth and economic development," said Dr Bheka Zula, CEO of the TASEZ.

For a SEZ to succeed, it often takes people, infrastructure, land and investment, according to Free Port Saldanha SEZ CEO Kaashifah Beukes who attributes success to leaning on a unique value proposition and the environment. A SEZ brings immense potential for economic growth to its immediate surroundings and the



A scene from this year's conference.

broader economy, including employment and enhanced trade.

Panel discussions at the events featured sustainable topics to supply chain trends, while free-to-attend workshops addressed security concerns and empowering the sector, among other themes.

The 2024 event will take place from 8-10 October 2024, at the Gallagher Convention Centre in Johannesburg and will include a 'Green' Transport Evolution section of the show and streams on sustainability within the transport and logistics sector. 🌱

HOW THE FAILED RAIL NETWORK AFFECTS THE ECONOMY

At the heart of South Africa's economy lies a colossal transportation network comprising both port and rail. However, recent years have witnessed a decline in its efficiency, resulting in economic losses that ripple far beyond its infrastructure.

By Siyabonga Mthembu, Audit Partner at BDO and Lance Petersen, Chair of the Nelson Mandela Bay Business Chamber's transport and logistics task team

It has been estimated that the collective cost of port and rail failures over the last 18 months is in the region of R150 billion. From another perspective, the collapse of Transnet is set to cost the country R1 billion a day in economic output, the equivalent of 4.9% of our country's annual GDP or R353 billion. Take a moment to let those numbers sink in.

Recognising the gravity of the situation, President Cyril Ramaphosa has agreed to establishing a National Logistics Crisis Committee (NLCC) following the business sector's urgent appeal. While this promise of a radical intervention gives the economy some hope, is it a case of too little too late?

One of the main areas that requires immediate attention from all sectors is rail. The current state is that the number of locomotives and rail movements are far below the installed capacity of the South Corridor running between the Eastern Cape and Gauteng.

Challenges include the lack of locomotives, as has been reported in the press. The quickest solution in terms of a timeframe to getting much needed locomotives would be the Chinese suppliers. However, this route has been plagued by obstacles and even the visit by Minister Pravin Gordhan and his delegation to China does not seem to have resolved all the issues. Looking at alternative suppliers to service the locomotives would increase the timeline to 18 months minimum.

Another problem is the ongoing issue of cable theft. While this scourge seems to have infiltrated all areas of society, the impact on rail has been immense as electrified rail locomotives cannot run if the supply of electricity to the line is interrupted. Currently the automotive industry alone is spending millions on armed escorts for their cargo that is being transported on road which should be on rail. This added cost is passed on to the end consumer at the end of the day.

The case to move cargo from road to rail is strong. Immediate benefits would

include a reduction in trucks on roads, reducing accidents as well as reducing the need for rehabilitation of roads; reduction in impact of carbon emissions with rail being much less carbon intensive than the thousands of trucks on the road per day; and a reduced cost of transport with rail being far more economical than long distance road transport. However, this move cannot even be considered with our country's rail infrastructure in the current state of disrepair.

In terms of shipping, we have seen a marked reduction in the number of vessels calling at our two ports as a result of Covid's impact over the past couple of years. With South Africa, and the Eastern Cape specifically, being home to automotive, perishable, and wool industries, all of which are export-focused, the ability to ship on a regular basis and on a reliable schedule is imperative to meet the obligations that they have entered into with customers around the globe.

Durban, South Africa's busiest port, has been grappling with congestion issues for years. Inefficient handling of cargo, long waiting times for vessels, and the inability to adapt to increased demand have led to extensive delays and financial losses for businesses. These delays ripple through supply chains, causing companies to incur additional costs and miss out on lucrative opportunities.

For Coega, one of the country's poorest regions in terms of unemployment, the impact of port inefficiencies is palpable as we see the region taking a massive financial knock. The citrus industry as an example has had an extremely trying three years. The 2022 season saw 5.7-million fewer cartons exported than what was initially predicted at the start of the season. While these vessel omissions impacted the volumes in 2022, adding to the necessity to dump some product towards the later part of the year, a strong end to the season in early 2023 saw volumes exceeding the prior year. With an estimated 30% of the export having to load



Siyabonga Mthembu, Audit Partner at BDO.

out of other ports, the financial impact was an additional R250m spent on transport.

Our country, and in turn our economy, needs a functioning logistics network. But as the nation grapples to recover from the failure of yet another parastatal, those bearing the brunt of the port and rail inefficiencies are facing an increasingly tough time. We must lobby for a collaborative, coordinated and focused approach from business and government before we will start to see movement in the right direction. We cannot afford to ignore these problems any longer; the cost of inaction is simply too high. 🌐

DON'T JUST SCRAPE BY.

Level up your game with a John Deere Motor Grader.

The Evolution of John Deere Motor Grader: Blazing Trails in Innovation

Motor graders play a vital role in shaping our modern infrastructure. John Deere has long been synonymous with quality, reliability, and cutting-edge technology. Over the years, the John Deere Motor Grader has become an indispensable tool for construction and road-building projects, consistently meeting the demands of a rapidly evolving world. Let's embark on a journey through its history and witness how this machine has transformed over time.

A Legacy of Excellence

John Deere's venture into the motor grader market began in the early 1920s. Leveraging their expertise in agricultural machinery, the company recognized the need for efficient grading equipment in construction and took on the challenge. The first motor grader introduced by John Deere was the M-1, a simple machine designed for basic grading tasks.

From their inception in 1919, motor graders were strictly rigid framed, but this changed with John Deere's 570. Introduced in 1967, the 570 was the first motor grader with an articulated frame. While it worked perfectly well in wide-open, straight-ahead blading, the articulation gave it a major advantage in confined areas.

Technological Innovations

John Deere has consistently pushed the boundaries of technology to equip their motor graders with state-of-the-art features. Today, these machines integrate a range of advanced technologies to enhance productivity, efficiency, and operator comfort.

Automated

Modern motor graders are at the forefront of this revolution. Automated blade control systems use sensors and advanced algorithms to automate blade movements, allowing for consistent and accurate grading results. This technology simplifies the operator's task while maintaining high-quality work. The John Deere 770G Motor Grader, for example, features a rear-mounted blade, enabling operators to achieve precise grading and leveling results.

Telematics and Connectivity:

Connectivity has transformed the way we manage and monitor machinery. John Deere's motor graders are equipped with telematics systems that provide real-time data on machine performance, fuel consumption, maintenance schedules, and more. This valuable information allows operators and fleet managers to optimize operations, reduce downtime, and improve overall productivity.

Comfort

Operator comfort is a key consideration in modern motor graders. John Deere has implemented a variety of ergonomic features to ensure operators can work efficiently and comfortably. These include adjustable seats, intuitive control layouts, and advanced suspension systems. The John Deere 770G Motor Grader, for instance, features a spacious cab with large windows for excellent visibility and reduced vibration levels, ensuring operators can focus on their work without unnecessary fatigue.

Sustainability and Fuel Efficiency:

In an era of increasing environmental consciousness, John Deere has prioritized sustainability in their motor graders. These machines feature efficient engines that comply with stringent emission standards, reducing their environmental impact. Additionally, advanced fuel management systems optimize fuel

efficiency, lowering operating costs and reducing carbon emissions.

The Future Beckons

As technology continues to advance, John Deere remains committed to pushing the boundaries of innovation in the motor grader industry. With a rich history and a reputation for excellence, the company is well-positioned to meet the evolving needs of the construction industry. The John Deere Motor Grader has come a long way from its rigid-frame origins. With the introduction of an articulated frame, hydraulic front-wheel drive, advanced transmissions, and precision control systems, John Deere has continuously pushed the boundaries of innovation to meet the evolving needs of the construction industry.

With each technological leap, John Deere has solidified its reputation as a pioneer in motor grader technology, leading the charge in efficiency, performance, and operator comfort. The integration of automated blade control, telematics, and connectivity has revolutionized the industry, enabling precise grading, enhanced productivity, and optimized machine performance.

As we look to the future, one can only imagine the groundbreaking innovations that lie ahead for John Deere and the motor grader industry. The commitment to technological advancements ensures that John Deere will continue to be at the forefront of the construction industry, shaping the landscapes of tomorrow.

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