

COAL MINER  
EXPANDS SANY  
FLEET



**MOBILE CRANES:** When size matters

**ATTACHMENTS:** Turning tool carriers into multi-purpose loading and crushing tools

**EARTHMOVING EQUIPMENT:** Efficiency and productivity to the fore on new Cat launches

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Capital Equipment News is published monthly by Crown Publications

**Editor:**  
Munesu Shoko  
capnews@crown.co.za

**Features writer:**  
Mark Botha  
markb@crown.co.za

**Advertising manager:**  
Elmarie Stonell  
elmaries@crown.co.za

**Design:**  
Ano Shumba

**Publisher:**  
Karen Grant

**Deputy publisher:**  
Wilhelm du Plessis

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Karen Smith

PO Box 140  
Bedfordview 2008  
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# FLEET OWNERS ARE CHOOSING TO 'SWEAT' THEIR ASSETS

**T**o survive a challenging operating environment, fleet owners need every competitive edge they can get. As everyone pores over their balance sheets and all aspects of the business to find advantages, many capital equipment operators have been finding solace in extending the lifecycles of their existing assets due to their business and operating circumstances.

Judging from recent conversations with



Munesu Shoko – Editor

 [capnews@crowm.co.za](mailto:capnews@crowm.co.za)

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both fleet owners and OEMs, there is an increasing trend in the capital equipment sector to 'sweat' assets. Rather than throwing cash at new equipment, fleet owners are limiting their capital expenditure and focusing on keeping existing assets humming along – a valuable strategy during difficult economic periods.

To provide context, a large quarrying group in South Africa used to run its load and haul machines for up to 10 000 hours before replacement. However, due to capital constraints, the company is stretching its machines' lifecycles well beyond 20 000 hours, with some of them already approaching 25 000 hours, and counting. Elsewhere, I have also seen a mining contractor stretching its fleet of articulated haulers and excavators to over 20 000 hours, more than double their initial projected first life.

While spending money on new assets is out of the question, fleet owners still expect their sweated assets to meet production goals as efficiently as possible, with little to no downtime. To achieve this, they are adopting strong preventive maintenance regimes to ensure that machines are kept in optimum condition.

Having a thoughtful maintenance strategy in place can definitely reduce equipment failures and result in continuous uptime and cost savings. As we move into the Industrial Internet of Things (IIoT), better, smarter and faster maintenance is proving to be within reach for the industry. IIoT has in fact become an easy win for condition monitoring of assets.

Where extended lifecycles are the option, it's important to prioritise preventive maintenance to extend the asset's life and get the longest utility from the equipment at the

lowest possible cost. In such an environment where the quality of service is the 'sweet spot' of operational performance, the significance of choosing a reputable service provider that understands the fleet owner's goals cannot be reiterated enough. The right provider will ask probing questions about the desired outcome to support the fleet owner's requirements.

It is for this reason that many OEMs/dealers are seeing increased market penetration for their service contracts. The concept of risk sharing is a key component of preventive maintenance. With a shared-risk maintenance agreement in place, the service provider performs routine maintenance based either on the calendar or operating hours of the equipment and addresses all failures that occur during the contracted period. If downtime occurs, the agreement shifts failure risks to the service provider, giving the fleet owner a safety net.

As part of the lifecycle extension trend, the popularity of remanufacturing or refurbishment has shot up as fleet owners seek to give their mission-critical assets a second or even a third life. A rebuild includes changing out all the major and most of the minor components of the machine. Calibration and settings adjustments are performed where applicable. The finished product is a revamped version of your machine that will run and perform like new.

However, it's also important to know when to stop sweating your assets. There is nothing wrong with pursuing a low-cost strategy. However, the essence of this strategy should be about balancing performance, cost and risk. The trick is to ensure equipment performance is sustainable over the life-cycle of the equipment.



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\*Fuel consumption figures calculated using monthly data collected from Scania Fleet management monitoring system on the NTG R500.

# SCANIA

The SANY SY 750 excavator being transported to site from GEM's yard Boksburg.



# COAL MINER EXPANDS SANY FLEET

QUICK TAKE



In August 2020, Overlooked Colliery bought its first SANY SY500H excavator from Goscor Earthmoving Equipment, the SANY dealer in South Africa

Having bought its first SANY machine in August last year, Overlooked Colliery, one of South Africa's largest black empowered mining companies which operates a number of coal mines in the coalfields of Mpumalanga, has expanded its fleet with a further six machines, writes *Munesu Shoko*.



Overlooked Colliery has taken delivery of five SANY SYL956H front-end loaders.



“Central to the two deals was our ability to provide a total solution to the customer. The machines were financed via Goscor Finance, our own captive finance facility. Also included in the package deal are insurance and service.”

Murray Leith, GEM operations manager

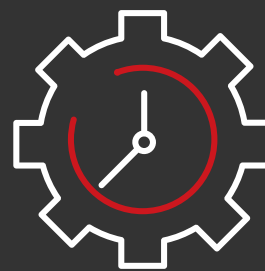
TALKING POINT



Impressed by the performance of the first unit, the company took delivery of six more SANY machines in July this year – a 75 t SY750H excavator and five 17 t SYL956H front-end loaders



The fleet of SANY machines, deployed at two different operations – Schoonland Colliery and Overlooked Colliery – is playing a major role in the company's quest for increased production



A key competitive edge for the SANY brand in South Africa are the quick lead times, enabled by stock availability from both GEM and SANY Southern Africa

**H**aving previously deployed a rental fleet on its coal mines, Overlooked Colliery decided to take a different route last year with the acquisition of its own machines. In August 2020, the company went on to acquire a 50 t SANY

SY500H excavator from Goscor Earthmoving Equipment, the SANY earthmoving equipment dealer in South Africa.

Impressed by the performance of the first unit, Overlooked Colliery returned to the negotiation table with GEM in March this year for more SANY machines.

Following lengthy discussions, a deal for six SANY machines – a 75 t SY750H excavator and five 17 t SYL956H front-end loaders – was struck in July this year, GEM operations manager Murray Leith tells Capital Equipment News.

The second deal coincided with



The 50 t SY500H SANY excavator.

Overlooked Colliery's acquisition of Exxaro Resources' coal assets. In a review of its business, Exxaro deemed Dorstfontein, Forzando and Tumelo operations – collectively known as Exxaro Coal Central (ECC) – as non-core to the company's future strategic objective, which entails diversifying away from coal into renewable energy.

Overlooked met Exxaro's selection criteria for a potential buyer, which included value maximisation, broad-based black ownership and sustainability of the new operator. Prior to the acquisition of the Exxaro assets, Overlooked Colliery was producing 2,4-million t of coal a year from its existing three operations.

With capacity from the new assets, the company plans to double to 4,8-million t per annum by next year.

The fleet of SANY machines, deployed at two different operations – Schoonland Colliery and Overlooked Colliery – is playing a major role in the company's quest for increased production. Tshepo Mabena, operations manager at Schoonland Colliery, where the two excavators have been deployed, tells Capital Equipment News that the machines have thus far lived up to expectations.

The 75 t SY750H and the 50 t SY500H SANY excavators are at the centre of production at Schoonland, loading haulers in the pit. "We have deployed the 75 t



excavator to load our 45 t articulated dumpers hauling material from the mine face to the processing plants. The SY500H has been paired with our 30 and 35 t dumpers. During a few months of operation, the SANY machines have proven to be much better than the ones we had. They are running smoothly with no issues whatsoever," says Mabena. Meanwhile, the five wheel loaders are working at Overlooked Colliery, where they are tasked to load trucks, feeding plants and stockpiling.

#### Value offering

Mabena has been impressed by the availability of the machines thus far, mainly due to the service being provided by GEM. To maximise uptime, Overlooked Colliery has taken a service contract, which will see GEM servicing machines at 500-hour intervals.

Central to the deal was GEM's ability to provide a total solution to the customer. The machines were financed via Goscor Finance, the Goscor Group's own captive finance facility. Also included in the package deal are insurance and service. After 36 months of instalments, Overlooked Colliery will have an option to

The SANY SYL956H loader comes at a rated load of 5 t and operating weight of 17 100 kg.



take ownership of the machines.

From the onset, Leith says the value offering made sense for Overlooked Colliery. Firstly, SANY offered a competitive price point. Secondly, a key value proposition was the lower total cost of ownership for the SANY machines, driven largely by competitive capital costs, lower fuel consumption and a cost-effective price point on parts.

Given that the relative density of coal is very light compared with other materials such as chrome and manganese, GEM has equipped the five SANY SYL956H loaders – coming at a rated load of 5 t and operating weight of 17 100 kg – with a larger 4,6 m<sup>3</sup> bucket, rather than the standard 3,5 m<sup>3</sup> bucket. The bigger bucket, explains Leith, translates into increased productivity. To provide context, the 4,6 m<sup>3</sup> bucket loads a typical 15 m<sup>3</sup> tipper with three scoops, compared with six or more when using a normal, standard bucket.

“We took into account the lifting capacity of the wheel loader, the weight and dimensions of the bucket and the specific weight of the material being handled – these are necessary steps in assuring the attachment is right for the loader and for the application,” explains Leith.

### Stock availability and lead times

A key competitive edge for the SANY brand in South Africa are the quick lead times, enabled by stock availability from both GEM and SANY Southern Africa. At a time when most competitors are ordering stock from overseas factories on the back of customer orders, SANY and GEM have machines immediately available from their local yards, thus shortening lead times significantly. SANY recently invested in a 30 000 m<sup>2</sup> machine storage facility in Boksburg where, together with GEM, they are able to stock in excess of 60 machines at any given time.

“Stock availability has been a good advantage for us,” says Leith, “especially given the disruptions to the global supply chain caused by the COVID-19 pandemic. To give you an idea, lead times for ordering new equipment from China have increased by about 40 days, and that’s pretty much the same, if not more, for every other equipment supplier because all the equipment is shipped from overseas.”

For both the Overlooked Colliery deals, GEM had all the machines in stock. Upon

the client’s payment of the deposit, the machines were delivered to site in just five days, which by industry standards is unheard of.

### Support matters

Another important consideration in Overlooked Colliery’s decision was GEM’s support capabilities. In recent years, GEM has invested heavily in its spare parts stockholding, allowing for high machine uptime across the country. This is supported by a strong branch network in Cape Town, Durban, Kathu, Lephalale and Nelspruit, as well as a service presence in Rustenburg. Coal mining customers in Middelburg and Witbank, where Overlooked is based, are supported from the GEM’s Boksburg, Gauteng, headquarters.

“On the aftermarket side of the business, we have also invested a lot in terms of our spare parts holding, additional technicians and service vehicles. We have also recently moved into a larger, state-of-the-art premises in Johannesburg, which allows for a larger inventory of machines and spare parts,” explains Leith.

Samuel Zhang, GM at SANY Southern Africa, says both SANY and GEM have invested heavily in their support infrastructure in recent years. SANY as the OEM has its own large parts warehouse in the Boksburg area to support the dealer.

SANY Southern Africa currently stocks about US\$3-million worth of spare parts in its Boksburg warehouse, dedicated to the earthmoving equipment division. The company is increasing the size of this stockholding from the current US\$3-million to US\$6-million, which will translate into higher parts availability for local customers.

“One of the major advantages of opting for SANY in South Africa is the availability of machines and spare parts, thanks to our high levels of stock. This is complemented by the strong backup support from the dealer. Central to SANY’s growth in recent years is our strong dealer, complemented by a strong OEM willing to back up its brand in the market,” says Zhang.

SANY has over the years shown commitment to building greater customer satisfaction in terms of parts availability and service response in South Africa. Zhang tells Capital Equipment News that the brand’s target is to be among the top three earthmoving equipment brands in South Africa in the next three years. SANY also has strong ambitions to be the No. 1 service brand in the country. 🌐



At 68.7 m, the Grove GMK5150XL offers a boom length that most 220 t capacity cranes cannot compete with; plus it has stronger load charts than its GMK5150L-1 sibling.

## WHEN SIZE MATTERS

**The market for mobile cranes is rapidly changing as different factors are impacting how they are used. One of the biggest trends is the need for compact solutions to deal with the constricted nature of urban construction sites. *Capital Equipment News* looks at some of the new models that have recently come to market and how they change the game. By *Munesu Shoko*.**

**B**y cutting a conspicuous figure hoisting materials up high, or sitting atop of structures being built, cranes are perhaps one of the most recognisable types of construction equipment. Given that space is at a premium on most urban construction sites, the world of mobile cranes is changing, offering compact solutions that still pack the required power to lift loads safer.

Recent launches by some of the leading OEMs in the mobile crane sector are testimony to the increased need for compact solutions in this market segment. Manitowoc has just showcased what it says are two game-changing all-terrain cranes – the Grove GMK5120L and the Grove GMK5150XL. Their compact design make our compact mobile cranes ideal for hoisting work on very constricted sites.

Elsewhere, the new MK 73-3.1 mobile construction crane is the smallest in Liebherr's mobile construction crane family and complements the

crane series comprising the MK 88-4.1 and MK 140. The compact three-axle crane is the answer to market demands for a small, compact and agile mobile construction crane that is fast and flexible in operation.

### **MK 73-3.1 in focus**

Mobile construction cranes are predestined to be used as taxi cranes and, with this in mind, the MK 73 3.1 is designed for one-man operation. The crane is ready for use in around 10 minutes. Additional transport vehicles are not required for the MK73 3.1. The electrically operated crane can be supplied with site power or powered by its integrated generator. The single-engine concept, already common among Liebherr's mobile cranes, and its ECOmode feature, ensure reliable travel and economical operation on site.

For the MK 73-3.1, Liebherr has chosen proven technology in an extremely compact form. The small mobile



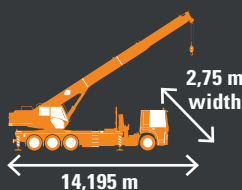
With a total length of 13,8 m, a width of 2,75 m and a height of 4 m, the Liebherr MK 73-3.1 is compact and easy to manoeuvre.

**QUICK TAKE**

For the MK 73-3.1, Liebherr has chosen proven technology in an extremely compact form



With compact dimensions of just 14,195 m overall length and 2,75 m width, the Grove GMK5120L offers good access to jobsites, complemented by great manoeuvrability resulting from Grove's MEGATRAK independent suspension



Like its big brothers, the MK 73-3.1 operates electrically on site, either via site power supply or through its integrated electric generator



With the addition of MAXbase variable outrigger positioning, capacities on the main boom of the GMK6400 are increased



construction crane combines all the features of its big brother, the MK 88-4.1. With a total length of 13,8 m, a width of 2,75 m and a height of 4 m, it is compact and easy to manoeuvre. It offers a 6-tonne maximum load capacity.

To meet the typical demands of densely built-up inner city construction sites with projecting edges, the latest mobile construction crane has been designed with long reaches in mind. With a jib length of 38,5 m, it offers a jib head load capacity of 2 000 kg with corresponding additional ballast.

In a 45-degree luffed jib position, the crane reaches a lifting height of 51 m and has a maximum lifting capacity of 2 800 kg; up to 1 850 kg at the jib head. Engineers have placed strong emphasis on a design with a consistently high maximum load capacity in all luffed jib positions. Three possible luffed jib positions ensure flexible operation.

**Electric crane operation**

Like its big brothers, the MK 73-3.1 operates electrically on site, either via site power supply or through its integrated electric generator. This ensures an extremely quiet and emission-free presence, which in turn is ideal for working at night and in noise-sensitive areas. The small mobile construction crane is also



The GMK5120L, as a new member of the Grove five-axle family, takes the versatility of taxi cranes to new levels.

designed for operation with 63 or 32 amps. Working speed is in no way restricted when using the 32 amp option.

Similar to the other mobile construction cranes in the series, the crane operator is supported by diverse assistance systems. Highlights include an infinitely adjustable lift cabin and modern camera systems – both load and undercarriage are always in view. Assistance systems such as the Micromove fine positioning mode ensure precise load handling. Five steering programmes with active rear axle steering and half-sided support enable the crane to be used on particularly tight construction sites.

Additional options such as the Load Plus load curve and reinforced trolley travel gear further increase the crane's performance. This enables up to 50% heavier loads to be lifted in a 45° luffed position.

The single-engine concept, already used by the mobile cranes of sister company Liebherr-Werk Ehingen GmbH, has been adopted for the MK 73-3.1. This concept makes operation even more economical: the electric generator on the MK 73-3.1 mobile construction crane is only operated by the travel motor in the undercarriage. The ECO mode also comes into play here.

Liebherr has packed all the technology features of its big brothers into this small mobile construction crane; impressive manoeuvrability and flexibility combined with reliability ensure an efficient, modern addition to any crane fleet.

### Groves change the game

At recent customer events in Europe, Manitowoc showcased two new Grove cranes. The 120 t capacity Grove GMK5120L offers long reach with its 66 m main boom. With this versatile all-terrain crane, Grove expands its all-terrain range with another great taxi crane. Customers benefit from better flexibility and low transportation costs. The all-terrain crane can easily carry a class-leading amount of counterweight – no matter if counterweight configurations for 10 t, 12 t or 16,5 t per axle are required.

With compact dimensions of just 14,195 m overall length and 2,75 m width, the GMK5120L offers great access to jobsites, complemented with great manoeuvrability resulting from Grove's MEGATRAK independent suspension.

The Grove GMK5150XL all-terrain crane provides increased capacity and a boom length that is said to surpass most 220 t machines in the market. This new model is redefining the five-axle, 150 t class by offering almost 69 m of main boom.

At 68,7 m it can handle 8,1 t, at 66 m it lifts 9,4 t and at almost 60 m it lifts an incredible 12,7 t. These load charts are said to be unmatched in the market. The GMK5150XL crane's taxi charts are also best in class, ensuring easy roadability and transport savings. In addition, interchangeable counterweight slabs with the GMK5120L, and all Grove 150 t cranes simplify logistics and handling.

Furthermore, its flexible range of

counterweight configurations enable setups tailored to different customer needs. Taxi configurations start from just 1 t of counterweight. For configurations maintaining 12 t per axle, the GMK5150XL can carry up to 10,2 t of counterweight. Also, the heavy roadable counterweight configuration (16,5 t/axle) makes it possible to drive with an outstanding 30,9 t of counterweight on board.

The new Grove model boasts compact dimensions that other five-axle cranes can only dream of. At just 2,75 m wide, it can effortlessly access the narrowest of jobsites, and with MAXbase, optimising crane setup and lifting position is efficient and easy.

Both the GMK5120L and the GMK5150XL come with the new generation of Grove carrier cabs, providing increased operator comfort and convenience. The new carrier cab design seats the operator an extra 235 mm away from the centreline, enhancing visibility and manoeuvrability.

### Grove GMK6400-1

During the Grove all-terrain events, customers were also able to get their first glimpse of the new GMK6400-1 after its virtual launch at CONEXPO 2020. Able to take on jobs that would usually require a seven- or eight-axle model, the 400 t all-terrain crane features an improved hydraulic system with faster flow to provide quicker operating speeds and even smoother movements.

As an upgrade to the GMK6400, its



Both the GMK5120L and the GMK5150XL come with the new generation of Grove carrier cabs, providing increased operator comfort and convenience.

implementation of Manitowoc's CCS ensures that performance is optimised and operation can be boosted to a whole new level. Furthermore, with the addition of MAXbase variable outrigger positioning, capacities on the main boom are increased. The GMK6400-1 now offers unmatched flexibility on jobsites – just like all other Grove all-terrain cranes.

With the introduction of EUROMOT 5, all

Grove all-terrain cranes can be operated with HVO diesel that enables CO<sub>2</sub> emission reductions of up to 90%. New opportunities to tender for eco or government projects where impeccable green credentials are often required are now possible.

“The new Grove cranes deliver a level of performance that was not previously thought possible from cranes in this class, and we can't wait to get the first orders to

our customers,” says Andreas Cremer, vice president, Product Management Mobile Cranes. “It was wonderful to finally be able to welcome so many valued customers and friends back to Wilhelmshaven, show them these exciting new cranes and hear such positive feedback – especially when our Voice of the Customer programme plays such an important role in how we design our cranes.” 🌱



## Condition Monitoring is at the heart of machine reliability

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## FIRING ON ALL CYLINDERS

Scania engines have been at the heart of many industries globally, and have become a standard in an array of applications. Following the recent organisational changes at Scania Southern Africa, local engine customers are set to benefit from a renewed focus that places a premium on quality, uptime, performance and support of services, writes *Munesu Shoko*.

**A**s part of a new structure at Scania Southern Africa, Marius Steenkamp has been appointed director of operations. On top of this role, he has also assumed the management of the Engines business, effective last year.

Commenting on the strategic focus of the Engine business going forward, Steenkamp says: "Our main focus is on improving the quality, uptime, performance and support of our services in our network. Our aim is to direct more focus to both strategic business and operations

individually, thus enabling us to work more efficiently."

Having been part of the Scania family since 1996, Steenkamp brings a wealth of experience to drive both the Operations and Engines businesses forward. "Over the past 25 years I have had the privilege of working in various departments, both at importer level and in the retail network. Between 2013 and September 2021, I worked as regional GM. In this role I was responsible for the Cape region in charge of the sales and distribution of Scania products, as well as aftersales services," he says.

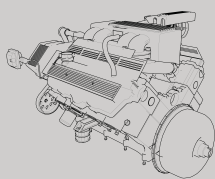
His previous roles include dealer manager, Cape Town (2010 – 2013); national service manager (2008 – 2009); dealer development manager (2006 – 2007); product support manager (2004 – 2005) and training manager (2002 – 2003).



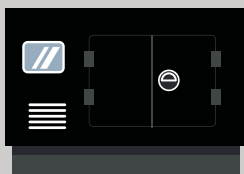
Scania engines are found across different types of equipment, including excavators and crushers.



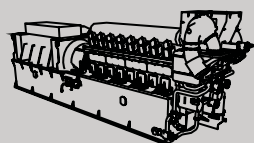
Scania engines are deployed in a variety of applications across the industrial, marine and power generation sectors



Scania's engine range features three sizes – 9 and 13-l in-lines, as well as the 16-l V8



For industrial power systems, Scania offers standby power, emergency sets and secondary power supply units, with power ratings ranging from 202 kW to 566 kW



Scania's Power Generation portfolio comprises 50 Hz and 60 Hz engines that span from 253 kVA to 772 kVA

### Wide range

Scania engines are deployed in a variety of applications across the industrial, marine and power generation sectors. From construction and agricultural applications, to port equipment and power stations, as well as special vehicles and machinery, Scania has an engine to suit any specific need.

"Our engine range features three sizes – 9 and 13-l in-lines, as well as the impressive 16-l V8," explains Steenkamp. For every engine model, there is a complete line-up of power ratings to choose from.

For industrial power systems, Scania offers standby power, emergency sets and secondary power supply units, with power ratings ranging from 202 kW to 566 kW. The industrial engines business largely hinges on strategic international OEM partnerships. Scania engines are found across different types of equipment, from dump trucks, excavators and crushers, to drill rigs, mobile cranes and overhead gantries. Under this portfolio, the company has strategic international agreements with some globally-renowned OEMs.

"Our Power Generation portfolio comprises 50 Hz and 60 Hz engines that span from 253 kVA to 772 kVA,

TAKE

QUICK



“With our strong product and service offering, we are in a great position to continue delivering value to our customers in terms of operating economy, service and safety.”

Marius Steenkamp, director of operations at Scania Southern Africa



Scania engines are renowned for their operating efficiencies.

complemented by installation support as well as services during operation for manufacturers and operators alike,” says Steenkamp.

Under its Marine Power Systems portfolio, Scania provides engines that span from 220 hp to 1 150 hp (162 – 846 kW) as well as instrumentation, after treatment systems and other adjacent powertrain components.

Currently, Power Generation engines are generating more interest in the market and Steenkamp explains why: “With Eskom in a crisis due to generation capacity shortages, the state-owned power utility is struggling to meet generation demands, resulting in ongoing power cuts. Consumers are therefore forced to rely on backup generators to stay operational, resulting in increased demand for engines in the Power Generation segment, and of standby rating,” he says.

**Competitive edge**

In a competitive and challenging market that is prioritising cost-efficiencies and unravelling traditional cost-savings arguments, Steenkamp says Scania is redefining reliable partnerships through

its engine range.

“Our engines are renowned for their robust operating efficiencies, legendary power, outstanding operating economy and unrivalled reliability. This, together with our dedicated staff, is what has kept Scania at the forefront of power generation,” he says.

Scania has a unique modular concept with shared components and systems for all its engines. The result is higher parts availability, minimised waste and easy servicing by a single technician.

The ability to support the asset is key, stresses Steenkamp. This requires skilled technical personnel and high parts availability. Scania has an outstanding aftermarket availability that ensures strong partnerships and the company continuously strives to strengthen its relationships and collaborations with equipment suppliers.

“With our strong product and service offering, we are in a great position to continue delivering value to our customers in terms of operating economy, service and safety,” says Steenkamp.

On the sustainability front, alternative fuels are no compromise. Replacing diesel with gas is a sought-after sustainable

solution globally and Scania is one of the leaders in this space with a strong line-up of gas engines founded on two cornerstones: the use of alternative fuels and energy efficiency. Combining actions within these areas will help any company take a giant leap towards their CO<sub>2</sub>-target, faster than ever before.

“At Scania we offer a line-up of gas engines that run on natural gas (CNG/LNG) as well as biogas (CBG/LBG), and all are characterised by high performance, sound fuel efficiency, lower carbon emissions and low noise levels,” adds Steenkamp.

**Key trends**

Commenting on new trends in the engine business, Steenkamp says more customers are looking to data to help optimise and manage their assets. “At Scania our mission is to provide profitable services based on connectivity that makes sure assets are end-customer connected,” he says.

With connected engines from Scania, customers don’t have to worry about lengthy or unplanned downtime and can enjoy more operational insight and facilitated fleet monitoring and management.

Connectivity allows for real-time intelligence, he adds. By providing reliable real-time data from remote locations, connected engines from Scania link the office with the field. Fleet managers and other office staff can monitor running time and status, position, speed, direction, movement patterns, fuel consumption and emission levels, for individual machines or the full fleet.

The data can then be utilised to increase uptime and operational efficiency, and to identify improvement areas. An intuitive online portal allows users to take quick action on service issues, improve maintenance planning, set geofences, determine bottlenecks and loading frequency, and more. It can also help to gain product insight and function as a platform to help reduce cost and environmental impact.

“Connected engines further strengthen our top-quality maintenance and repair capabilities. Apart from flagging minor issues ahead of an upcoming maintenance appointment, connectivity also allows Scania technicians to diagnose the engine remotely. For more complex issues, this means they can provide swift advice and ensure that they bring the required tools and parts to the site. The result: higher equipment uptime and productivity,” concludes Steenkamp, adding that from 2022, all Scania engines will come standard with Scania’s C300 control unit. 🌐



## MADE FOR INDUSTRY

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Sensors can be added to machinery to convert it into 'smart' assets. Pictured is a Wi-Care 110 sensor monitoring vibration and temperature on an AC induction motor and transmitting the data to the I-SEE cloud-based software platform.

## IIOT — THE MAINSTAY FOR CONDITION MONITORING

**The Industrial Internet of Things (IIoT) has become an easy win for condition monitoring. This feature explores how condition monitoring specialist WearCheck has integrated IIoT into its condition monitoring technologies, and the benefits this has brought to the supplier and end-user alike. By *Mark Botha*.**

**W**hen asked about how condition monitoring has benefitted from the advent of the Industrial Internet of Things (IIoT), WearCheck reliability engineer Jaco Willer says that, until fairly recently, industrial machines were 'dumb' in that they produced data but could do nothing with it. Now, he says, with the IIoT or Industry 4.0, these 'dumb' machines are being catapulted into a new way of operating.

"In the last few years, there has been a notable spike in online installations in all industries driven by Industry 4.0 and this trend is particularly evident in the condition monitoring industry."

He cites the example of online vibration transducers that have revolutionised the monitoring process.

"The addition of sensors makes machines 'smart' and enables them to collect data, store it and transmit it over the internet to analytical software applications that



The Wi-care 100 ExpertKit is a plug & play monitoring solution that can be installed and set up in just a few minutes.

**QUICK TAKE**

In the past few years, there has been a notable spike in online installations in all industries driven by Industry 4.0



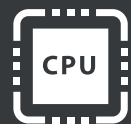
The addition of sensors makes machines 'smart' and enables them to collect data, store it and transmit it over the internet to analytical software applications



Sensors can be installed on older equipment without internet connectivity to make it compatible with the software



With WearCheck's sensor network, data is constantly gathered and analysed and remedial action such as oil changes are performed only when necessary



monitor the data."

The sensors built into the machine gather information about its condition in terms of vibration, load, lubrication contamination, temperature, speed and others, and then transmit this information either locally, to the machine, or to the plant.

WearCheck's reliability solutions division measures vibration using IIoT to gather and store data about machine condition, and then analyses the data to identify remedial action.

"For example," says Willer, "bearings can be viewed as the heart of any rotating machinery. Using bearing-embedded sensors, the machine can collect information about its lubricant condition, vibration, load and other data."

**IIoT versus IoT**

In terms of the Internet of Things (IoT), he says almost every product available to the end-user today is equipped with

an IP address. The Google Nest home automation system, for example, enables home cameras to be viewed from mobile phones, or even allows for the car to be started from an app.

"When it comes to the Industrial Internet of Things, these same 'smart' capabilities are enabled, but for larger equipment or machinery. It usually necessitates

integration into corporate software such as manufacturing resource planning (MRP), product lifecycle management (PLM), or asset management software."

Sensors can be installed on older equipment without internet connectivity to make it compatible with the software.

"There are numerous sensors available on the market that can make older assets



“The future of IIoT, AI and big data in the condition monitoring arena is limited only by human imagination.”

Jaco Willer, reliability engineer at WearCheck



Online monitoring systems and remote sensors ensure that machinery is monitored without interruption.

function within the IIoT framework,” says Willer. These sensors gather data on machine operation continuously and transmit it wirelessly, even in environments where traditional Wi-Fi is unavailable.

“Using algorithms and diagnostics, the data is then sent to a remote diagnostic centre via the smart network, where it is interpreted and diagnosed, and where reports are generated. This makes real-time condition monitoring data available to the maintenance crew.”

**The IIoT and condition monitoring**

Through regular lubricant analysis, the IIoT can often extend oil change intervals and enable savings on maintenance expenses. For example, lubricant changes were previously done in line with OEM guidelines such as at certain mileages or time intervals.

“With the sensor network, data is constantly gathered and analysed and remedial action such as oil changes are performed only when necessary,” says Willer.

“The IIoT changes the game in condition monitoring as the available real-time data enables plants to optimise machine performance more than ever before. Maintenance decisions are based on data and trends rather than on prescribed habits.”

**Benefits to the customer**

He says being able to make maintenance decisions based on hard facts using statistics that are available in real time is a major benefit to customers.

“This process definitely saves money and time for customers because remedial action is instituted as the need is identified.

“Instant decision-making eliminates delays in the repair or maintenance process. Our reliability solutions technicians can advise which sensor system is best for each business from the many available on the market.” He says WearCheck will install the sensors on-site, at the customer’s operation and set up the smart network for the customer.

“Each year, more and more new online sensors are being introduced as IIoT technology advances, giving the end-user a wider choice of products to meet their specific needs.”

**Future of condition monitoring**

Through the IIoT, condition monitoring is almost becoming autonomous. Willer says that, while we will always need skilled human interaction at the decision-making end of the process, the smart network of machines linked via IIoT is ultimately able to power itself and ‘talk to the internet’. It opens up opportunities for condition monitoring to be deployed in applications that were never possible in the past.

While the IIoT may appear to be a sometimes-daunting proposition for industrial operations, the benefits of a well-chosen and properly set up network by a professional condition monitoring team can enhance the productivity levels in an organisation significantly, while saving the customer money on maintenance costs.

“According to the Noria Corporation,” he says, “the IIoT for asset monitoring is projected to produce US\$200 – US\$500-billion in economic value by 2025.

“Condition-based maintenance (CBM) involving real-time sensing and predictive maintenance, is viewed as the ‘easy win’ among all IIoT applications.”

He says thanks to artificial intelligence (AI), where computers or machines can ‘learn’ procedures, there are now condition monitoring techniques where devices can recognise their environment and be trained to take action based on that environment in order to achieve a goal.

AI is developed and refined using Big Data systems. These are used to capture data, store, analyse and process it.

According to Willer, WearCheck has been gathering condition monitoring results of customer assets since the company was formed over 40 years ago. It has amassed and curates a large database of test results which is used to compare trends and analyse the histories of certain components and assets.

“Using the concept of digital twinning, where the digital twin is a digital representation of a physical asset, WearCheck is pursuing the use of AI processes to determine how an item is serviced, and performs software analytics and real-world data to create digital simulation models that are updated and altered in sync with their real-world physical counterparts.

“The future of IIoT, AI and big data in the condition monitoring arena is limited only by human imagination.” 🌟

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## ATTACHMENTS

Reducing waste to smaller or more uniformed fragment sizes makes it easier and faster to reuse.



# TURNING TOOL CARRIERS INTO MULTI-PURPOSE LOADING AND CRUSHING SOLUTIONS

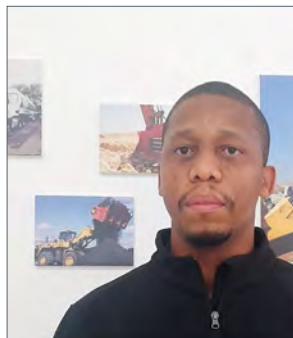
**S**outh African ALLU dealer Egelquip sales and marketing director Tebogo Modisane says new innovations in the excavator attachment space are centred around crusher attachments used for construction and demolition waste, as well crusher attachments designed for very hard and abrasive materials.

“These attachments,” he says, “operate exactly like mobile jaw crushers. They are mobile and allow companies to turn their excavators into multi-purpose loading and crushing tools as the operator is able to load and crush in one process.

The ALLU series for construction waste includes the Transformer D series; the Transformer M series, as well as ALLU crusher and compactor attachments.

Modisane says the Transformer series reduces the need to load, unload and

*Capital Equipment News* speaks to ALLU supplier Egelquip about how hydraulic crusher bucket attachments can turn carrier equipment into multi-purpose loading and crushing tools on industrial, mining, quarrying, recycling, pipeline and other jobsites, while potentially removing jaw crushers from site. **By Mark Botha.**



“Some of the new developments in hydraulic automatic quick coupling systems allow the operator to use different hydraulic attachments with one carrier. These systems are controlled and operated from the cabin.”

Tebogo Modisane, sales and marketing director at Egelquip

TALKING POINT



Attachments that are configured to crush coal are experiencing increased market demand.

**QUICK TAKE**

Innovations in the excavator attachment space are centred around crusher attachments used for construction and demolition waste



The ALLU recycling bucket sorts materials from actual waste and, in doing so, lowers transportation and landfill costs



The market is gradually migrating towards the use of coupling technology which allows the carrier to use a number of different attachments



There is an increase in demand for attachments that serve as alternatives to more common mobile jaw crushing equipment



double-handle the material while reducing transportation and traffic at the job site. This, in turn, limits pollution and safety hazards.

“Reducing waste to smaller or more uniformed fragment sizes makes it easier and faster to reuse,” he says. “The debris that is generated in construction and demolition sites is bulky, heavy to handle, and traditionally increases transportation costs and double-handling operational costs.”

He says the ALLU recycling bucket sorts materials from actual waste and, in doing so, lowers transportation and landfill costs and increases efficiency and productivity at the work site.

Construction and demolition work aside, Egelquip’s ALLU attachments also serve the industrial, mining, quarrying, pipeline, recycling, soil improvement & agriculture, as well as the composting & landscaping sectors.

**Market needs**

He says the use of crusher attachments addresses the need in the market to increase efficiency in operations; lowers operating costs by removing mobile jaw crushers from site; creates value through recycling of construction and demolition waste and reduces haulage costs and negative environmental impact as there is no need to remove existing material nor to purchase new material, and to increase mobility on site.



Bucket crusher attachments can turn carrier equipment into multi-purpose loading and crushing tools.



The ALLU recycling bucket sorts materials from actual waste and, in doing so, lowers transportation and landfill costs.

### Coupling technology

He says the market is gradually migrating towards the use of coupling technology which allows the carrier to use a number of different attachments in a single operation.

“This allows the operator to not have to leave the cabin while operating the machine, so improving operating efficiencies and safety on site.”

He says quick coupler function hydraulic hoses are connected automatically as the

operator locks the quick coupler to the tool.

“Some of the new developments in the hydraulic automatic quick coupling system allow the operator to use a number of different hydraulic attachments with one carrier. These systems are controlled and operated from within the cabin.”

### Increased demand

When asked which attachments are experiencing increased demand, Modisane

points to attachments that are configured to crush coal.

“There is an increase in demand for attachments that serve as alternates to more common mobile jaw crushing equipment. These attachments allow the operator to load run-of-mine (ROM) and crush directly into mobile or static screening equipment, so reducing cost, removing double-handling and improving your cost of coal processing per tonne.”

He says the price tags on these attachments also make them a better choice than mobile jaw crushers.

In terms of attachments for mining, the ALLU Transformer M-series from Egelquip is a range of multi-faceted screener crushers powered by the carrier they are mounted on. These hydraulic attachments are ideal for material production at quarries or mining operations, as they solve chute blockages and other material flow problems while being able to transport saturated material heaps.

"The Transformer M-series screening buckets adapt to the processing needs and rock mass they encounter. Different drum configurations of 50, 75 and 150 mm mean that differing fragment sizes may be processed in one step." He says the entire process is fully mobile and can replace conventional crushing and screening plants in many instances.

The processed material is also of uniform quality, which enables the transportation of the material by dump truck immediately after processing.

"By applying the correct amount of crushing force together with the correct drum type, the attachment also separates any hard, unwanted materials in the rock

mass while crushing the soft material."

He says the Transformer M-series screening attachment was developed specifically for companies that deal with large amounts of material on a regular basis. It is designed to fit excavators up to 160 t and wheel loaders of up to 90 t, that are able to screen and crush materials from 15 to 150 mm.

The main applications for the Transformer M-series screener crusher include soft rock quarrying; mineral excavation and mining; sand and gravel production and material processing and loading.

Oil shale, coal, limestone processing and any soft rock crushing is completed with the ALLU Transformer M-series screener crusher.

#### Future innovations

"We are hoping to assist the South African and African markets to look at excavators and/or front-end loaders as carrier tools. We are moving into an environment where most machines will come standard with the third hydraulic function as operations are going to lead towards hydraulic attachments as a means for improving efficiency and increasing profitability," says Modisane. 🌐

**"The Transformer M-series screening buckets adapt to the processing needs and rock mass they encounter. Different drum configurations of 50, 75 and 150 mm mean that differing fragment sizes may be processed in one step."**



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Crushers are one of the most common attachments for demolition contractors.

## TAKE ON ANY TASK

For interior and top-down demolition, many contractors have come to rely on remote-controlled demolition robots. And with good reason. These innovative machines provide industry-leading power-to-weight ratios. By *Jeff Keeling*, North American sales & marketing manager at Brokk Inc.

**T**he smallest models easily fit through standard doorways and are light enough to transport using a passenger elevator, making them ideal for demolition in tight spaces. Despite this compact footprint, they can provide hitting power on par with excavators three times their size.

This power comes from a perfect pairing between carrier and breaker – standard equipment for these machines. For optimum performance, industry-leading manufacturers design their demolition robots starting from the tip of the breaker to ensure hydraulic flow and pressure are perfectly calibrated. This increases efficiency and breaking capacity, but also results in less wear and tear on the carrier for a hardier unit overall.

However, solely relying on a breaker is selling these machines short. A range of attachments are available from manufacturers, allowing operators to tackle a variety of tasks, such as material handling, excavation, surface preparation and much more. Forward-thinking contractors are capitalising on the versatility provided by the right suite of attachments. The proper combinations can streamline their jobsites as well as open up new applications to grow their business – turning a demolition robot into a remote-controlled tool carrier.

Selecting the right attachments is key to unlocking the full potential of these machines. Here are four attachments to consider for optimum efficiency with remote-controlled demolition equipment.

### Concrete crushers

Next to hydraulic breakers, crushers are probably the most common attachment for demolition contractors. These attachments reduce noise

and vibrations, so they can be used in a number of sensitive environments.

Where breakers use force to knock down a wall, crushers simply chew up the concrete, leaving rebar exposed. To do this, crushers require access to an exposed edge of the structure being demolished – either the top, side or end – in order to break it down. Imagine trying to take a bite from the middle of a piece of bread. It doesn't work without bending the bread. Taking a bite from any side, on the other hand, doesn't require any special manoeuvring. For top-down applications where noise and vibration constraints are primary concerns, crushers allow contractors to work during the day – in some cases without the neighbours even noticing.

Recently, a Canadian contractor was able to remove 38 stories using crushers and remote-controlled demolition robots. The company's primary focus was mitigating disruption to the local area with the dust and noise that accompanies



From planers and descalers to rock drills, saws and shotcrete guns, a demolition robot can become a true multi-purpose machine that opens up new revenue opportunities and speeds up ROI.

any demolition project. After erecting a hoarding system around the top of the building, the demolition area was essentially hidden from the ground and neighbouring buildings.

The contractor worked down through the building's floors, systematically crushing concrete and cutting reinforcement steel. Working with two demolition robots, crews were able to complete one floor every three to four days, taking down the entire 38 stories in just nine months. Curious residents, unable to see or hear what was going on, questioned if the project was actually progressing until the protective hoarding structures were removed and the top of the landmark structure had disappeared.

In addition to "silent demolition" crushers also make material handling easier. The resulting debris is a uniform size, and steel is separated for recycling during the initial demolition instead of having to remove it later.

For maximum efficiency, pay attention to the jaw opening and crushing force. To easily take on concrete slabs 440 – 560 mm thick, a crushing force from 44 – 54 t is best. Wear-resistant, replaceable steel alloy crusher tips and cutter blades, as well as a full 360-degree rotation are also recommended.

## QUICK TAKE

Selecting the right attachments is key to unlocking the full potential of remote-controlled demolition robots



Crushers are probably the most common attachment for demolition contactors – these attachments reduce noise and vibrations, so they can be used in a number of sensitive environments



Shears are another attachment that, when paired with demolition robots, can significantly increase safety and productivity on a demolition jobsite



Perhaps the most underutilised demolition attachment is the grapple – this versatile tool is ideal for soft demolition, separation and sorting applications





When paired with a flexible remote-controlled machine, the grapple can easily grasp and pull down structural elements.



Demolition robots can be paired with a bucket to increase efficiency for a number of confined applications such as excavation, digging trenches, material handling, sorting, separating and loading debris.

**Metal and combi shears**

Shears are another attachment that, when paired with demolition robots, can significantly increase safety and productivity on a demolition jobsite. As with breakers, crushers and grapples, industry-leading manufacturers have taken advantage of the maneuverability and precision available from demolition robots to optimise their shear attachments, reducing the need for larger crews and handheld torches in a number of applications.

Because of floor load limits or other access restrictions for larger equipment, contractors have traditionally relied on handheld torches for metal cutting tasks on interior demolition projects. The use of hand tools for cutting concrete reinforcement, sprinklers, conduit, wire and cable comes with potentially life-threatening risks for workers. In addition to electrical shocks, burns, fumes, fire hazards and falling debris,

these tasks often require scaffolding. The potential hazards add up to increased health concerns for workers, which is reflected in workman’s comp claims and higher insurance premiums for employers.

Using a remote-controlled tool carrier with a shear attachment for these tasks eliminates many of the associated risks. Shears pierce or cut through material, rather than burn through it like a torch. By removing heat from the equation, operators are also eliminating sparks, flying embers, and fumes. Additionally, compact demolition robots are able to access confined spaces and areas with low floor loads. Using shears in these situations offers a mechanical solution that keeps operators safely on the ground while providing good view of the work. And, while contractors should still ensure electricity is shut off before cutting wires or other conduit, it’s much better for a robot to take an electrical shock than a human.

Look for shears with a high power to weight ratio. This allows for optimal cutting power in a smaller package, making it easier to manoeuvre the shears in tight spaces. Additionally, a hydraulic 360-degree rotary drive provides pin-point accuracy.

**Multi-purpose grapples**

Perhaps the most underutilised demolition attachment is the grapple. This versatile tool is ideal for soft demolition, separation and sorting applications. It can also be used for support tasks before, during and after the primary demolition.

Grapples function like a rudimentary hand with two fingers and a thumb for pinching, pulling and sorting. When paired with a flexible remote-controlled machine, the grapple can provide significant time and cost savings over manual demolition methods in tight, confined spaces. In many cases it removes the need for harnessed workers on ladders or scaffolding. For example, the highly articulated attachment can be used to grasp structural elements such as drywall, ceiling sections, piping, steel drums and HVAC ducts which the remote-controlled carrier machine can then easily pull down. Remote operation also means workers can position themselves away from any falling debris while maintaining a good view of the work.

Another example would be elements that require support, like a 4-inch-diameter overhead pipe that needs to be cut with a torch. The grapple simply clamps onto the pipe and holds it while a worker torches through it on either end. Once it is free, the grapple safely lowers

the pipe to the ground.

And grapples aren't just for demolition. Grapple attachments can also be used for lifting, moving and support during construction. Depending on the jaw opening and carrier size, these tools can lift materials up to 30-inches in diameter. When paired with a demolition robot with exceptional reach, this means operators can remain safely on the ground and out of the drop zone for a number of overhead tasks.

Additionally, once materials have been pulled down, the precision and flexibility of the remote-controlled demolition machine with the grapple attachment makes it easy to pick up and sort even small debris.

Here again, jaw opening is important for overall productivity. Additionally, a 360-degree hydraulic rotation circuit should also be considered for fast and accurate positioning. For picking, sorting and material handling, boltable grip plates allow operators to complete those tasks without switching attachments.

### Buckets

Finally, no suite of robotic demolition attachments would be complete without a bucket – or two. These multi-purpose tools increase efficiency for a number of confined applications such as excavation, digging trenches, material handling, sorting, separating and loading debris.

Since they are primarily designed to optimise breakout forces for hammering above and in front of the machine, the demolition robots' boom design provides ample power for digging in rocky soil and heavy clay. It also provides increased reach and maneuverability compared to most similar-sized mini-excavators. An innovative three-part arm allows demolition robots from leading manufacturers to work closer to the carrier body, minimizing the need to reposition.

Compared to the two-part excavator boom, the demolition robot's flexible three-part arm also requires less height to extend, making it ideal for confined spaces. Most models only require 182,9 – 213,4 cm of height clearance for excavation, allowing operators to work in a number of situations with low overhead clearance, such as tunnels and utility applications. Smooth, precise movements and a remarkable range of motion mean operators can dig both toward and away from the machine by simply switching the direction of the bucket, and a stronger boom means the demolition robot can handle larger buckets and heavier loads than similar-sized excavators.

Using a bucket and remote-control demolition robot also provides increased safety compared to an excavator. Remote-control operation keeps employees safely on the ground and outside the immediate work zone, protecting them from dust and flying debris. It also eliminates the need to climb into or out of a cab, which is a leading cause of jobsite injury often resulting in sprains, strains and other minor ailments.

Leading manufacturers offer customised buckets to fit an operation's specific needs for maximum efficiency.

### Tackle any task

These tools are just a small representation of what some manufacturers offer – the ideal suite of tools for interior and top-down demolition. With more than 80 attachments to choose from, manufacturers aren't kidding when they say they have a tool for every application. From planers and descalers to rock drills, saws and shotcrete guns, a demolition robot can become a true multi-purpose machine that opens up new revenue opportunities and speeds up ROI. 🌟



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At 197 kW (265 hp) and an operating weight of 29 776 kg, the new D7 dozer replaces the D7R.



# EFFICIENCY AND PRODUCTIVITY TO THE FORE ON NEW CAT LAUNCHES

**In today's operating environment, the significance of premium performance, increased productivity and lower maintenance costs cannot be reiterated enough. In its recent launches – the Cat D7 dozer and the Cat 980 and 982 series wheel loaders – Caterpillar brings these parameters to the fore. By *Munesu Shoko*.**

**T**o run profitable business operations, yellow metal equipment operators need to capitalise on the opportunity to improve their productivity and focus on one of the factors they can control – operational efficiency.

With that in mind, the new Cat 980 and 982 series wheel loaders deliver premium performance, increased productivity and lower maintenance costs, while the heavier, more powerful Cat D7 dozer delivers more productivity and efficiency than its predecessor, the D7R.

The new Cat D7 dozer has been fully redesigned to deliver up to 10% more dozing efficiency, move up to 11% more material per hour and help get the job done with a broad choice of easy-to-use technology options. A fully automatic 4-speed transmission offers optimal fuel and dozing efficiency, plus ease of operation. At 197 kW (265 hp) and an operating weight of 29 776 kg, the new D7 dozer replaces the D7R.

Offering premium performance in the 9 – 11 t wheel loader class, the new Cat 980 and 982 medium wheel loaders are up to 10% more productive and deliver lower maintenance costs of up to 12% when compared to the previous 980M, 980L and 982M models. These new wheel loaders include an expanded technology platform to increase machine performance and improve operating efficiency.

## **D7 in focus**

The D7 moves up to 11% more material per hour than the D7R, with more weight and horsepower. Blade capacity is increased by 10%, and a dedicated steering pump provides more continuous push when turning under load for a higher level of productivity.

The D7 is driven by a new smooth-shifting fully automatic 4-speed transmission. Operators do not need to shift gears – just choose the desired ground speed and the transmission continuously adjusts for maximum efficiency and power to the ground without added operator input. This helps prevent overheating in hot climates, offers better speed control and provides more power to the ground.

The completely redesigned cab raises the standard in comfort and productivity. The integrated Roll Over Protective Structure

(ROPS) provides added visibility to the sides of the dozer. Operators will find more space, an air suspension seat with multiple adjustments, and 203 mm gauge cluster operator interface with a clear view of machine/service functions and settings. An optional Premium cab offers fully adjustable armrests, plus an easy-to-use 10-inch touchscreen operator interface with High Definition rearview camera. Four LED lights are standard, with options for packages of 6 or 12 lights.

A heavier frame, D8-sized structures and a new track roller frame with larger roller shafts add durability. Heavy Duty Extended Life undercarriage – HDXL with DuraLink – provides up to 20% more seal life in high impact conditions. A redesigned fuel system provides greater reliability and more accurate fuel delivery.

A Ground Level Service Centre provides easy access to the disconnect switch and can be outfitted with optional hour meter and access/egress light switch. A railing, with integrated shovel holder, is available to help make fueling easier.

### Ample technology choices

The D7 is said to lead the industry with a variety of technology offerings that are easy to use and help maximise return on equipment investment. All of the technology features are designed to help novice operators become more productive sooner, and to help experienced operators get the job done faster and with less effort.

Slope Indicate is standard on all machines, showing machine main fall and cross-slope right on the main display for easy reference. ARO with Assist is a grade-control-ready option bundled with operator assist features that work in the background to help operators get more done in less time.

Meanwhile, Cat Grade with Slope Assist maintains the operators pre-determined blade position – either mainfall or cross slope – without a GPS signal or extra hardware. Works in manual or automatic modes.

Factory Attachment Ready Option (ARO) provides optimal mounting locations, brackets, and hardware and simplifies installation of any brand of grade control system. Blade Load Monitor gives real-time feedback on current vs optimal blade load to help optimize blade capacity.

Stable Blade works seamlessly with operator blade inputs for smoother surfaces. Traction Control automatically reduces track slip to save time, fuel and track wear. AutoCarry automates blade lift to help maintain consistent blade load and help reduce track slip.

Customers can also add factory integrated



The new Cat 980 and 982 series wheel loaders deliver premium performance, increased productivity and lower maintenance costs.

Cat Grade with 3D. The GPS system automates blade movements in both fine grading and production dozing applications, reducing manual operator inputs by as much as 80%. Small antennas are integrated into the cab roof for better protection and GPS receivers are mounted inside so they can be secured by locking the cab doors. An intuitive 254-mm Grade operator interface works like a smart phone, making it easy for operators to pick up quickly. Android OS

platform allows installation of custom apps for more versatility.

### Tech gains

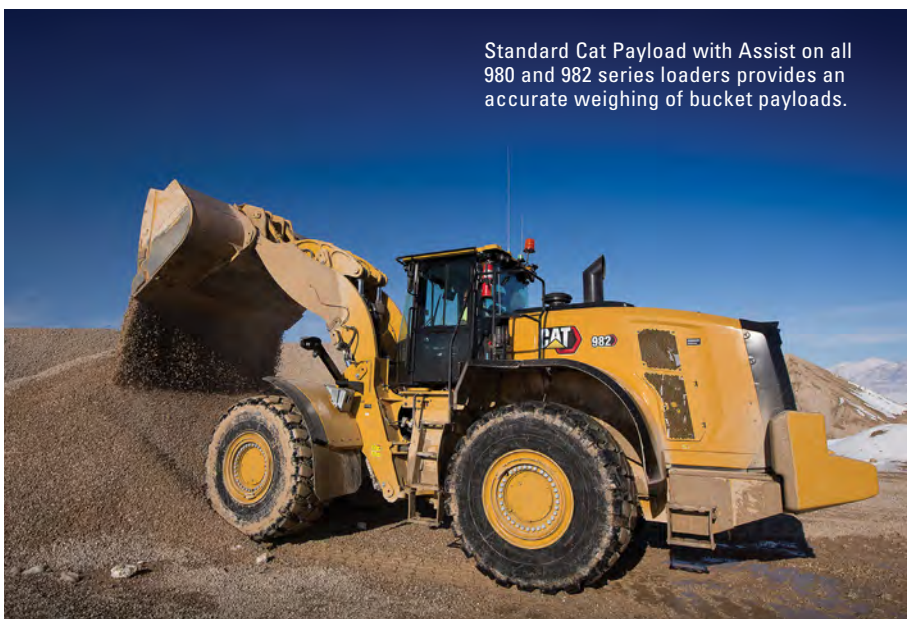
Standard Cat Payload with Assist on all 980 and 982 series loaders provides an accurate weighing of bucket payloads, so operators can load to target the first time every time. This new technology includes low-lift-weigh and manual tip-off functions.

Optional Cat Advanced Payload expands

QUICK	TAKE
The new Cat D7 dozer has been fully redesigned to deliver up to 10% more dozing efficiency	
Offering premium performance in the 9 – 11 t wheel loader class, the new Cat 980 and 982 medium wheel loaders are up to 10% more productive than the previous 980M, 980L and 982M models	
Armed with more weight and horsepower, the D7 moves up to 11% more material per hour than the D7R	
These new wheel loaders include an expanded technology platform to increase machine performance and improve operating efficiency	



The D7 is said to lead the industry with a variety of technology offerings that are easy to use and help maximise return on equipment investment.



Standard Cat Payload with Assist on all 980 and 982 series loaders provides an accurate weighing of bucket payloads.

the system's functionality with Lists-Management, Multitask- & Manual-Add Modes and Tip-off assist. Compatible with third-party scale house software, it can wirelessly integrate the machine in the scale-house process with Dispatch-for-Loading (additional subscription required).

The new Cat Autodig with Auto Set Tyres promotes proper loading technique to significantly reduce tyre slip and loading time. It can automate the complete bucket loading cycle to deliver consistently high bucket fill factors for up to 10% more productivity.

Standard along with Autodig and Auto Set Tyres, the new models introduce Application-Profiles, in which the press of one button sets multiple machine parameters to optimise settings for the application at hand. Customised profiles can be created to fit customer-specific cases. Selectable on-screen Job Aids, along with a streamlined new controls layout, promotes

ease of operation to help all operators be more productive.

### Comfort and safety

Access to the new operator's cab on the 980 and 982 series loaders is easy thanks to the wide door, stair-like steps and grabrails for additional stability. The new adjustable suspension seat comes in Comfort, Deluxe and Premium levels that includes heated and heated/cooled options for improved year-round comfort. Seat belts are now monitored, and the system can be completed with an exterior beacon for supervisors to enhance job site safety. Taller operators will appreciate increased legroom inside the new cab, while sound suppression, seals and viscous cab mounts lower noise and vibration levels for a quiet work environment. Next generation ride control acts as a shock absorber to improve ride comfort over rough terrain.

The loaders' new dashboard and high-resolution touchscreen display provide intuitive and user-friendly loader control for enhanced performance. The seat-mounted electrohydraulic joystick steering system provides precise control over the new Cat 980 (optional) and 982 series models with minimal arm movements to increase comfort and loading accuracy. A conventional steering wheel is also available on the 980. Automatic control of the air conditioning system keeps the cab as cool as desired.

The new loaders now feature a push-to-start system that requires a valid Operator ID to crank the engine. Operator ID works with a passcode input on the display or with the optional Cat Bluetooth key. It can act as a machine security system with programmable operating restriction.

The floor-to-ceiling windshield improves forward visibility of the work area, while the standard rear-vision camera along with convex and spot mirrors help to enhance visibility around the machine to improve operating safety. Cat Detect radar to alert operators to hazards and a Multi-view (360-degree) vision system are available options to provide an extra level of monitoring around the loaders to advance safe operation.

### Significant maintenance savings

Most maintenance intervals are extended for the hydraulic system (oils and filters), reducing costs and downtime. The 980 and 982 series loaders offer convenient access to hydraulic and electrical service centres and grouped lube points for fast and easy servicing.

Remote services technologies on the new Cat medium wheel loaders can save service trips to the jobsite and ensure the machine operates at peak performance (requires appropriate cell network coverage). Remote Troubleshoot connects the machine to the dealer's service department over-the-air to quickly diagnose fault codes without on-machine cable connection.

Remote Flash ensures the wheel loaders are operating with the most up-to-date software while working around the production schedule. Update files are pushed to the machine in the background and installation can be initiated from the Cat Remote Services Web Portal by the customer in a safe manner, reducing impact on production schedules. Helping to manage fleet loader location, hours and maintenance schedules, the web portal connects fleet managers to the machine and allows dealer service requests to be made from a mobile device. 🌐



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# REDUCE RISK BY MAKING YOUR BUSINESS MORE SECURE

**Smart companies take the time to understand their risk profile and take appropriate steps to improve it – while saving money on insurance premiums in the process. By Jason Mellow, head of MiWay Business Insurance.**

**T**he recent incidents of looting and mayhem in KwaZulu-Natal and Gauteng have once again shown that no business – particularly in South Africa – should be without adequate insurance. Surely nobody will doubt the value of SASRIA cover again, but there are other basic steps that businesses can take to improve their ability to reduce risk – and premiums.

Over the long term, a number of trends are increasing the security threats to companies. The poor (and arguably worsening) economy is driving some to see theft as morally acceptable, creating a general vulnerability. Another issue is poor conditions for drivers in the logistics industry. Long driving hours and inadequate resting periods lead to driver fatigue and, ultimately accidents that might have been avoided. At the same time, poor driver training and ineffective driver management means that bad driving behaviour is not corrected.

#### [Subhead] Risk assessment

When it comes to improving security, the first step for the business to take is an in-depth assessment of the risks it faces. For example, an e-hailing business is most at risk from the drivers it uses, and thus the driving history and skills of each driver is highly relevant. A telematics device can also enhance the safety of drivers and passengers.

For a landlord, the location of the property is a key factor and also the security measures in place. In addition, the kind of tenants and their businesses is also important – for example, are any of the tenants engaged in hazardous activities that could threaten the building or its inhabitants?

Here are a few examples of the kinds of security measures that could be taken to reduce the risk and make your business more secure:

For a logistics business, telematics devices that measure vehicle position, route and speed, along with dash cams, would improve the security.

In all types of vehicles, alarms are generally automatically included. In commercial vehicles, early-warning tracking devices are to be preferred to passive ones for the reason that the tracking company reacts more quickly to



Jason Mellow, head of MiWay Business Insurance.

the former.

When it comes to properties, a monitored alarm linked to armed response is very important. Other measures could include on-premise guards and physical perimeter security. Technology also has a growing role to play, and some business owners are turning to CCTV cameras more and more for monitoring of their premises either via a control room staffed by humans or now sophisticated artificial intelligence software that can detect abnormal activity. Smoke alarms and sprinkler systems are also worth investigating.

The insurer will appoint a risk surveyor to visit a property and his or her recommendations should be followed. Advise your insurer in detail of the security arrangements made, and make updates if they change.

The benefits can be substantial. Good security measures on a property could see premiums reduced by around 10%, while telematics and other electronic devices on commercial vehicles could see a 15% premium reduction.

#### Understand your risk

At the same time, though, it's important to point out that security measures need to be commensurate to the risk the business faces in each case. From the insurer's point of view, the best advice we could give would be to put a proper risk

management process in place. This would involve not only assessing an individual business's risks and putting adequate mitigation interventions in place, but constantly monitoring the threat landscape over time to identify new risks or a change in existing risks.

Risk management also has to include oversight of how the mitigation interventions are performing. If technology is in place, is it being maintained and is it integrated into normal business routines? For example, are alarms checked regularly, is there a robust roster of who is in charge of setting alarms or reading through guard reports, and does somebody analyse the reports of vehicle movements from the tracking company, and take appropriate action?

It's worth emphasising that a security-conscious company would have processes in place to assess not just how well its risk-mitigation strategies are working but also how the insights gained from any reports could be used to improve its overall security and the general health of the business. The opportunities for improvement must be identified and grasped, wherever they come from.

Security is a challenge for South African companies, but taking the right actions can greatly reduce the risks and the associated insurance premiums – they may also help the business become more efficient. 🌐

# SHIPPING CONTAINER CRISIS ANTICIPATED TO CONTINUE UNTIL MID-2022

**With 90% of the world's goods transported by sea, the current shipping crisis has resulted in spiralling costs and bottlenecks in global supply chains. The situation has been exacerbated by a shortage of shipping containers and massive congestion at major ports, explains Conrad Smith, founder and owner of MHS Plant & Equipment.**

**B**ased in Kyalami, Johannesburg, MHS Plant & Equipment is an equipment disposal specialist that focuses on the mining and construction industries specifically. "If you are looking to get rid of any yellow metal equipment, we can guarantee a buyer and the best price globally, based on our international network that has been built up over 25 years," explains Smith. On the other hand, if one is looking to acquire any yellow metal equipment, the same network can be tapped into for a fully customised solution that includes dismantling and rigging, shipping and transportation, as well as reassembly at the required destination.

Smith says the current shipping crisis is having a big impact on the used equipment sector, as major OEMs still tend to have stock on hand to tide them over during the current crisis. However, shipping experts predict that lead times will only begin to stabilise by mid-2022. The shortage of shipping containers can be traced back to 2019, a relatively bad year for global trade due to strained relations between the US and China.

The standoff between two of the world's largest economies resulted in less containers being produced in the run-up to 2020. However, COVID-19 then extended the lull in container manufacture throughout the first half of last year. Instead of dampening demand, the pandemic had the opposite effect and container prices skyrocketed, with some brands reportedly paying up to 10 times more to import the same goods as before. The latest development is that some companies are opting to transport their goods via air charter, at more than double the pre-pandemic price.

## Getting around it

"While we have been affected by the container crisis along with many other companies reliant on shipping, there are ways of getting around it, as only certain routes and ports have been affected. In addition, we are able to dismantle yellow equipment so that it takes up the least space, thus assisting our clients to curb



MHS Plant Equipment maintains a global network for equipment disposal.

their transportation costs during this difficult period," explains Smith.

The disruption in global supply chains could not have come at a worse time for the mining industry. Already having to deal with a shortage of new large equipment from major OEMs, a recent uptick in commodity prices has seen speculation of a potential new commodity super-cycle. With lead times for new equipment now already stretching to 2022, compounded further by the shipping crisis, Smith highlights that sourcing used equipment is probably the best option now for major mining houses or junior miners to ensure they are in a position to take advantage of any emergent green shoots.

## Major advantage

"What gives us a major advantage over the traditional route of disposing of or securing used equipment from auction houses, for example, is our flexibility and well-established network. We

can literally source or sell equipment anywhere in the world. While COVID-19 has limited our capability to inspect equipment on-site, for example, we are able to either conduct virtual inspections, or have experts on the ground who can conduct such inspections for us and report back on behalf of our clients," stresses Smith.

Apart from supplying both new and quality used equipment, MHS Plant & Equipment also assists banks in the valuation and disposal of any repossessed equipment, specialising in turnkey solutions for construction companies and mine closures. Supplementing the trading side of the business, the company also owns equipment that it rents out to cement and aggregate producers, including a diamond mine in the Northern Cape. This gives Smith the opportunity to rotate his equipment and ensure that the fleet is always current which, in turn, gives clients peace of mind that maximum uptime and productivity is guaranteed. 🌐

## High-precision, accurate sampling for mines and their customers

Innovation in Multotec's proven hammer samplers allows two consecutive samples to be taken from the product stream in quick succession, ensuring two sets of accurate results – one for the mine and one for the customer.

"A single sample increment cannot simply be divided into roughly two equal parts," says Refilwe Makgae, senior application engineer at Multotec. "This can result in up to five of the nine sampling errors occurring in a single step."

She emphasises that each consecutive increment must instead be carefully diverted to its own bin, so that successive increments do not contaminate each other. Multotec has therefore developed a reliable flopper gate that is easy to operate and gives feedback about the flopper positioning.

"This ensures that a good seal is achieved, preventing sample cross-contamination," says Makgae. "For existing



Multotec has a worldwide footprint of over 800 hammer samplers in the field.

operations where this new requirement is imposed, this innovation can be easily retrofitted."

She notes that high levels of precision in sampling can only be achieved with fine design tolerances for each application. For this purpose, Multotec has developed software

integration models across AutoCAD Inventor and programming code, to automate parts of the design. This process uses pre-programmed design logic and interpolates from the company's data library which covers a worldwide footprint of over 800 hammer samplers in the field.

## Kwatani innovates to keep screens well isolated

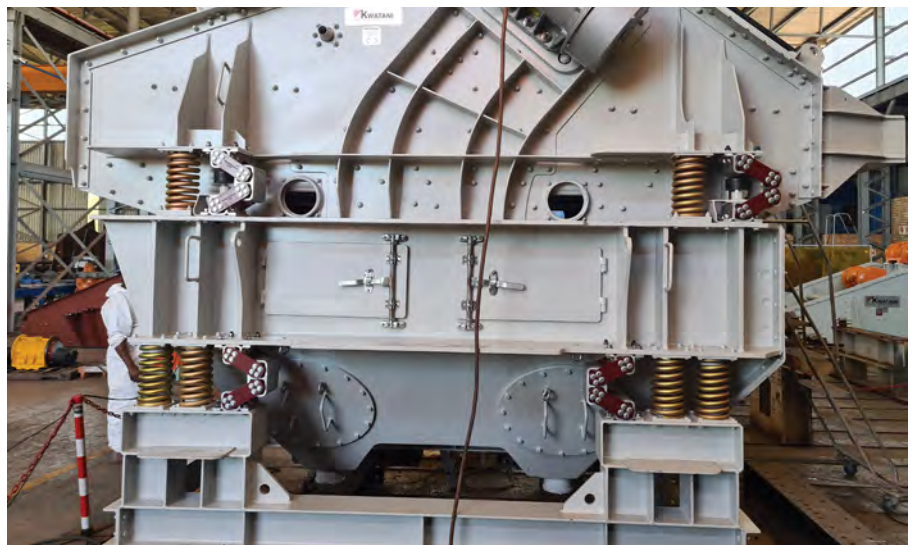
Screens vibrate more when starting and stopping, often causing unexpected damage to buildings and reducing the lifespan of the machine. Kwatani has applied cost-effective isolation solutions that include both torsional and coil springs.

According to Kwatani's chief operating officer, Kenny Mayhew-Ridgers, the company has achieved considerable improvements in many screening applications by selectively fitting torsional springs alongside coil springs.

"It is well known that the vibrating motion of a screen impacts on the building and structural accessories around it," says Mayhew-Ridgers. "This vibration is addressed by fitting isolators between the screen and the plant floor, and by constructing the plant building to certain minimum structural specifications."

However, the focus is often on the frequencies that the screen generates in its steady-state phase – or the normal running phase – rather than during the transient phases when the screen is starting up or slowing down to a stop.

He highlights that it is during these transient phases that the screen's movement becomes amplified and potentially most destructive. Isolators between the screen and the floor – common among which are coil springs and rubber buffers – are meant to absorb vibrations and prevent damage to surrounding infrastructure. However, the transient phases, especially when stopping,



One of Kwatani's smaller screens used in diamond mining fitted with torsional springs.

can generate considerable sideways movement of the screen, which must be avoided.

"Traditional isolators like coil springs usually perform well in controlling the up-and-down movement of the screen," he says. "Our experience is that the sideways movement, which is induced most strongly when the machine stops, can be better controlled by torsional springs."

However, he notes that coil springs retain the advantages of being cost effective and providing a good linear isolation of the screen from the building structure. In this respect, their isolation characteristics are generally better than rubber buffers which

rather excel in terms of their damping qualities.

"The torsional spring provides the best of both worlds, giving a good linear range for compression during operation while also becoming non-linear like the rubber buffer during stopping," he says.

Using its years of experience observing screens operating in the field, Kwatani has developed and trialled various solutions in its dedicated testing centre at its headquarters in Kempton Park. By optimising the best combination of coil springs and torsional springs, the company has succeeded in achieving the best results for customers. 🌐

## Why dust control is vital to miners' health

Dust has long been a health hazard in mines where metals and metalloids are carried in atmospheric dust exposing workers to toxic contaminants.

In particular, the smaller particles of around 0,3 micron in size have the most serious impact on human health, says Izak Potgieter of Weba Chute Systems. Dust from minerals such as coal, silica and other finely powdered materials can damage the lungs and air passages.

"The Occupational Health and Safety (OSH) Act therefore specifies certain dust exposure limits, so that mines can measure and control dust, to ensure that levels are managed," says Potgieter. "Health and safety officers monitor this on a regular basis as part of their compliance standards."

He notes that dust is often generated during the transportation of minerals on conveyors and through transfer chutes. Measuring dust at these sources can be done using a handheld dust meter, typically gathering data in 30 second intervals with 0,003 split seconds per measurement. The data from this process can then be profiled into a scatter plot, considering factors like lump size, belt speed, relative humidity,



The Occupational Health and Safety Act specifies certain dust exposure limits, and mines can measure and control dust.

wet-bulb temperature, wind conditions and material type.

"The lump size of the material being moved is usually a key factor affecting dust levels," he says. "To understand the levels of dust being produced, data on the size and material type needs to be collected and analysed."

The speed of conveyor belts will also affect the dust levels, Potgieter says, depending on the tonnage per hour traveling through the chute. Reducing the dangers of dust in this environment requires better flow control of the moving material, including velocity and impact on conveyors and in chutes. 🌐

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## Volvo CE introduces self-learning concept wheel loader



The LX03, a fully autonomous, battery-electric prototype by Volvo Construction Equipment (Volvo CE) is the first real-world example of a self-learning concept wheel loader with the brains to make decisions, perform tasks and interact with humans. It is also the first time ever a LEGO Technic model has been turned into a real machine. While not commercially available, engineers expect that valuable insights from the LX03 will feed into applications for today and tomorrow.

Inspired by a concept devised by Volvo CE and LEGO Technic engineers and designers, the Volvo LX03 is a remarkable milestone breaking new grounds in smart construction technology. It represents both the next stage in Volvo CE's exploration into machine intelligence and its determination to decarbonize

the construction industry.

Melker Jernberg, president of Volvo CE, says: "We need to transform the construction industry with smart and more sustainable solutions that will have an impact on a global scale. The unveiling of the LX03 prototype today represents just that – and is testament to the incredible expertise of our engineers and our united commitment towards positive change. Together with the LEGO Group, we are pushing the boundaries of both technology and imagination and the result is beyond anything the world has seen before."

Lars Stenqvist, chief technology officer of Volvo Group, says "As transport and infrastructure leaders, we have a vital role to play in taking action on climate change and stepping up the pace of innovation needed to deliver on emissions targets. We believe

in working with driven and creative partners who, like us, are focused on making innovation real and moving beyond just words."

What started out as an exciting project between designers and engineers at the two companies, to explore the potential for future construction, evolved over time with the help of a team of smart children into the successful launch of the 42081 LEGO Technic Concept Wheel Loader ZEUX.

The LEGO Group's head of Product for LEGO Technic, Niels Henrik Horsted says: "Our two companies have enjoyed an extremely successful partnership over the years in which we have collaborated on several LEGO Technic models. But this is the first time we are making a real machine based on a model and not the other way around – and that is what makes this a truly unique project."

The prototype LX03 has been built by a dedicated team of engineers, programmers and workshop technicians from Volvo CE sites in Eskilstuna, Sweden and Konz, Germany, in collaboration with the design team in Gothenburg, Sweden. It is a 5-t wheel loader that has been developed as a modular concept, with the capability of being made larger or smaller with just one or two changes to the manufacturing process. It also shares its driveline with the L25 Electric, making it a zero emission, low-noise machine with a runtime of up to eight hours depending on its application. 🌱

## CASE launches CX 220C LC Heavy Duty excavator in South Africa

CASE Construction Equipment, a brand of CNH Industrial, has launched the long-awaited CX 220C LC Heavy Duty excavator in South Africa, strengthening its offering for the local market. The latest addition to the CASE excavator line up, manufactured at the company's plant in India, Pithampur (Madhya Pradesh), is designed for applications such as quarrying, forestry, road works and earthworks, as well as general construction jobs.

Graham Forte, divisional MD of CASE Construction Equipment South Africa, says: "CASE serves its customers across South Africa with a well-positioned network of branches, dealers and sub dealers. Our dealers are able to advise the customer on the best solution for their operation and their business. Their aftermarket services provide the backup needed to keep these valuable assets fully utilised. At CASE we understand that the purchase process is only

the start of the relationship. The real growth and strengthening of that relationship comes from being able to service our customer's machine in time and have excellent parts availability when needed.

For the CASE aftermarket services team, when a customer's machine goes down, the stopwatch starts."

The 22-t excavator is powered by a fuel efficient FPT engine, designed to boost machine performance and optimise fuel economy by up to 10%. The 6-cylinder FPT engine delivers outstanding power and torque, which reduces the transient time, making



the hydraulic system immediately reactive to any load. The operator can monitor the machine's fuel consumption with the new ECO gauge function, which displays energy saving levels in real-time.

Learn more about this new machine in the December edition of *Capital Equipment News*. 🌱

## New R2-Series mini-excavators from Bobcat

Bobcat has launched its R2-Series generation of 5 – 6 tonne mini-excavators – the new E50z and E55z models – offering many new state-of-the-art features and options.

Robert Husar, product line director for Bobcat Mini-Excavators in EMEA, says: “We are delighted to announce the new Bobcat R2-Series 5-6 tonne mini-excavators, the design of which has benefitted from the close involvement of our customers at every stage of the process. The truly striking styling of these new machines is indicative of their robust and dynamic design and excellent machine fit and finish. All these models offer a best-in-class mix of high performance, superb stability and smooth controllability of the working functions.”

In the E50z and E55z, Bobcat’s unique Zero House Swing (ZHS) feature adds another level of protection to the standard zero tail swing design, providing full peace of mind when operating the machine near walls. With ZHS, the rotation of the upper structure of the E50z and E55z remains fully within the footprint of the tracks. This includes the boom swing offset cylinder, front corners, handles, lights and even the door in both open and closed positions.

The E50z ZHS model is an easy-to-use, robust machine optimized for specific rental industry needs while introducing the next level of operator comfort and features required



The E55z, a premium performance model, is the largest and most powerful Bobcat machine with the ZHS design.

by demanding owner-operators. The weight has been increased and optimized in the E50z to maximize stability, which has allowed Bobcat to provide a long arm as standard equipment. The E55z, a premium performance model, is the largest and most powerful Bobcat machine with the ZHS design.

The R2-Series mini-excavators are powered by the Kubota V2403 4-cylinder engine providing 36.5 KW (49 HP) at 2 200 rpm.

Like the very successful Bobcat R-series 2 – 4 tonne machines launched in 2018, the new R2-Series mini-excavators are built around the operator and are designed to take this philosophy a big stage further.

This makes operators feel even more at home when working with these machines. Both excavators offer a best-in-class roomy

cab with space where the operator really needs it, with more headroom, legroom and plenty of storage areas. A comfortable seat that can be optionally heated and fitted with a headrest ensures operators will enjoy working a full day in both of these new machines. The new 5-inch optional display panel takes comfort and visibility to the next level.

The new R2-Series mini-excavators are equipped with state-of-the-art technology such as a latest generation main control valve, dual curve joysticks and proportional thumb-controlled boom swing offset. Traditional Bobcat performance coupled with great controllability ensures that the new excavators feel like an extension of the operators’ hands when they are in command of the controls. 🌟

## Manitou Group introduces new backhoe loaders

Manitou Group, global leader in material handling, aerial lift platforms and earth-moving, is developing its range of backhoe loaders. Aimed at the Indian, Latin American, Russian and African markets, the renamed MBL (Manitou backhoe loader) / GBL (Gehl backhoe loader) range features a new design with a completely revised cab and offers a wide range of equipment to suit a variety of applications.

The range of three models is now equipped with a new cab, which provides more operator comfort. It has more space and is equipped with an adjustable suspension seat with armrest, a height adjustable steering wheel and a radio. Safety is also enhanced with 360° visibility ensured thanks to the new cabin and a redesigned extremely robust DCPD hood. The hood can be fully opened and absorbs potential impacts during loading operations, preventing bumps and breakages. Its design facilitates servicing of the machine for better maintenance.

Connected as standard, the MBL / GBL

range allows the operator to have a digital twin of their machine on their smartphone with the MyManitou app. This service offering enables the user to anticipate maintenance of their machine while optimizing consumption.

In order to meet the Indian market’s Bharat IV regulatory requirements, the range is equipped with a 74,5 hp BSIV Kirloskar engine. The 90 hp and 92 hp versions are available for the Central and Latin American, Brazilian, Middle Eastern, African, South East Asia and Russian markets.

Rahat Uppal, product manager for the backhoe loader range, explains: “We are investing heavily in our product development and manufacturing facilities in order to meet the growing demands of our customers in these strategic areas. The introduction of the new backhoe loaders demonstrates our commitment to serving our customers with the best products and services to meet the requirements of their activities.”

In order to carry out numerous operations, such as demolition, propulsion of equip-

ment, excavation and road construction, Manitou Group offers a wide range of versatile attachments, such as backhoe and loader buckets of various sizes, and trenching buckets for pipe laying. Also available are factory fitted rock breakers for demolition. They incorporate robust advanced features for numerous applications, while increasing productivity and reducing the total cost of ownership for the user. 🌟



## Scania South Africa adds new dealership to national footprint

Key to supporting the sustainable profitability of South Africa's transport sector is ensuring transport operators have convenient access to the maintenance and repair services they require to maximise uptime. With a footprint of over 45 dealerships, Scania has built a formidable service and repair network that ensures customers who need support, have access to world-class workshop facilities.

The addition of a new independently owned dealership in Polokwane, located close to major roads, provides Scania customers located locally, as well as across the greater Limpopo region, with sales support for both trucks and buses, access to state-of-the-art workshop facilities, a full complement of vehicle servicing equipment and highly trained technicians.

"As an independently owned dealership, we are proud to support the management team's entrepreneurial spirit and the new job opportunities the dealership will be creating," says Marius Steenkamp, GM Operations at Scania Southern Africa.

"Skills development is a key focus with nationally recognised Apprenticeships and Master Technician qualifications available to



Scania South Africa has opened a new independent dealership in Polokwane.

new recruits. "Scania is committed to skills transfer and welcomes the opportunity to make these available at our new Polokwane dealership," says Steenkamp.

Scania's long-time concentration on maximising vehicle uptime ensures a truck is available to perform its intended function. Focusing on uptime, rather than avoiding downtime is a paradigm shift. By following a downtime focused or reactive approach, customers approach dealers with a problem that needs to be fixed. Embracing uptime goes beyond preventative maintenance.

"It requires an understanding of a customer's business, the operating constraints, schedules and deadlines" says Steenkamp. "The end result of our uptime approach is to ensure our customers benefit from a reliable and valuable partnership that works together to maintain an optimal operating schedule. Every dealership in our network follows this approach and Scania Polokwane is the latest addition to ensuring that our customers, no matter where they are located, enjoy the same level of service that affords them every opportunity to maximise their profitability." 🌐

## DAF 'earns its way' into VR Cargo's fleet

Having taken delivery of 10 DAF XF 480 trucks in September this year, leading Mpumalanga-based mining logistics company, VR Cargo, has received a further 35 units as part of its 80-truck deal with Babcock, DAF's sole importer and distributor in southern Africa. The trucks will be deployed in a side tipper application, transporting concentrated chrome from Mpumalanga to Maputo, Mozambique.

A few years after being crowned International Truck of the Year 2018 by an independent jury of leading road transport journalists from 23 European countries, the DAF XF range finally hit South African shores in March this year. Launched under the 'pure excellence' theme, the range is living up to its billing, with recent big-ticket sales to some of the prestigious fleet operators in the country. The 80-truck deal with VR Cargo comes on the back of yet another landmark deal of 100 XF 480 trucks with another big mining logistics company in South Africa.

Commenting on the significance of the deal, Mark Gavin, sales director for Babcock's Transport Solutions business, says, "Of greater significance to us is that VR Cargo is definitely one of the most prestigious fleet operators in the country. They are



VR Cargo has taken delivery of 35 DAF trucks as part of its 80-truck deal with Babcock.

the yardstick of excellence in bulk mining logistics, and being trusted to be part of their fleet is such a privilege and a big step for Babcock and DAF towards our quest to grow our market share."

The deal is ground-breaking for Babcock, in the sense that VR Cargo has run a single-brand fleet for decades. Shaun van Rooyen, MD of VR Cargo, stresses that the decision to go the DAF route was no easy resolution.

"I would like to commend the Babcock team for their hard work, which has earned them the right to be part of our 215-truck fleet. The deal comes at a time when we are actually at the highest point of our relationship with our existing supplier, but we believe it's important to at least have two brands in our fleet. It creates healthy com-

petition between two strong OEMs (original equipment manufacturers) and hopefully we can get the benefit of it as a customer," he says.

Asked why the company opted for DAF, Van Rooyen says the total value offering was right. "The product was right for our application, the price of the asset was just right, the maintenance cost was correct, the financing terms were in line with our expectations and most importantly, the commitment from Babcock was encouraging. I believe DAF is an upcoming brand in the local transport industry, and we want to be part of their growth. I am also sure that the Babcock's and VR Cargo's values align, and this is the beginning of a long, mutually-beneficial relationship," adds Van Rooyen. 🌐

## New business structure at Daimler Trucks & Buses Southern Africa

The recently announced Daimler AG separation into two purely-play independent companies heralds a new dawn for Daimler Trucks & Buses Southern Africa (DTBSA), as the company prepares to officially transition into a completely independent and a wholly-owned subsidiary of Daimler Truck AG, effective December 1, 2021.

"This is indeed a massive turning point for us as DTBSA and a huge development for the southern Africa market. We have done some ground-breaking changes previously, like the establishment of DTBSA as a legal entity in 2019 and more recently the founding of our very own captive financial mobility services, Daimler Trucks Financial Services (DTFS)," says Michael Dietz, president and CEO of DTBSA.

"I firmly believe that the new setup promotes the necessary focus on our core business, creates favourable conditions for us to be more competitive and accelerates the development of key technologies for us to continue to provide cutting-edge products and services to fulfil the special needs of



Daimler Trucks & Buses Southern Africa executives at the announcement of the new structure.

our customers. It is without a doubt that this independence is fully aligned with our growth strategy and further strengthens our foothold within the markets we operate in. As we gear up to a smooth transition, our commitment for all who keep Africa moving remains unchanged".

A significant investment of up to R1-billion has been made available to ensure continuity of operations, adequate resources and suitable working infrastructure for the DTBSA business. The new robust set-up will comprise of the Sales and Marketing, Customer Service & Parts (CSP), Own Retail, Manufacturing Plant, Value-added services

which include; TruckStore, FleetBoard, Mercedes-Benz Uptime, Service24h, TruckParts and FUSO Value Parts (FVP).

In addition, for the first time as part of the new structure, DTBSA will have a dedicated captive financial and mobility service – Daimler Truck Financial Services South Africa (DTFS). As a wholly-owned subsidiary of DTBSA, DTFS will play a fundamental role in driving sales with tailor-made financing, leasing, and mobility solutions, increasing retention and building customer loyalty which enables a commercial vehicle dedicated and customer-centric support to the market. 🌟

## National parts distribution centre ensures speedy servicing of FAW Trucks

FAW Trucks has experienced significant growth and sales success on the South African commercial vehicle scene since the start of 2021, thanks in large part to the unparalleled suitability of its products for local conditions. Building trucks in South Africa, for Africa, the company has an enviable reputation for providing models that are not only durable, but also provide value for money and low total cost of ownership.

Customers want more than reliable and affordable products though. They also want the assurance that parts will be readily available, and that maintenance and services will be carried out in a satisfactory and timeous manner. FAW Trucks recognises that this is key to maintaining and strengthening its foothold in a highly competitive market and goes to great lengths to ensure that its dedicated national parts distribution centre in Spartan is able to provide a high level of customer service. From this facility it supplies the four main regions in Gauteng, Durban, Harrismith and Cape Town.

There are currently three sales and service centres in Johannesburg, two in Pretoria and one in Midvaal, covering Gauteng. Facilities in Cape Town, Gqeberha and George handle sales and services in the Western and Eastern Cape. In Mpumalanga there are also three centres, located in

Ermelo, Middelburg and Nelspruit. Centres situated in Mahikeng and Klerksdorp look after clients in the North-West Province, while the Free State is covered by centres in Bloemfontein, Bethlehem and Harrismith. KwaZulu-Natal customers can turn to centres in either Pinetown, Port Shepstone or Richards Bay with their sales or servicing needs. The Northern Cape and Limpopo province have one sales and service centre each, located in Upington and Polokwane respectively.

"With 22 dealerships and sales and service centres located around South Africa, and another seven situated in other Southern African countries, the Spartan parts distribution centre plays a pivotal role in the smooth running of not only our business, but also that of our many loyal customers," says

Yongjun Li, CEO of FAW Trucks SA.

In a highly competitive commercial vehicle market such as this, parts supply and distribution can mean the difference between success and failure. The Spartan facility has distinguished itself by proving time and again that it is up to the task and FAW Trucks as a brand has reaped the benefits.

"The 7 000 m<sup>2</sup> facility is efficiently run," says parts manager, Joe Ferreira. "We ship well over 600 lines a day and as such we need to ensure that we operate as efficiently as possible. To this end, supply chain and warehouse operations are continually monitored and adjusted if necessary and over the years our processes have been shaped into the successful system we have now. It's simple, but it works." 🌟



# THE PERFECT FORKLIFT FIT: RENTING VS BUYING

Many businesses grapple with the choice between buying and renting a forklift, which could impact both efficiency and bottom line.

**A**s specialists in the material-handling industry, Masslift Africa understands that no two operations are the same and thus expertly guides clients to choose the correct solution to fit their unique business needs. Although most of Masslift's clients choose to rent forklifts, this may not make business sense in some cases.

When choosing between renting or purchasing a forklift, a business must first answer a few questions to assist in the decision-making process.

Masslift CEO Marco Caverni stresses the importance of assessing the specific needs of each client, to ultimately make the correct decision for the client. "Businesses must weigh up different factors such as the frequency the forklift would be used, the cost of capital financing and maintenance," says Caverni.

## Frequency of usage

Caverni says the decision ultimately hinges on how frequently the client expects to use a machine. He suggests that renting with ownership or outright purchasing is best for lower utilisation applications. If a forklift is used for less than 150 hours per month – less than 9 000 hours in five years – it makes sense to own the asset and sweat it for another three years thereafter until it reaches the 14 000 hour ceiling.

"With a forklift being a grudge purchase as it either adds to your cost of production or your cost of distribution, it is vital you get the maximum use out of the asset over the period of its economic life. At Masslift we believe that it becomes uneconomical to maintain a forklift after 14 000 hours," says Caverni.

Renting makes better business sense for higher utilisation applications. A forklift that operates around 200 hours per month would do approximately 12 000 hours after five years. This would leave limited additional time to sweat the asset further. In this case, renting is advised, which allows the client to return the machine after five years and replace it with a new one.

Additionally, if the use of machines is seasonal and the types of machines required vary in the client's operations, it is more convenient to be able to rent the required machines during busy season without incurring storage and



Masslift offers over 170 models of reliable Mitsubishi forklifts with an 8 year/12 000 powertrain warranty.

maintenance costs for the off-season periods. It also becomes possible to have different types of machines meeting the operation's requirements without buying them.

## Cash flow considerations

Clients need to assess whether they have the necessary cash flow to pay for a forklift which could also be hampered by required capex approvals internally. If not, then a rental or rental with ownership is the natural solution. Caverni says opting to rent instead of buying means the client faces indefinite payments towards an asset they would never own.

"Most people rent for 60 months, and on average, the forklift will have around 6 000 to 9 000 hours on the clock at the end of the term, and then the customer replaces it with a new unit and starts the process again," he points out. "If you purchase a quality forklift, it can run to over 14 000 hours. So you lose out on sweating the asset for that extended period – the additional 5 000 hours."

However, the benefits of renting often outstrip the costs, including saving on the large capital investment especially in the current economic times where financing institutions are more stringent with their lending criteria. From a cash-flow perspective, it is more attractive to rent as the monthly amount is determined upfront and is unlikely to change over the rental period.

The consistent monthly rental payments provide predictability of cash flows within the business. A rental also comes with an

inbuilt maintenance contract, so you have the peace of mind that backup is not far away if the forklift ever breaks down and those costs will not affect your bottom line.

## Masslift's offering

Clients can rent forklifts from Masslift on an hourly, weekly or monthly basis, while there is also the option to extend the term to as long as 120 months. Caverni says the ultimate benefit to clients is the peace of mind they receive from Masslift's industry-leading service and the world-class forklifts.

"When you are renting a forklift, your three main requirements are that the forklift is legally fit to be used, the forklift is reliable and that the forklift's running costs are as low as possible," Caverni says. "At Masslift we ensure all forklifts in our fleet are load-tested annually, and we do not rent our forklifts without a valid load test. We also only rent forklifts younger than 10 years old with lower hours, rather than renting older units with major hours on the clock like a lot of other companies do. And lastly, the Mitsubishi Forklift is incredibly fuel efficient, and will save the client money throughout forklifts life."

For clients who can afford the initial capital outlay required for an outright purchase or have the required credit facilities, Masslift offers over 170 models of reliable Mitsubishi forklifts with an 8 year/12 000 powertrain warranty – said to be the longest in the South African forklift industry. 🌱

# LOADTECH

## ON BOARD WEIGHING

### SMART SCALES FOR LOADERS



When the pressure is on and customers are waiting, you need to perform faster without compromising accuracy and precision.

- Monitor performance of a primary or mobile crusher or screener
- Monitor of stock-piles
- Utilization of mobile machines
- Track production output
- Maximize the use of raw materials



**Contact us for more info**

134 Sarel Baard Crescent Gateway  
Industrial Park Centurion

Tel: +27 12 661 0830 Email: [sales@loadtech.co.za](mailto:sales@loadtech.co.za)

Website: [www.loadtech.co.za](http://www.loadtech.co.za)



Watch 315SL  
Backhoe video

# TAILOR MADE

# FINANCE

Have you ever wondered how your business would benefit from asset finance that has been tailored to your specific needs?

John Deere Financial offers a financing service that has been built on four key pillars:  
**CONVENIENCE | COMMITMENT | COMPETITIVENESS | INSIGHTFUL**

*Finance built for you*

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# Vetting Guide for LME's & LMI's



*Assisting you to select  
the right service provider*



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**Lifting Equipment Engineering Association of South Africa**  
**+27 (0) 79 658 5602**  **admin@leeasa.co.za**  **www.leeasa.co.za**

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## OBJECTIVE OF THIS DOCUMENT

1. To ensure that individuals and companies seeking the services of any Lifting Machinery Entity (LME) are properly informed when selecting a service provider.
2. To promote transparency between all stakeholders, including service providers, registered persons and the client.
3. To mitigate liability for the owner/user of the lifting machinery.
4. To mitigate overall risk on sites that utilise lifting machinery or lifting accessories.



**IMPORTANT FOR THE OWNER /  
END USER TO KNOW!**

- ABOUT LEGAL LIABILITY WITH REGARDS TO YOUR LIFTING EQUIPMENT



- The Occupational Health and Safety Act, Act 85 of 1993 - Driven Machinery Regulation 18 (DMR 18) is the legislation that governs the use, inspection and testing of lifting tackle, lifting machinery, and hand powered lifting devices.
- It is stipulated in DMR 18 that the owner/user is responsible for lifting machines on site. Therefore the appointed responsible person (16.1 & 16.2 appointee's) hold legal liability should any incident occur.
- The responsible person is responsible for appointing a entity to conduct inspections and testing on site.
- The responsible person needs to ensure that the service provider they use has all the necessary accreditation (LME & LMI Documents) with the correct scopes to cover the equipment that needs to be tested. The machinery must be inspected and tested in accordance with the DMR 18 and the relevant incorporated standards.
- Do not use service providers that do not cover the equipment you need tested.  
Should an incident occur the responsible person will be held accountable and not the LME or LMI.



# DOCUMENTS REQUIRED

NB: THESE DOCUMENTS NEED TO BE REQUESTED FROM EACH SUPPLIER.

We will explain how to vet these documents effectively further on in this document.

## 1. THE LIFTING MACHINERY ENTITY'S CERTIFICATE



- This is issued by the Department of Employment and Labour (DEL) to a lifting machinery entity. The document is issued with scopes of machinery which the Lifting Machinery Entity is certified to conduct inspections and testing on.

## 2. THE LIFTING MACHINERY INSPECTORS CERTIFICATE



- This is issued by The Engineering Council of South Africa (ECSA) to a lifting machinery inspector. The document is purely a certificate of registration and does not display the inspector's scopes of competence.

## 3. THE LIFTING MACHINERY INSPECTOR'S LETTER OF SCOPE



- This is issued by The Engineering Council of South Africa (ECSA) to a lifting machinery inspector. The document is issued with scopes of machinery which the inspector is certified to conduct inspections and testing on.

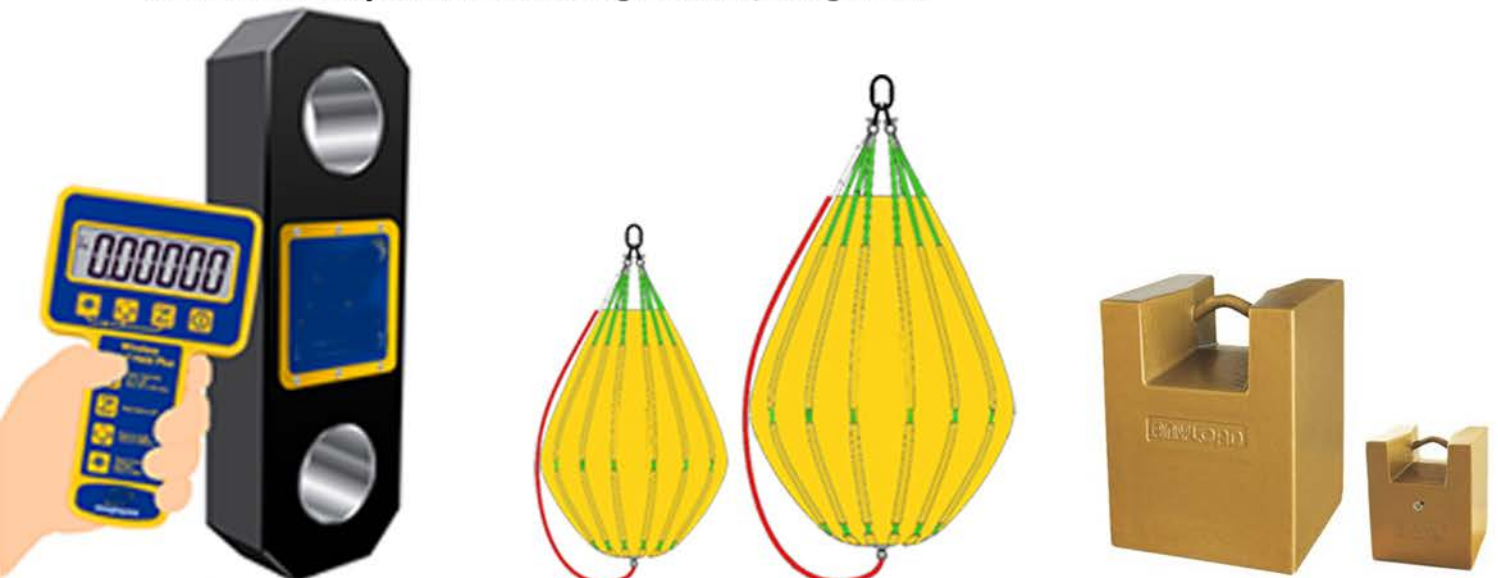
## 4. PROOF OF OWNERSHIP OF THE RELEVANT TECHNICAL STANDARDS



- These standards are required to inspect and test lifting machinery and accessories. It is a requirement that every LME and LMI has a up to date document of relevant technical standards. These standards are published by the South African Bureau of Standards and other internationally recognised standards.

## 5. PROOF OF ACCESS TO RELEVANT EQUIPMENT REQUIRED

- All lifting equipment testing and inspection require specialised tools that are very costly. These tools include measuring tools, solid test weights, load test water bags, calibrated load cells, to name a few. These tools are dependent on the lifting machinery being tested.



# THE LIFTING MACHINERY ENTITY (LME) CERTIFICATE

THIS IS ISSUED BY THE DEPARTMENT OF EMPLOYMENT AND LABOUR

## HOW DOES A LME CERTIFICATE WORK?

- A LME CERTIFICATE IS ISSUED BY THE DEL BASED ON THE ENTITIES PERMANENT EMPLOYEES QUALIFICATIONS AND SCOPE GRANTED BY ECSA.
- THE LME MUST HAVE PERMANENT EMPLOYEES AS STIPULATED IN DMR 18. THESE PERMANENT EMPLOYEES SCOPES AND QUALIFICATIONS WILL BE REGISTERED WITH THE DEL. SHOULD AN EMPLOYEE LEAVE THE ORGANISATION - THE EMPLOYER HAS 14 WORKING DAYS TO INFORM THE CHIEF INSPECTOR OF THE DEL.

## HOW TO VET A LME CERTIFICATE



DEPARTMENT  
OF LABOUR

### Certificate

This is to certify that

**NAME OF ENTITY**

Name of LME

has been approved in terms of  
Driven Machinery Regulation 18(5)  
of the

Occupational Health and Safety Act, Act 85 of 1993  
Examining and testing of lifting machinery and lifting tackle

#### Scope of Approval:

- Lifting Tackle
- Lever Hoists
- Chain Blocks
- Overhead Cranes
- Tower Cranes
- Forklifts
- Mobile Cranes
- Reach Stackers
- Tail Lifts
- Crawler Cranes
- Jib Cranes
- Electric Chain Hoists
- Truck Mounted Cranes
- Mobile Elevated Work Platform
- Mounted Elevated Platform

Scope of machinery  
the LME is registered  
to inspect and test

Signed on: \_\_\_\_\_

Date

Chief Inspector: \_\_\_\_\_

Chief inspectors  
signature

LME number







**STEP 3** DOWNLOAD DOCUMENT AND VIEW.

	COMPANY NAME	LME /CI NO

**THIS LINK IS LINKED TO THE DEPARTMENT OF EMPLOYEMENT AND LABOURS WEBSITE.**

**THIS DOCUMENT MAY NOT BE UP TO DATE WITH NAME CHANGES OR NEW REGISTRATIONS. SHOULD AN LME NAME OR NUMBER NOT APPEAR ON THE LIST - YOU CAN EMAIL US, AND WE WILL ASSIST WITH THE VERIFICATION VIA THE DEPARTMENT OF EMPLOYMENT AND LABOUR.**

**EMAIL : LME@LEEASA.CO.ZA**



**employment & labour**  
Department:  
Employment and Labour  
REPUBLIC OF SOUTH AFRICA



**YOU CAN NOW VERIFY THAT THE ENTITY NAME MATCHES THE ENTITY NUMBER. THERE HAVE BEEN MANY CASES OF FRAUD WITH COMPANIES USING OTHER LME NUMBERS. WE HIGHLY RECOMEND THIS IS CHECKED.**



# THE LIFTING MACHINERY INSPECTOR (LMI) CERTIFICATE

THIS IS ISSUED BY THE THE ENGINEERING COUNCIL OF SOUTH AFRICA

- THE CLIENT NEEDS TO REQUEST TWO (2) DOCUMENTS PERTAINING TO THE LIFTING MACHINE INSPECTOR (LMI).

## 1. LMI CERTIFICATE

The LMI certificate is a certificate of registration as a Lifting Machinery Inspector with the Engineering Council of South Africa.

## 2. LMI LETTER OF SCOPES

The LMI letter of scopes is a letter issued by the Engineering Council of South Africa (ECSA), which states what lifting machinery the inspector is able to inspect and test. This is the most important document pertaining to the LMI.

## 1. LMI CERTIFICATE

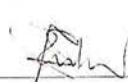
Engineering Council of South Africa



This is to certify that  
**LMI FULL NAME**  
is registered as  
*Registered Lifting Machinery Inspector*  
in terms of the Engineering Profession Act, 2000  
(Act No. 46 of 2000)

Date  
**DATE OF REGISTRATION**

Registration Number  
**LMI REGISTRATION NUMBER**

  
\_\_\_\_\_  
President

  
\_\_\_\_\_  
Chief Executive Officer



### THE CERTIFICATE WILL CONTAIN THE FOLLOWING INFORMATION

1. THE LMI'S FULL NAME.
2. THE LMI'S REGISTRATION CATEGORY (LIFTING MACHINERY INSPECTOR).
3. THE DATE OF REGISTRATION.
4. THE LMI'S REGISTRATION NUMBER.

THE LMI'S REGISTRATION STATUS MUST BE VETTED ON THE ECSA WEBSITE. THIS WILL BE EXPLAINED FURTHER IN THIS DOCUMENT.



## 2. LMI LETTER OF SCOPE



- THIS DOCUMENT IS THE MOST IMPORTANT DOCUMENT WHEN VETTING A SUPPLIER AND THEIR LMI'S.
- THE INSPECTOR MUST HAVE THE SCOPE FOR THE MACHINERY THEY ARE REQUIRED TO TEST.
- IF THE INSPECTOR CONDUCTS WORK OUTSIDE OF THEIR SCOPE GRANTED - THE CERTIFICATION IS CONSIDERED NOT VALID AND THE LIABILITY WILL FALL ON THE OWNER.

ENGINEERING COUNCIL OF SOUTH AFRICA



REGISTRATION NO: **LMI REGISTRATION NUMBER**

Mr F S Nsele Reg. LMI  
P O Box 1784  
UMHLANGA ROCKS  
4320

**DATE OF ISSUE**

Dear Mr **LMI NAME**

REGISTRATION AS A LIFTING MACHINERY INSPECTOR IN TERMS OF THE ENGINEERING PROFESSION ACT, 2000 (ACT 46 OF 2000)

We have pleasure in informing you that your application for registration has been successful and that Council has resolved to register you as a Lifting Machinery Inspector with effect from **DATE OF REGISTRATION**

You should acquaint yourself with all the provisions of the enclosed Act and rules, with particular reference to the Code of Professional Conduct, which will in future be applicable to you.

In accordance with Section 21(1) (b) of the Engineering Profession Act, 2000 (Act No. 46 of 2000), you are entitled to use the title "Registered Lifting Machinery Inspector" and to indicate your profession or make it known by using the abbreviation "Reg LMI" after your name. Council would appreciate your making regular use of this abbreviation which, in accordance to protocol, takes precedence over all other titles, with the exception of an "Official Mark of Honour" awarded by any Government, "OBE" or "MBE".

Registration as a Lifting Machinery Inspector is an honour and recognition of one's status in engineering. It is important to demonstrate your identification with the ideals of the profession, and particularly those of your peers in the engineering team. It is therefore recommended that you consider becoming a member of an appropriate vocational body/institute, which, in your situation, looks after the collective interests of Lifting Machinery Inspectors. Details regarding vocational bodies' associations' addresses appear in Appendix A.

Kindly note that the assessment panel found you competent to inspect, load test and examine as required

- (a) Lifting Tackle
- (b) Chain Blocks and Lever Hoists
- (c) Forklifts
- (d) Mobile Cranes
- (e) Overhead and Gantry Cranes
- (f) Ship Cranes
- (g) Container Cranes
- (h) Aerial Platforms
- (i) Vehicle Hoists

**LIST OF DISCIPLINES OR SCOPE THE LMI IS REGISTERED TO INSPECT AND TEST.**

and your file has been endorsed accordingly. Should you wish to expand your fields of inspection to other types of lifting machines as described in legislation and ECSA rules, you will have to submit additional information to ECSA to substantiate your further training and experience. This evidence will be evaluated and your file endorsed with the findings.

You also have a responsibility to improve your knowledge of recent developments in your field of engineering. The propensity to continue one's development in one's area of specialisation is recognised as a mark of a professional and is a legal requirement by ECSA as detailed in the enclosed CPD Policy. You are required to renew your registration in five year cycles by providing ECSA with details of your CPD as indicated in the policy.

In addition it is recommended that you also consider becoming a member of a recognised professional engineering institute active in the branch of engineering appropriate to your professional environment.

Addresses of the recognised professional engineering institutes also appear in Appendix A.

Confirmation of membership of any of the recognised bodies mentioned in Appendix A will entitle you to a concession on your annual fee payable to ECSA.

An invoice/statement reflecting the *annual fee* now payable by you for the current financial year will soon be forwarded to you. A certificate of registration will also be mailed to you under separate cover.

Council would like to extend its heartiest congratulations on your registration as a Lifting Machinery Inspector.

Yours faithfully

Mrs R Huyzers  
Registration Officer

# THE LIFTING MACHINERY INSPECTOR REGISTRATION STATUS

THIS IS ISSUED BY THE THE ENGINEERING COUNCIL OF SOUTH AFRICA

## THE LIFTING MACHINERY INSPECTOR REGISTRATION STATUS



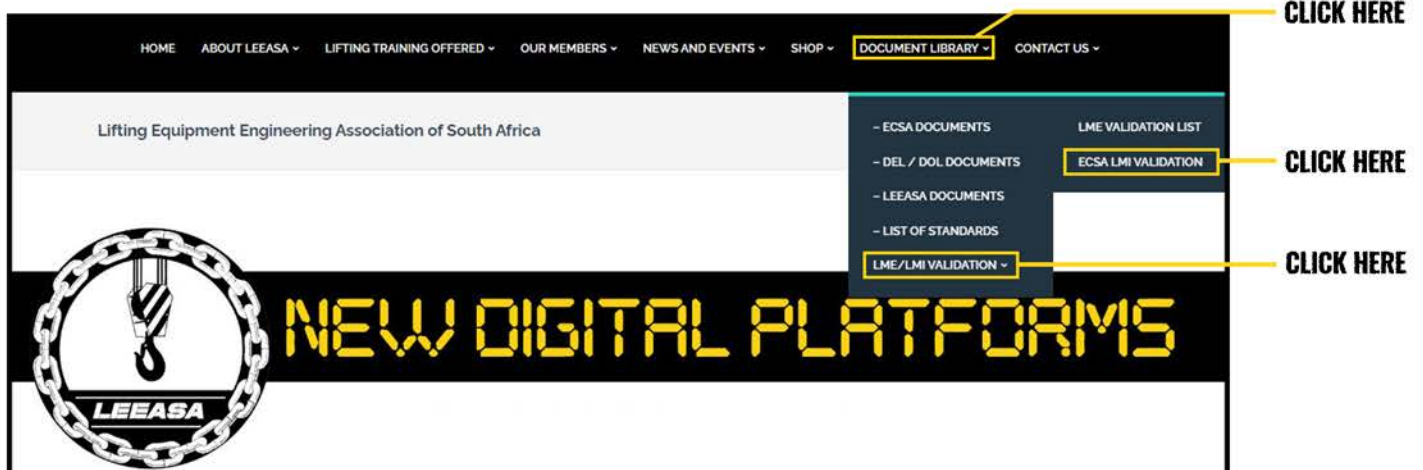
- THIS IS DONE VIA THE ECSA WEBSITE.
- THIS VERIFICATION OF STATUS IS ALSO VERY IMPORTANT, AS WE HAVE FOUND MANY INDIVIDUALS WITH A CANCELLED REGISTRATION STATUS THAT CONTINUE TO CONDUCT WORK. ANY CERTIFICATION ISSUED DURING THE PERIOD THE LIFTING MACHINERY INSPECTOR WAS CANCELLED WILL NOT BE VALID.
- THE OHS ACT - DRIVEN MACHINERY REGULATION (18) - REQUIRES LIFTING MACHINERY INSPECTORS TO HAVE VALID REGISTRATION WITH THE ENGINEERING COUNCIL OF SOUTH AFRICA.

### STEP 1 GO TO WEB SITE ADDRESS: [WWW.LEEASA.CO.ZA](http://WWW.LEEASA.CO.ZA)



### STEP 2 CLICK ON - "DOCUMENT LIBRARY"

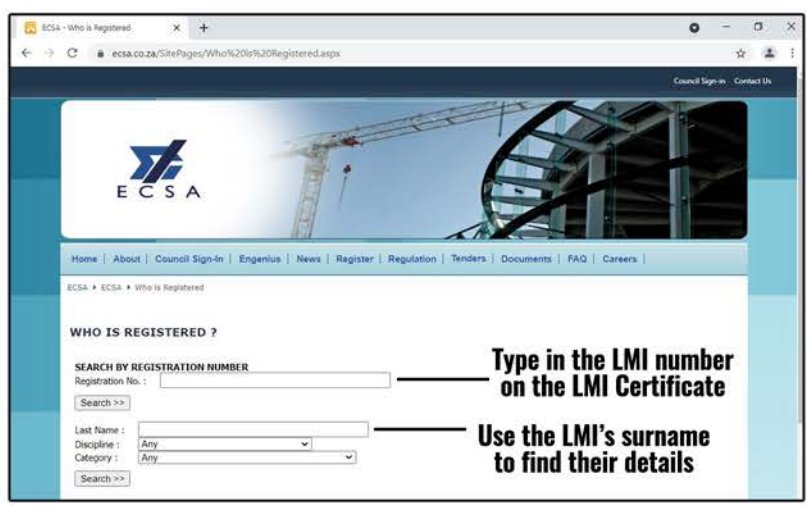
THEN CLICK ON - "LME / LMI VALIDATION" THEN SELECT "ECSA LMI VALIDATION" - TO VISIT ECSA'S WEBSITE.





**STEP 3**

- 3.1 ENTER THE LMI NUMBER DISPLAYED ON THE CERTIFICATE. CLICK SEARCH.
- OR
- 3.2 ENTER THE LMI SURNAME. CLICK SEARCH.



**STEP 4**

- 4.1 IF THE LMI DETAILS DO NOT DISPLAY OR DISPLAY TO ANOTHER REGISTERED PERSON THE DOCUMENTATION OR INFORMATION MAY BE FRAUDULENT.
- 4.2 IF THE LMI'S DETAILS DISPLAY, SUCH AS BELOW. CLICK ON "MORE >>".

LMI NAME

 | Registered Lifting Machinery Inspector - More >> [CLICK HERE](#)

**STEP 5**

- THE LMI'S REGISTRATION STATUS SHOULD BE DISPLAYED AS "ACTIVE" OR "CANCELLED"
- IF THE LMI'S STATUS IS "ACTIVE" - ALL IS IN ORDER.
- IF THE LMI'S STATUS IS "CANCELLED" - THE LMI MAY NOT CONDUCT WORK.

**WHO IS REGISTERED ?** **ACTIVE**

**REGISTRATION DETAILS**

Person : LMI NAME

Registration Number : LMI NUMBER

Registration Status : ACTIVE

Since : DATE OF REGISTRATION

Discipline : Registered Lifting Machinery Inspector

Category :

[<< Search again](#)

**WHO IS REGISTERED ?** **CANCELLED**

**REGISTRATION DETAILS**

Person : LMI NAME

Registration Number : LMI NUMBER

Registration Status : CANCELLED

Since : DATE OF REGISTRATION

Discipline : Registered Lifting Machinery Inspector

Category :

[<< Search again](#)

# INCORPORATED TECHNICAL STANDARDS

THE OHS ACT - DRIVEN MACHINERY REGULATION 18 HAS DESIGNATED SOME STANDARDS FOR EXAMINING AND TESTING LIFTING MACHINES AS "INCORPORATED STANDARDS".

ADHERING TO THESE STANDARDS IS COMPULSORY.

## INCORPORATED TECHNICAL STANDARDS

Standard Reference	Standard Description	Equipment under these standards
SANS 500	The Inspection, Testing & Examination of hand-operated chain blocks & lever hoists in use.	Chain blocks Beaver Hoist Cable Pullers (Tirfors)
SANS 71	The Inspection, Testing & Examination of vehicle hoists in use.	4 posters 2 posters Scissor lift type (excl dock levellers) Hydraulic type
SANS 2972	Lifting tackle inspections.	Steel Wire Rope (SWR) Slings Alloy Chain slings Webbing slings Hooks: Eye type and clevis Snatch blocks Mechanical Coupling Links Shackles Generally Clamps or wire rope clamps Lifting points or lifting rings Lifting beams (NOT MONO-RAIL RUNWAY BEAMS) Spreader beams Plate grabs Balance fork attachments Coil grabs Bar tongs
SANS 18893	Mobile elevated work-platforms safety principles, inspections, maintenance & operation.	Boom type (cherry pickers) Special insulated aerial platforms Scissor lifts (mobile or fixed)
SANS 10295	Parts 1 & 2: Inspections, testing & examination of lifting platforms in use.	Boom type (cherry pickers) Special insulated aerial platforms Scissor lifts (mobile or fixed)

Standard Reference	Standard Description	Equipment under these standards
SANS 10388	The Inspection & Testing of Lift Trucks.	Forklifts Side loaders Rail or tyre type stacker Reach lift trucks Pedestrian controlled lift trucks Order picking lift trucks Pallet trucks Tele handlers Rough terrain Forklift trucks Large lift trucks Truck mounted fork lifts
SANS 19	The inspection, testing & examination of mobile cranes.	Mobile Cranes Truck mounted cranes Pick and carry cranes Mobile harbour cranes Crawler lattice boom cranes Lattice boom cranes on tyre wheeled carriers Rough terrain and/or centre mounted cranes All terrain cranes, Carry deck cranes
SANS 10375	The inspection & testing of overhead crane.	Overhead cranes Gantry cranes Rail mounted cranes Free standing and/or permanently attached jib cranes Goliath cranes Portal Cranes
SANS 522	Inspection, testing & examination of tower cranes.	All top or bottom swiveling tower cranes

LIST OF SABS AND INTERNATIONAL STANDARDS CAN BE ACCESSED ON OUR WEBSITE

**STEP 1** GO TO WEBSITE ADDRESS: [WWW.LEEASA.CO.ZA](http://WWW.LEEASA.CO.ZA)

**SABS**

South African Bureau of Standards



**STEP 2** CLICK ON - "DOCUMENT LIBRARY". THEN CLICK ON - "SABS STANDARDS" THEN THE PAGE WILL LOAD WHERE YOU CAN DOWNLOAD A FULL LIST OF STANDARDS OR CLICK ON A LINK TO BUY THE STANDARDS FROM THE SABS WEB STORE.

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Lifting Equipment Engineering Association of South Africa

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- LME/LMI VALIDATION -
- LME VALIDATION LIST
- ECSA LMI VALIDATION

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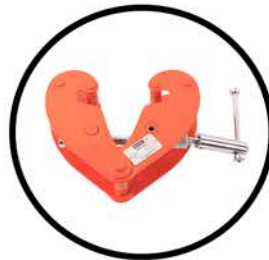
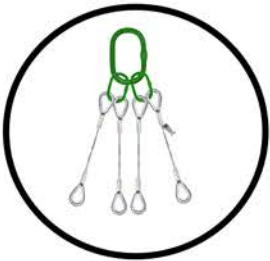




# INSPECTION INTERVALS

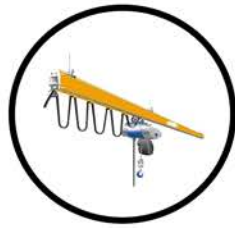
## LIFTING TACKLE

- DMR 18 REQUIRES LIFTING TACKLE TO BE INSPECTED AT INTERVALS NOT EXCEEDING 3 MONTHS.
- DMR 18 REQUIRES LIFTING TACKLE TO BE INSPECTED ONLY. THERE IS NO REQUIREMENT FOR EQUIPMENT THAT FALLS UNDER LIFTING TACKLE TO UNDERGO A LOAD TEST.
- THE INSPECTIONS MUST BE CONDUCTED BY A COMPETENT PERSON APPOINTED BY THE LME.



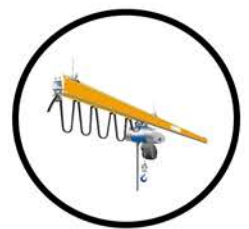
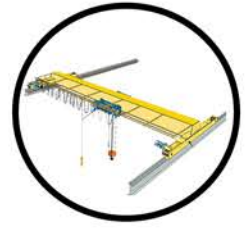
# LIFTING MACHINES (6 MONTHLY INSPECTIONS ONLY)

- **DMR 18(6) REQUIRES LIFTING MACHINERY TO BE INSPECTED AT INTERVALS NOT EXCEEDING 6 MONTHS.**
- **THE INSPECTIONS MUST BE CONDUCTED BY A COMPETENT PERSON (LMI) APPOINTED BY THE LME.**
- **THE INSPECTION MUST BE CARRIED OUT IN ACCORDANCE TO DMR 18 (5) AND THE RELEVANT INCORPORATED STANDARDS., WHERE APPLICABLE**



# LIFTING MACHINES (ANNUAL INSPECTION & LOAD TEST)

- **DMR 18 (5) REQUIRES LIFTING MACHINERY AND HPLD'S TO BE INSPECTED & LOAD TESTED AT INTERVALS NOT EXCEEDING 12 MONTHS.**
- **DMR 18 (5) REQUIRES LIFTING MACHINERY AND HPLD'S TO BE INSPECTED THOROUGHLY AND ALL FINDINGS DOCUMENTED.**
- **DMR 18 (5) REQUIRES LIFTING MACHINERY AND HPLD'S TO UNDER GO A PERFORMANCE TEST FOLLOWING THE INSPECTION IN ACCORDANCE WITH THE INCORPORATED STANDARDS.**
- **THE INSPECTION & PERFORMANCE TEST MUST BE CARRIED OUT IN ACCORDANCE TO DMR 18 (5) AND THE RELEVANT INCORPORATED STANDARDS.**
- **THE INSPECTION & LOAD TEST MUST BE CONDUCTED BY A REGISTERED LMI APPOINTED BY THE LME.**





## FUNCTION OF A LIFTING MACHINERY ENTITY

- THE FUNCTION OF AN LME IS TO ACT AS A THIRD (3RD) PARTY INSPECTORATE FOR LIFTING MACHINERY AND DEVICES.
- THE LME REPORTS ON FINDINGS TO MITIGATE RISK OF FAILURE OF LIFTING MACHINERY ON SITE.
- THE LME IS ON SITE TO ENSURE THE QUALITY AND THE MAINTENANCE OF THE SERVICE PROVIDER ON SITE.



( SEE SANS 23814 - COMPETENCY REQUIREMENTS FOR CRANE INSPECTORS -  
“ 4.1 INDEPENDENCE, IMPARTIALITY AND INTEGRITY.”

“ INSPECTORS SHALL BE FREE FROM ANY COMMERCIAL, FINANCIAL AND ANY  
OTHER PRESSURES THAT MAY AFFECT THEIR FINDINGS.  
( ALSO SEE ISO/IEC 17020 AND ISO/IEC 17025.)”

FIND OUR LEEASA CONTACT DETAILS ON OUR WEBSITE:  
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