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RIGHT TO REPAIR – WILL IT RIPPLE INTO OTHER SECTORS?

The local automotive aftermarket sector is in for a major shake-up following the release of the Competition Commission's final guidelines in December 2020 on the Right to Repair. From July 1, vehicles under warranty can be taken to any competent workshop for repairs or services. The guidelines give product owners the choice to repair products themselves or tap independent specialists to make repairs without breaking their warranties.

The Competition Commission's investigation had been triggered by complaints by consumers as well as independent operators. Initially intended as voluntary, the guidelines are now compulsory, which means the sector must comply. This has been hailed as a major win, particularly for consumers and small, independent and historically disadvantaged independent service providers.

These guidelines have distinct implications for consumers, original equipment manufacturers (OEMs) and aftermarket workshops (referred to as independent service providers or ISPs). They also highlight the critical and urgent need for the sharing of information and training. While these current guidelines focus on the car market, they will likely ripple into other industries – and could even have far-reaching implications for the heavy trucking sector.

Now is the time for heavy truck manufacturers to optimise their service supply chains to ensure they are meeting the demands of Right to Repair guidelines, while simultaneously preparing for further constraints in the coming years.

What are the possible implications for the trucking sector? I recently had a discussion with an executive from a local dealer, who alluded to the fact that there are still many unknowns as to how the Right to Repair guidelines will affect the trucking industry going forward. However, there are lessons to be learnt from markets that have gone down this road before, and the truth is that implementation of these guidelines won't be an easy fix.

In 2015, the aftermarket repair industry and truck and engine makers in the United States reached an agreement on the sharing of heavy-duty vehicle service information, which gave truck owners more options for diagnosing and repairing today's heavily computerised commercial vehicles.

The landmark agreement was aimed at ensuring that vehicle owners and independent repair facilities had access to the OEM-controlled service information, tools and parts that they need to repair commercial vehicles safely and properly. We would all agree that with today's complex, computer-controlled heavy-duty vehicles, having access to the correct information and latest diagnostic tools is essential to being able to complete repairs for customers.

OEMs and dealers have expressed concern about proprietary information being used to reverse-engineer inferior replacement parts, as well as concerns about whether independent shop technicians are properly trained and have the right equipment to do these repairs correctly. These may well be the stumbling blocks the local trucking industry needs to deal with.

While there are plenty issues to be ironed out, on the brighter side, I believe that this presents an opportunity for OEMs and dealers to grow their service footprints through independent service providers. There is bound to be an ISP in every corner of the country, which would be difficult through the current dealership approach.

Optimising aftersales service operations through independent service providers will ultimately help manufacturers to successfully navigate Right to Repair guidelines, while also improving financial performance and exceeding customers' expectations. By selling OEM parts directly to ISPs, OEMs and dealers stand a chance to boost their parts revenue significantly.

However, to get the best out of these independent service providers, OEMs and dealers will need to invest in training. Access to training is also a key component in terms of implementation of the Competition Commission guidelines. A collaborative approach will empower the industry to find workable solutions to navigate the Right to Repair guidelines.

Munesu Shoko – Editor

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SCANIA

SANY haulers deployed to haul material at a Zambian copper mine.

SANY PROVES ITS METTLE AT ZAMBIAN COPPER MINE

A fleet of 20+ SANY machines has for the past four years proved its mettle at one of the largest copper mines in Zambia, maintaining high availability in a taxing 24/7/365 operation where downtime is out of the question, writes *Munesu Shoko*.

In 2017, Delta Auto & Equipment, the exclusive SANY dealer in Zambia, beat tough competition to secure a contract to supply a fleet of dump trucks, excavators, graders and cranes to one of the largest mining contractors in the country. The fleet has to date clocked nearly 20 000 hours since August 2017, maintaining high availability in a demanding 24/7/365 application. The equipment is deployed at a world-class copper mine located some 100 km west of Solwezi, in Zambia's Copperbelt region.

Peter Liang, GM of Delta Auto & Equipment, tells **Capital Equipment News** that the client initially purchased four SANY SRT95C mining dump trucks and three SY750 mining excavators in 2017. A 96,5% machine availability during their first year and an aggressive aftersales support regime were major factors in the mining contractor's decision to expand its fleet with more SANY SRT95C dump trucks, SY750H and SY500H excavators, as well as STC1300C truck cranes and SANY graders.

The mining contractor now operates 11 large SANY excavators, nine dump trucks, three cranes and two SANY graders. Of the 11 excavators, the majority of them are SY750H models deployed to load the SANY SRT95C dump trucks hauling run of mine material from the pit to the dump sites.

"We have mobilised a 15-person aftersales team to provide 24/7 service support to the client. We have also deployed more than US$4-million worth of spare parts on site as consignment stock," explains Peter. "The service and parts we provide to the client have been instrumental in ensuring high machine availability and reduction of operational costs, thus creating value for the client."

QUICK TAKE

A fleet of 20+ SANY machines supplied by Delta Auto & Equipment, the exclusive SANY dealer in Zambia, has clocked nearly 20 000 hours in less than four years at a Zambian copper mine

Strong Zambian growth

Traditionally, Chinese OEMs have struggled to penetrate the mainstream mining market. However, continuous

Delta Auto & Equipment has been the SANY dealer in Zambia since 2011.

The mining contractor initially purchased four SANY SRT95C mining dump trucks and three SY750H mining excavators in 2017

A 96,5% availability during the machines' first year and an aggressive aftersales support regime were major factors in the mining contractor's decision to expand its fleet with more SANY equipment

Having produced and delivered 100 000 excavators globally in 2020 alone, SANY has become the number one excavator manufacturer in the world (based on volume) for the first time in history

TALKING POINT

"We spare no effort in building our service structures to continuously improve our service to our customers. For example, we have invested significantly in our South African operations to better support our dealers and customers across southern Africa."

Samuel Zhang, GM SANY Southern Africa

product development and a new aftermarket strategy have been at the centre of SANY's resurgence in the African mining sector and the world over.

In Zambia, Peter says the company now has in excess of 800 pieces of SANY earthmoving equipment operating in the sector, mainly excavators, dump trucks, road equipment and cranes. Peter says the days with which the Chinese product was viewed with disdain are long gone, given that this is the same product that has been behind China's rapid rise to

The SANY fleet is maintaining high availability in a taxing 24/7/365 application.

becoming the second biggest economy in the world.

Peter also points that traditionally mining companies have been wary of the Chinese product because of the fears of possible lacklustre parts and service support, given that downtime at mines is out of question. SANY's success at this particular Zambian mine is proof that the Chinese OEM doesn't leave anything to chance when it comes to the support of its product in the market. The OEM, together with its dealer in Zambia, have invested significantly in their support structures to ensure high levels of support for SANY customers.

Delta Auto & Equipment has been the SANY dealer in Zambia since 2011. The company operates in the motor and equipment industries, covering a wide spectrum of products and services used in mining, construction, transport, agriculture and various other sectors. The company also provides a range of services including rent-to-own, full repair and maintenance contracts, leasing and sales, among others.

To better support its customers in Zambia, the company has in recent years invested in its support infrastructure. In 2014, Delta Auto & Equipment ploughed US$5-million in a world-class facility located in the capital, Lusaka. The company has also spent over US$10-million in its spare parts holding in recent years. The dealer also operates four service networks in Zambia in different provinces, namely Lusaka, Copperbelt, and the North-Western province. An additional facility will be established this year in the Central Province.

"We have also massively invested in our people. To provide context, we have more than 30 certified engineers within our ranks. We also have 12 people in our spare parts department, as well as 15 service vehicles," says Peter. "SANY as the OEM has also given us significant support, both from China and through the Johannesburg-based subsidiary, SANY Southern Africa."

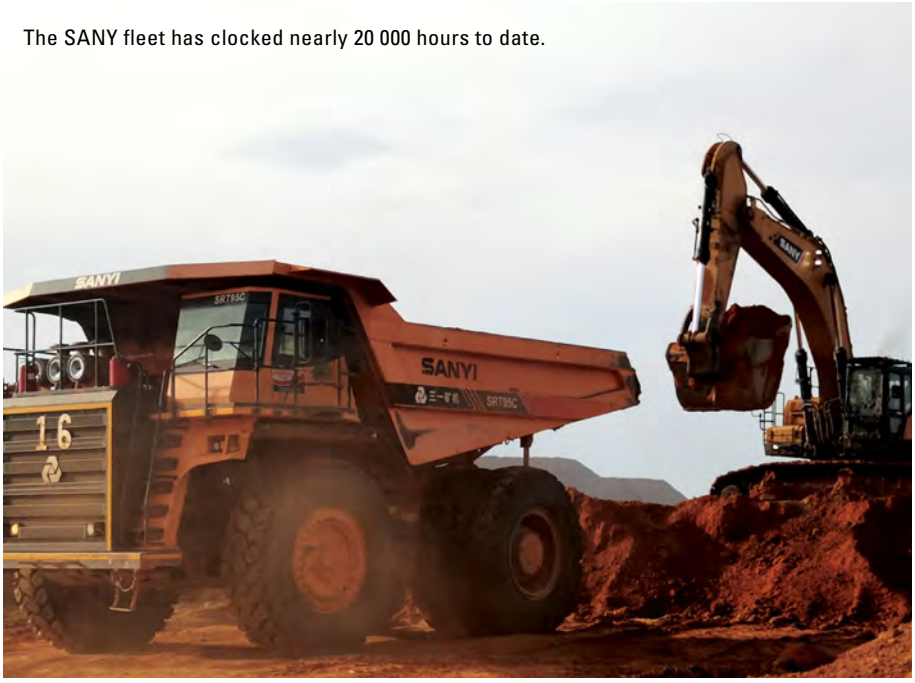
Apart from parts and service, SANY has invested in operator training in Zambia. The company believes that skilled operators are central to efficiency, productivity and machine longevity, translating into operational gains for its customers. "We recently held an event called 1st Zambia Excavator Operator's Competition. The idea behind the competition was to give all the top operators in Zambia a platform to showcase their skills. All operators had undergone the SANY commissioned training before the event," explains Vincent Wang, SANY country manager in Zambia.

Significant inroads

Explaining SANY's apparent growth in the mining sector, not only in Zambia, but across the world, Samuel Zhang, GM of Southern Africa, says there are three critical pillars to SANY's growth in the sector.

Firstly, he says, it's the quality of the product, which has proved itself in some of the major mining destinations in the world, including South Africa and Zambia, among others. Having produced and delivered 100 000 excavators in 2020 alone, SANY has become the number one excavator manufacturer in the world (based on volume) for the first time in history, says Samuel. This, he adds, is proof that the SANY product is a force to be reckoned with in the global earthmoving equipment market.

Secondly, service is always among SANY's top priorities. "Some 30 years ago SANY was an unknown brand, but the company quickly became a famous global manufacturer of construction machinery. One of the secrets to the quick rise in the market was our service regime, which today remains one of our strong growth



The SANY fleet has clocked nearly 20 000 hours to date.

drivers. As our chairman puts it, 'we will spare no effort to make SANY service flawless'."

The third pillar of SANY's success is the culture of efficiency, says Samuel. "Efficiency is driven from a product and service point of view, translating into lower total cost of ownership for our customers," says Samuel.

Success in Zambia, he says, is a good example of the SANY philosophy in global markets – quality first and priority in service. "We spare no effort in building our service structures to continuously improve our service to customers. For example, we have invested significantly in our South African operations to better support our dealers across the region," he says.

SANY last year commissioned a new warehouse and machine storage yard located in Boksburg, South Africa. The spare parts facility is currently holding US5-million worth of spare parts, a figure to be doubled by 2022. "Our machine storage yard is about 40 000 m² and is home to about 60 machines at any given time. All these efforts have been recognised by our customers, and this has been central to the growth of our market share. To give an idea, we moved from number nine in the South African excavator market in 2019 to fifth position in 2020," he says.

New from SANY this year is its rental offering, mainly focusing on excavators at this stage. "We are currently offering 36 t, 50 t and 75 t excavators for rental from our Boksburg facility. We are also planning to introduce 100 t and 130 t excavator offerings in the second half of this year. This is part of our strategy to become a one-stop shop for competitive solutions to help our customers during these uncertain times," concludes Samuel. ✪

Vehicle data recorded from multiple Scania trucks, in daily operation and using multiple drivers, have yielded an average 10% fuel saving across the New Generation truck range.

SCANIA'S 10% FUEL GAINS OFFSET MAINTENANCE COSTS FOR TRANSPORT OPERATORS

Given that fuel costs can equate to over a third of transport companies' total operating costs, the proven 10% fuel saving on Scania's New Generation truck range boosts profitability for transport operators. With these fuel cost savings, Scania customers can offset their maintenance costs. By *Munesu Shoko.*

Like many other sectors of the economy, the effects of COVID-19 are being felt across the transportation sector. To put it bluntly, the economic and operational effects of the pandemic on the trucking industry have been challenging and devastating. Industry experts warn that the true storm for the trucking sector may not be over yet, and the effects witnessed to date may be warning signs of what's yet to come.

South Africa's transport industry is adjusting to a new normal as the effects of the COVID-19 restrictions have changed traditional supply chain models, customer

Across industries, including freight and logistics, construction, mining and agriculture, maintenance costs absorb much-needed revenue and profit.

Scan QR code to watch Scania's Next Generation of trucks

behaviour, government infrastructure funding and long-established business models. As the economy contracts, transport industry operators face multiple business challenges, including rising operating costs, increased fuel prices, decreasing revenues and tighter margins.

"Scania has always been at the forefront of setting new standards in sustainable logistics solutions," says Nomonde Kweyi, GM Marketing & Communications, Scania Southern Africa. "Improving the quality of our products while continuously refining every part of our supply chain eliminates waste and allows us to significantly reduce operating costs for our customers."

At a time when the trucking industry is facing increasing demands for sustainable and cost-effective operation, Scania's New Generation truck range is setting new

QUICK TAKE

As the economy contracts, transport industry operators face multiple business challenges, including rising operating costs, increased fuel prices, decreasing revenues and tighter margins

At a time when the trucking industry is facing increasing demands for sustainable and cost-effective operation, Scania's New Generation truck is setting new benchmarks in total cost of ownership

Vehicle data recorded from multiple Scania trucks, in daily operation and using multiple drivers, have yielded an average 10% fuel saving across the New Generation truck range

The recorded fuel savings provide Scania customers with the cost savings needed to offset their maintenance costs

The new G-series trucks are highly adaptable with outstanding driveability and visibility.

TALKING POINT

"Fuel costs can equate to over a third of operators' total operating costs. Any improvement in fuel efficiency can provide drastic savings."

Mark Erasmus, GM Sales, Scania Southern Africa

benchmarks in total cost of ownership, providing customers with sustainable cost-efficiencies, and securing them a competitive advantage in their industries in these tough operating conditions.

Zero maintenance costs

State-of-the-art technological prowess is behind Scania's latest sustainable operating breakthrough. Vehicle data recorded from multiple Scania trucks, in daily operation, using multiple drivers, have yielded an average 10% fuel saving across the New Generation truck range.

The range made its debut in southern Africa back in May 2019. With the introduction of the New Generation range, Scania marked the start of a targeted offensive to offer an unmatched vehicle range in terms of fuel efficiency. Central to the range's unparalleled fuel efficiency are improved powertrains and better aerodynamics.

"Every Scania we make is equipped with smart technology, advanced sensors and wireless connectivity. We have thousands of constantly connected vehicles providing the data needed to make informed cost savings decisions," explains Mark Erasmus, GM Sales, Scania Southern Africa.

The proven 10% fuel saving, compared to the Scania PGR range, is said to make the Scania New Generation the most fuel-efficient truck in South Africa. "Fuel costs can equate to over a third of operators' total operating costs," says Erasmus. "Any improvement in fuel efficiency can provide drastic savings."

However, he says, Scania isn't resting on its laurels. "The highest recorded fuel savings in the market provides our customers with the cost savings needed to offset maintenance costs. By using the fuel savings, our customers can pay zero maintenance costs," explains Erasmus.

Boosting profitability

Maintaining a truck at zero cost, especially when calculated across a fleet, has the potential to remove significant expenditure from operators' total running costs, boosting profitability and significantly improving their ability to compete in a highly competitive market.

"Across industries, including freight and logistics, construction, mining and agriculture, we know that maintenance costs absorb much-needed revenue and profit. The New Generation truck range has the potential to pay for its own maintenance," says Erasmus.

It's total cost of ownership redefined, and Scania South Africa sees it as a game-changer that will help its customers find a sustainable revenue increase while their competitors continue to struggle with high operating costs.

"As challenging economic realities bite, Scania's sustainable cost efficiencies are driving our customers business ambitions and delivering increased profitability, that is helping them achieve otherwise elusive business growth," concludes Erasmus.

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BREAKING THE BLUEPRINT

Digital technology allows organisations to collaborate early, forming new, more efficient and safer ways of working. While its implementation is easy for uniform processes in bulk, things get tricky when working at a rarer size and scale. However, technology exists that can make planning heavy lift projects as simple as walking around site – months or years before the site even exists.

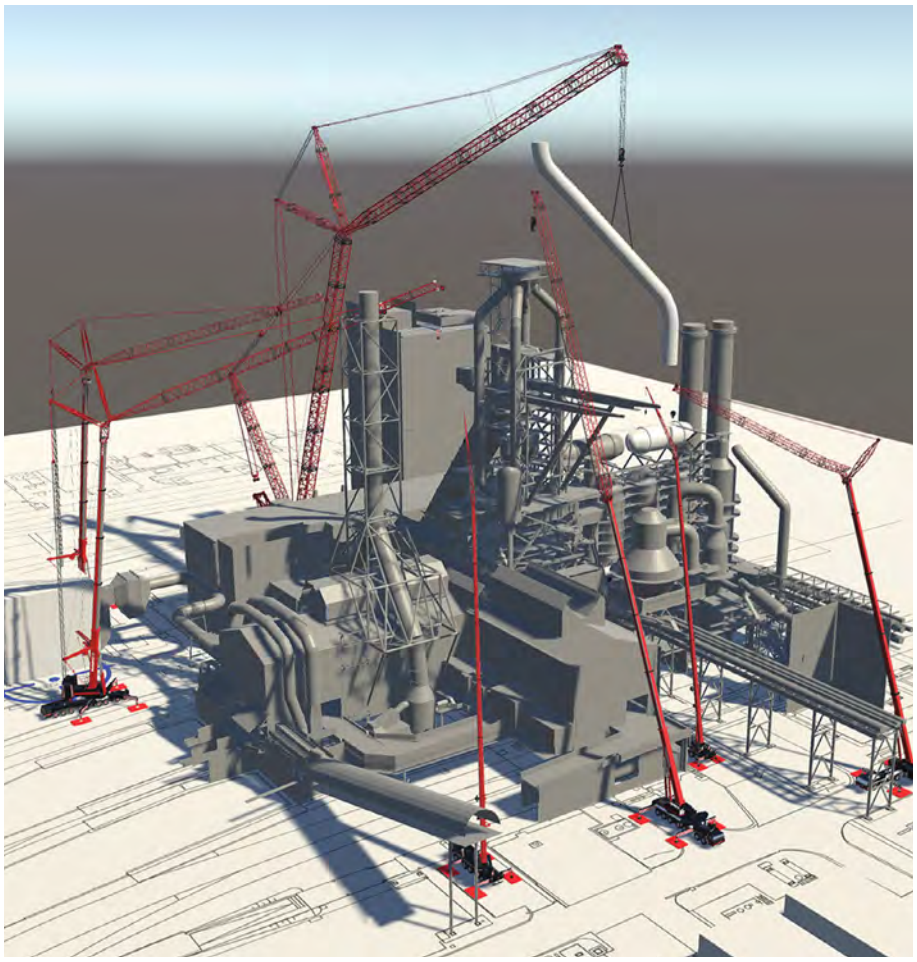
The role of engineered heavy lifting has always been to support the incredible feats of others; by offering guidance on the possible and impossible. By establishing early on how loads can be lifted, transported or even divided, decisions can be made that pay out many times over throughout the life of a project.

The modern engineer has many tools at their disposal. LIDAR route surveys can establish whether roads have the necessary clearance, during the course of a single drive. Digital mapping integration can establish the shortest overall transport route. On site, load cells will calculate a module's centre of gravity to minute accuracy – clarifying what is stable and what is not. But things haven't always been this good

Some 40 years ago, lift preparations were a painstaking manual process, undertaken using the humble pencil by rows of engineers at drawing boards. Projects would be mapped out in meticulous detail; each image bespoke, uncontrolled and resource-hungry.

"Any heavy lifting or transportation project requires thorough, expert planning before equipment gets anywhere near to the project site. This planning stage is an important opportunity to discuss client requirements in detail in order to develop

The Move3D system has already been used across a number of projects.



At the flick of a switch Mammoet can show customers the details and complexities of its work – from any angle and at any point in the project.

the most effective solution for the task in hand. Traditionally, two-dimensional (2D) technical drawings were used to communicate with customers as plans were developed and finalised," says Leon van Tiel, director of Engineering at Mammoet Europe.

Although these were effective, the traditional 'blueprint' approach had its limitations. For example, the depth of information that could be communicated was restricted – literally. Specific views and key elements of the proposed work had to be prepared in advance and time taken to rework and revisit if the customer wanted to see a different perspective or phase.

Particularly where new or innovative methodologies were being proposed, a way to bring the project to life and allow

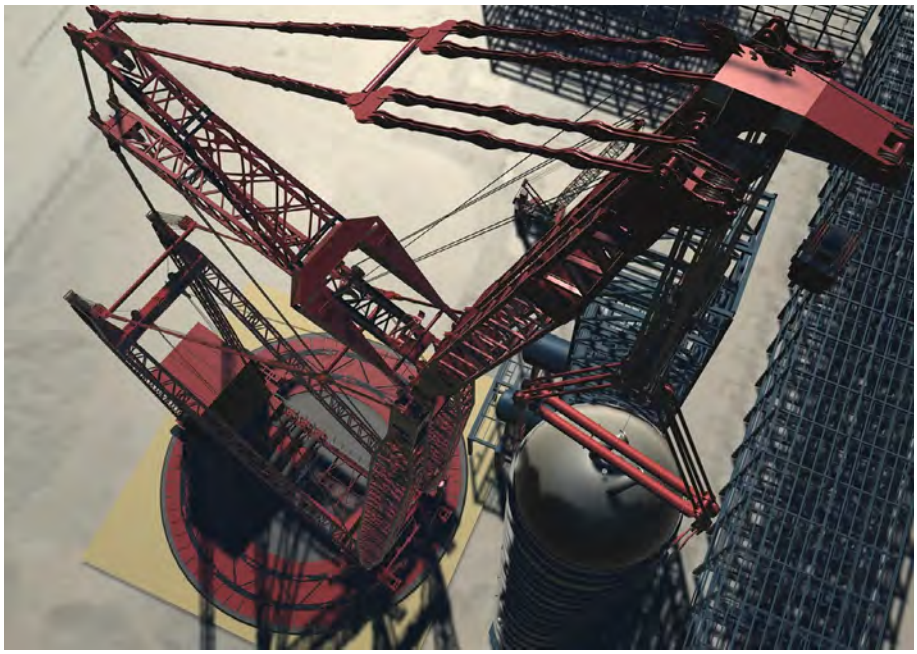
QUICK TAKE

In 2018, Mammoet identified that the right technology was now available to make regular 3D project visualisations a reality

A team was formed to develop the exciting possibility and explore how it could be harnessed to help meet and exceed customer requirements; the project became known as Move3D

Move3D is a 3D engineering platform that combines business intelligence, such as crane charts, with Mammoet equipment and client data

The Move3D system complements customers' own digital systems and methods. Information including LIDAR scans and point clouds, or third-party data such as satellite maps, can be easily incorporated into visualisations for accuracy and consistency with wider project planning



Move3D is a 3D engineering platform that combines business intelligence, such as crane charts, with Mammoet equipment and client data.

the client to get a deeper understanding of things more quickly was sorely needed. Around 30 years ago, this first revolution in planning took hold.

"In the 1990s, Mammoet was the first heavy lifting company to develop and use a digital tool to accurately source and draw the most suitable crane in 2D project plans. At the time this was ground-breaking, in how all information about crane equipment and performance was stored within the programme – allowing quick, accurate plans to be formed at the click of a button, rather than referring to multiple pages of load charts and calculations."

3D CAD modelling – using static images – has been an important part of engineering planning for some time, but even it cannot offer the type of immersive, interactive project visualisation that can help to improve on the traditional blueprint approach. Though computer-aided design is less wasteful of physical resources, it can still offer customers only a single viewpoint of a project at a time. It also provides no avenue to integrate heavy lift planning with the wider project – causing time to be wasted as engineers wander down impossible dead-ends.

Forming networks

During the last decade, digitalisation has seen many industries using enhanced information modelling to give stakeholders better insights during the design and implementation of projects. In particular, industrial and energy businesses increasingly rely on technologies such as digital twinning to minimise how construction and maintenance work impacts site operations, and to optimise productivity.

In the construction sector, use of digital technologies has allowed Mammoet's customers to plan around unstable ground or discoveries of historic or hazardous materials; to better connect projects and teams; and to improve the volume and quality of data being collected.

So, Mammoet explored how the latest 3D technology – moving beyond CAD modelling – could help in communicating project plans and align more closely with its customers' digitalisation work.

There are multiple benefits to a 3D approach over the conventional 2D format. Complex projects can be communicated in a much clearer format, avoiding potential misinterpretation and increasing understanding about why a specific method has been selected.

Customers can interact directly with the 3D model to explore how different elements would work from multiple viewpoints and timestamps, prompting discussions that can be supported by these clear visualisations. Potential issues can be identified via a virtual tour of the site – and a plan to manage them developed earlier in the process than may otherwise have been possible.

Although the potential for 3D project visualisations has been recognised for some time, technology has been a barrier to its introduction. The processing power required to visualise complex heavy lifting and transportation work to a high standard, in real time – beyond conventional CAD applications – has not been widely available until recent years.

Smarter and safer

However, in 2018, Mammoet identified that the right technology was now available to make regular 3D project visualisations a reality. A team was formed to develop the exciting possibility and explore how it could be harnessed to help meet and exceed customer requirements. This project became known as Move3D and was led by Van Tiel.

"Move3D is a 3D engineering platform that combines business intelligence, such as crane charts, with Mammoet equipment and client data. It is independent from crane manufacturers and has been developed with the end-user in mind."

The Move3D system complements customers' own digital systems and methods. Information including LIDAR scans and point clouds, or third-party data such as satellite maps, can be easily incorporated into visualisations for accuracy and consistency with wider project planning. Data from the Move3D system can be exported for use within, for example, Building Information Modeling (BIM) tools, and can be communicated in a variety of forms.

"Offering this practical method to give our customers 3D visualisations of projects is an important way to present and discuss our plans in the simplest, clearest format possible. At the flick of a switch we can show them the details and complexities of our work – from any angle and at any point in the project," says Van Tiel.

"Not only does this mean clients are able to get a more developed picture of how the work will happen, crucially it also gives us the opportunity to identify and discuss any pinch points – quickly addressing anything that might not be clear or may require changing."

The Move3D system has already been used across a number of projects, including for BASF in Germany, with considerable success. Dirk Balzer, BASF project manager, says, "The 3D animation was a useful tool to precisely observe the restricted space conditions impacting on a heat exchanger replacement. Perhaps most impressive of all was that the live execution of the job matched the animation 100%.

"We quickly recognised the advantages that Move3D could offer and were very impressed with how easy it made explaining the planned activities to all of our decision makers in BASF."

Move3D is independent from crane manufacturers and has been developed with the end-user in mind.

Electric dreams

The system is now being rolled out across Mammoet's global operations, but the current version is not likely to be the last. With clients adopting more sophisticated digital technology, Move3D will adapt to continue to offer the best possible visualisation of a project as new techniques become available.

Mammoet now has a best-in-class platform that can evolve as required to continue offering the most effective support for project planning and workflow optimisation.

"It was important to us that Move3D offered the right compatibility with how our clients are using digitisation in their own work. An exciting aspect of the system is the ability to offer visualisations in VR. This means that a client can 'walk' around the project and see for themselves how we will perform a move. There is even the possibility to put yourself in the cab of the crane to simulate the specific actions involved," says van Tiel.

"We know this ability to view planned work in such detail will also have health and safety benefits – allowing potential issues to be identified and dealt with sooner in the process," he adds.

"Organisations across engineering, construction and maintenance disciplines are increasingly aware of the potential that digital transformation offers to discover efficient new ways of planning and delivering projects. Mammoet is proud to play a key enabling role in this process, using technologies such as Move3D to increase levels of productivity, cost-effectiveness and safety on site," concludes van Tiel.

Babcock has launched the DAF CF and XF series in southern Africa.

Scan QR code to watch the XF on the road

LONG-AWAITED DAF XF AND CF SERIES HIT SA SHORES

Babcock has launched the highly anticipated DAF CF and XF series in southern Africa. The award-winning truck ranges offer 'pure excellence' in transport efficiency, driver comfort, safety and total cost of ownership – parameters of sheer significance to every transport operator, writes *Munesu Shoko*.

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 long-awaited DAF CF and XF series have finally hit the South African highways following last month's official launch by Babcock, DAF Trucks' sole importer and distributor in southern Africa.

Having grown DAF's market share exponentially in southern Africa over the past 10 years, Babcock believes that the arrival of the award-winning range and Europe's number one truck tractor in terms of market share, gives the company the edge to gain further traction in the local extra heavy commercial vehicle market. Apart from the International Truck of the Year 2018 accolade, the DAF XF series was elected the Fleet Truck of the Year 2019 at the prestigious MT Awards in the United Kingdom.

Roger O' Callaghan, CEO of Babcock International Africa, is excited to finally add the new series to Babcock's fleet. "We are proud to have the CF and XF series as part of our fleet. The new trucks have taken a little longer to get to South Africa, but we are excited that they are finally here. We believe they will give us the edge to further grow DAF's market share in southern Africa," he says, adding that Babcock is investing in a new SKD plant in South Africa to assemble the new range locally. Construction of the new facility is expected to commence before the end of the year.

Mark Gavin, sales director for Transport Solutions at Babcock, says the new XF and CF series are launched under the 'pure excellence' theme. "Pure excellence for us is a combination of six different parameters: uptime, total cost of ownership, safety, comfort, the environment, and most importantly, the driver," explains Gavin, adding that the new DAF trucks are not merely upgrades

The New XF and CF build on the greater standards of driver comfort for which DAF trucks are renowned.

or facelifts of the previous models, but are completely new vehicles, featuring improved chassis, cabs, gearboxes and engines.

Efficiency

Following local tests conducted from July 4, 2020 to February 20 this year, Gavin says the new DAF trucks have shown an average 10% reduction in fuel costs compared with the previous ranges. Babcock brought in three test vehicles – the CF 430 TT (Lean), the XF 480 TT (Smart) and the XF 530 TT (SuperSpace+) – which together ran a combined 300 000 km on local roads and averaged 2,5 km per litre of fuel.

"The testing results were phenomenal. We put the XF 480 TT into a large fleet of more than 100 older XF 105 models. The new vehicle proved to be 12,5% more fuel efficient than the older models, which ran at 2,4 km per litre of fuel. The results were beyond our expectations of 10%," says Gavin, adding that other client tests of the new vehicle averaged between 5% and 10% depending on application. The vehicles were tested in a variety of applications, mainly long haul as well as stop-start applications. Oil samples were taken every 10 000 km up to 50 000 km

QUICK TAKE

The long-awaited DAF CF and XF series have finally hit the South African highways following last month's official launch by Babcock

Following local tests conducted from July 4, 2020 to February 20 this year, the new DAF trucks have shown an average 10% reduction in fuel costs compared with the previous ranges

Babcock brought in three test vehicles – the CF 430 TT (Lean), the XF 480 TT (Smart) and the XF 530 TT (SuperSpace+) – which together ran a combined 300 000 km on local roads and averaged 2,5 km per litre of fuel

The new engine and the new gearbox are the two biggest contributing factors to industry leading fuel savings

DAF has further expanded driver information, making it easier to take effective action.

"We are proud to have the CF and XF series as part of our fleet. The new trucks have taken a little longer to get to South Africa, but we are excited that they are finally here. We believe they will give us the edge to further grow DAF's market share in southern Africa."

Roger O' Callaghan, CEO of Babcock International Africa

"Horsepower is how fast you hit the wall; torque is how far you take the wall with you. Torque, in laymen's terms, is what makes you money. All three engine derivatives on the new ranges are at their maximum torque at 950 rpm, which is quite a low rev."

Mark Gavin, sales director for Transport Solutions at Babcock

"We have traditionally been a business that sold good metal, but we have changed that approach to offer a total solution to the market. We are now combining the product with captive financing, insurance, driver training and fleet management into a single package to help our customers achieve competitive per kilometre rates."

Marius Barnard, MD of Babcock's Transport Solutions business

TALKING POINTS

and beyond, and only minor technical issues were detected, mostly teething problems.

Gavin says the fuel consumption figures translate into significant savings for long distance operations, where up to 60% of overall running costs are directly attributed to fuel consumption. At the centre of the new trucks' efficiency are the high torque, optimised drivelines, high-efficiency rear axles and enhanced electronics performance. A new aerodynamic design completes the package and contributes to overall fuel efficiency.

The new engine and the new gearbox, says Gavin, are the two biggest contributing factors to the fuel savings. Market leading fuel efficiency, he says, starts with the engine. The new XF and CF series are powered by the multi-torque PACCAR MX-13 engines with new power ratings, including an extra powerful 390 kW/530 hp variant.

"The engine has changed from the low pressure unit injection system on the previous range to a common rail injection system on the new range. It also comes with a new air management system as well as reduced 'parasites', meaning that there are fewer components utilising energy within the engine," explains Gavin. This is complemented by the fully variable oil, steering and coolant pumps, a new piston ring package and a new piston skirt profile, all contributing to additional friction reduction. What's more, DAF has added a new turbo charger and a new combustion system for maximum efficiency. The vehicles are also certified for bio diesel.

There is also a feature called Multi-Torque, which is basically additional torque in the highest gear. Multi-Torque, explains Gavin, gives the engine an extra boost in top gear zone only, which allows the driver to stay in the highest gear zone for as long as possible. This results in fewer gear changes and keeps revs as low as possible.

Talking about torque, Gavin says "horsepower is how fast you hit the wall; torque is how far you take the wall with you". Torque, in laymen's terms, is what makes you money, he says. "All three engine derivatives on the new ranges are at their maximum torque at 950 rpm, which is quite a low rev. What's also interesting is the 430 hp derivative that operates at 2 300 Nm, which is the same amount of torque as the old 460 hp engine," explains Gavin.

TraXon gearbox

Apart from the engine, the latest

The new XF and CF series are powered by the multi-torque PACCAR MX-13 engines with new power ratings.

generation of the TraXon automated gearboxes (12 and 16 speed), which come standard on the new XF and CF series, are also central to the unparalleled fuel efficiency. While the TraXon gearbox is not new to South Africa, Gavin confirms that it's the first time it has been used on the DAF offering. Reduced friction losses, faster upshifts and the extended use of EcoRoll contribute to lower fuel consumption. Additionally, driver comfort is enhanced thanks to the gearbox's quiet and smooth operation and clutch actuation.

The new generation TraXon automated transmissions also provide a wider ratio spread enabling greater driveline range. Among the unique characteristics of the TraXon gearbox are the specific software settings which are available for long haulage, liquid transport, heavy duty and off road applications. The ability to set separate transmission settings for trucks which have to change speed frequently during the daily operation contribute to exceptional vehicle efficiency and driver comfort.

"A key talking point on the new gearbox is that it has a direct clutch actuator, meaning it has no clutch servo. It has improved software and comes with topographical mapping hardware. It also comes with increased torque spread and improved reliability," explains Gavin, adding that, compared with the previous ZF-AS Tronic gearbox, the TraXon is loaded with software on the DAF products, which allows for programming of different shift strategies and the application of the EcoRoll.

In addition to the new engines and gearboxes, DAF has also introduced high-efficiency rear axles with low-friction wheel ends. What's more, a range of faster ratios enables lower engine rpm's for greater fuel efficiency.

Driver comfort

The New XF and CF build on the greater standards of driver comfort for which DAF trucks are renowned. The completely new climate control unit stands out in comfort and user-friendliness. It features one-touch defrosting, park ventilation and automatic air recirculation and can also be operated using the rear wall control unit. That means maximum comfort for the driver. In addition, the new temperature and climate control system is efficient, supporting lower total cost of ownership.

DAF has also further expanded driver information, making it easier to take effective action. The clear instrument panel has new fonts and new styling for better readability. The Driver Information Panel provides more information to increase driver comfort and efficiency. To enhance driver performance even further, settings are grouped on the instrument panel more logically and the Driver Performance Assistant (DPA) includes intelligent tips for economical driving.

Safety matters

The New XF comes with enhanced features that not only ensure the highest possible safety of the driver and other road users, but also contribute to vehicle versatility, fuel efficiency and comfort, no matter the business segment.

Adaptive Cruise Control automatically adjusts the truck's speed to maintain a safe following distance from the vehicle ahead. Forward Collision Warning generates a warning sound and a visual alert on the instrument panel, urging the driver to take action in order to prevent a collision. The energy-absorbing cab suspension and reinforced cab structure has pre-programmed front and rear crumple zones to provide greater vehicle safety and passenger protection. The Advanced Emergency Braking System intervenes to slow the truck down in an emergency.

Additionally, Lane Departure Warning System warns the driver if the vehicle begins to move out of the lane owing to driver error, drowsiness or distraction. The electronic braking system features improved Vehicle Stability Control to minimise the risk of jack-knifing and overturning.

Total transport solution

Marius Barnard, MD of Babcock's Transport Solutions business, says pure excellence in transport efficiency goes beyond the truck itself. Together, Babcock and DAF offer a transport solution through a range of professional services that enable customers to select the right vehicle, secure the financing and maintain truck fleets at peak efficiency.

As well as original DAF parts and PACCAR engine parts, PACCAR Parts supplies over 50 000 universal TRP truck & trailer parts for all makes of trucks and trailers, including workshop consumables. The Eindhoven Parts Distribution Centre (PDC) utilises voice picking technology with a picking accuracy of 99,9%. The PDC has parts to the value of R900-million readily available and facilitates approximately 1 000 shipments a day.

With Babcock's extensive dealer network in southern Africa – comprising 11 service maintenance dealers and an additional 12 breakdown service providers – customers always have a DAF professional close by to provide them with expert assistance throughout the lifetime of their vehicle. Highly qualified DAF technicians have indepth knowledge of the vehicles, ensuring fast, effective repair and maintenance using original PACCAR, DAF and TRP parts. This guarantees maximum vehicle availability and high residual values.

Drivers are indispensable when it comes to achieving the highest level of transport efficiency, says Barnard. The DAF driver training courses available through Babcock help drivers reduce fuel consumption, anticipate better and increase road safety. Drivers who complete the courses are said to realise economy improvements of up to 10% and adopt a safer, more relaxed driving style.

"We have traditionally been a business that sold good metal, but we have changed that approach to offer a total solution to the market. We are now talking about total cost of ownership, and are combining this top product that has already proved itself in Europe with captive financing, insurance, driver training and fleet management into a single package to help our customers achieve competitive per kilometre rates," concludes Barnard. ✪

Low-level scissor lifts are ideal for indoor projects, such as electrical installation or drywall hanging.

HOW TO CHOOSE A LOW-LEVEL SCISSOR LIFT THAT SUITS YOUR PROJECT

Using an oversized lift on indoor worksites is sometimes like attacking a mosquito with a baseball bat. It's impractical, unsafe and might do more damage than good. Low-level scissor lifts are great tools for indoor projects, such as electrical installation or drywall hanging. They are easy to manoeuvre, have intuitive controls and, most importantly, get you to the right working heights without lugging tools and building materials up shaky ladders and scaffolds. Justin Kissinger, vice president of marketing for Hy-Brid Lifts, writes exclusively for *Capital Equipment News*.

Low-level lifts should fit through standard doors without the need for fold-down rails, allowing contractors to quickly and efficiently move to the next location.

There are hundreds of lifts on the market and picking the right lift optimises productivity and operator safety on the jobsite and adds a low-maintenance machine to any tool fleet. When faced with multiple catalogues of varying models and specs, customers should consider four features before making a purchase – working height, platform size, worksite impact and lifting capacity.

Heightened awareness

Less is more when it comes to interior working heights. Contractors might think they need a lift with working heights taller than 7 m, when actually they may be able to reach all projects from that height and often much lower. In fact, roughly 70% of lift operators say their jobs required working heights lower than 7 m.

Those smaller lifts bring added benefits to many jobsites. Low-level scissor lifts have step-in heights as low as 50 cm, making it easy for operators to load tools and materials onto the platform. Low step-in heights eliminate the fatigue caused by climbing multiple ladder rungs, reduce the chance of a serious falls and minimise repetitive strains that can create workers' compensation issues. Some manufacturers

QUICK TAKE

There are hundreds of lifts on the market and picking the right lift optimises productivity and operator safety on the jobsite and adds a low-maintenance machine to any tool fleet

Having a lift that offers plenty of working space, yet still fits through cramped worksites, is just as important as reaching the correct working height

When faced with a project that requires working through long hallways and working hours, consider lifts that feature castor locks and efficient, built-in, charging systems

Knowing what features fit your business's or project's needs puts you ahead of the curve when it comes to selecting a low-level lift

Low-level lifts should have minimal or no impact on the worksite.

also incorporate a full swing gate, which makes platform loading easy and safe because the operator doesn't have to duck under chains or railings.

Using an oversized scissor lift for interior work, such as electrical installation, can even endanger the operator. Crush hazards are a constant presence when operators use an oversized lift indoors because the platform height exceeds the ceiling height. For instance, if an installer is using a 6 m lift inside a 6 m-tall room, they might get distracted while looking down over the railing as the platform is nearing the ceiling, creating a potential crush hazard. A low-level lift, on the other hand, has roughly a 4,5 m-tall platform height, which allows the installer to achieve a 6 m reach with virtually no crushing hazard.

Stowed height is also important for operators to consider when selecting a low-level lift. If a lift is less than 2 m tall with the platform fully lowered, operators can easily push or drive the lift under overhead fixtures, such as support beams and doorframes.

The short and long of low-level lifts

Having a lift that offers plenty of working space, yet still fits through cramped worksites, is just as important as reaching the correct working height. A low-level lift should be less than 0,9 m and 1,8 m long so operators can easily transport it or manoeuvre it through narrow pathways. For example, some drive-around, low-level lifts are as narrow as 0,8 m, which is wide enough for an operator and any tools he or she might need, yet still small enough to fit through doorways and take up minimal space in narrow hallways. And a lift that is less than 1,8 m long will easily fit inside most elevators.

Some lifts have platform extensions that give operators extra working space for an additional person or building materials. The extension also allows operators to work over obstacles that might prevent the lift from moving forward. For example, an operator can slide out the extension to install a lighting fixture over a stairway railing.

If a lift has an extension, customers should inspect how it is attached to the platform to avoid extra maintenance. Some extensions are attached to the platform's floor and use wheels that can collect debris and become jammed. This creates downtime to clear the obstruction. Some manufacturers attach extensions to the platform midrails using C-clamps, which virtually eliminate the chance of debris jamming an extended platform.

Minimising damage

Low-level lifts should have minimal or no impact on the worksite. For instance, dual front wheels, counter-rotating wheels and self-contained hydraulic systems prevent a chance of hydraulic oil leaking and damaging costly carpeted, hardwood or tiled floors.

Low-level scissor lifts have some of the best weight distribution in the industry. Their wheels spread the lift's weight throughout the unit to reduce pressure on sensitive surfaces, including tile and stone floors. For example, a 544-kg lift with dual front wheels might have wheel loads as low as 62.7 psi, which enables operators to manoeuvre the lift over tile, laminate, raised floors and mezzanines with minimal risk of damage. The weight distribution also means operators can get onto poured concrete several days sooner than with heavier lifts.

Counter-rotating wheels also minimise the risk of damaging sensitive floors, such as carpet and linoleum. Non-rotating wheels twist and bunch up the floor when the operator turns the lift, causing tears or deformations. Counter-rotating wheels allow one side of the wheel to move forward, while the other moves back, which prevents bunching or twisting.

Hydraulically driven lifts have the highest potential for hydraulic oil leaks since they use the fluid to drive, lift and steer the lift. Hydraulically driven lifts also have multiple connection points between the hydraulic pump and systems, which increases the risk of a leak occurring. If a leak occurs, the oil can stain floors and create slippery surfaces. And hydraulic units require considerable maintenance. For instance, they consume hydraulic oil faster and require more frequent filter changes than electric-driven units.

To minimise the risk of harmful leaks,

some manufacturers make electric-driven lifts with hydraulic systems that have only two connection points. These lifts use hydraulic systems that are solely dedicated to elevating the platform instead of driving, lifting and steering the lifts, which reduce the chance of leaks and generally have greater motor efficiency. And since connection points are a major source of hydraulic leaks, having only two connection points minimises the chance of a leak occurring in multiple spots.

Locked in and charged up

When faced with a project that requires working through long hallways and working hours, consider lifts that feature castor locks and efficient, built-in charging systems. Some manufacturers include caster locks that limit the wheels' turning radius. These locks, when engaged, make low-level lifts ideal for working through long hallways because they allow operators to drive easily in a straight path while permitting minor steering adjustments.

Customers should also consider features that protect the environment if they are purchasing low-level lifts. For example, some manufacturers build lifts that have electrical drive motors and steering systems. These systems draw fewer amps and require less overall power than hydraulically driven engines, which results in long operational hours – sometimes as long as 16 hours – and fewer recharges.

Some manufacturers also include an on-board battery charger that self-monitors the electrical current and stops it once the battery is fully charged. This reduces energy consumption and prevents the battery from overcharging, which can shorten its life. Some chargers also maintain batteries independently from each other instead of pushing the electrical current from one battery to the next. Combined with a self-monitoring system, they help ensure the equipment owner gets the most life from their battery.

It lifts me; it lifts a lot

Having a low-level scissor lift that can elevate workers and building materials while maintaining its stability is key to maximising productivity. For instance, if an operator is hanging drywall, the lift needs to accommodate the worker, screws, tools and a couple of sheets of drywall. Plus, each sheet can weigh between 24 to 35 kg depending on the size and material. This weight adds up quickly and can be a deciding factor when choosing a lift.

Low-level lifts excel with their large lifting capacities. For example, some 3 m lifts have 340 kg lifting capacities, which is generally enough to support two operators or a single operator and any building materials he or she may need on the jobsite. To minimise a scissor lift swaying under heavy loads, some manufacturers enhance platform stability by using a robust scissor stack and oversized pins.

Picking a lift

Knowing what features fit your business's or project's needs puts you ahead of the curve when it comes to selecting a low-level lift. Each feature should increase your productivity and minimize costly downtime on a wide range of applications. From hanging slabs of sheetrock to twisting in the final lightbulb, the best low-level lift safeguards the operator, the project, and the production schedule from beginning to end. ✪

MITIGATING THE DANGERS OF WORKING AT HEIGHT

In 2018, over 8 300 accidents occurred at construction sites in South Africa, according to the Federated Mutual Assurance Company. Some 10% of the more than 1 200 accidents in the Western Cape alone involved falls from height. *Capital Equipment News* explores the causes of these accidents, the technologies to mitigate them and the legislation in place to prevent them. By *Mark Botha*.

Evolution Height Safety CEO Johan Vorster says many fall-from-height (FFH) accidents are caused by the 'human factor'. He says that, once workers become accustomed to working at heights and to their safety equipment, they often become complacent and neglect the crucial fundamentals of safety.

"This includes regular inspection of safety equipment, fatigue management, adherence to safe working procedure, regular reviews of risks assessments and holding routine 'toolbox talks' prior to commencing work, as a critical safety element."

Gravity Access director Hein Stapelberg adds untrained personnel, incorrect use of safety equipment, and the use of substandard equipment as common causes of accidents of this nature while, to Eazi Access regional GM: North Region Shaun Changuion, many recorded FFH accidents in the construction sector are due to tripping and slipping.

"This risk is mitigated drastically when mobile elevator working platforms (MEWPs) are used for working at heights, as opposed to scaffolds."

MEWPs versus scaffolds

He cites the International Powered Access Federation's (IPAF's) Global MEWP Safety Report for 2016 – 2018, which indicates that fewer than 250 fatal falls from height occurred where access was gained by means of MEWPs in 25 countries over this period.

"Although one single fatality is one too many, this figure is very low compared to over a thousand fatalities involving scaffolding over the same period, in South Africa alone."

In terms of productivity, he says it can take several employees more than a day to erect scaffolding for work at a certain height, while a MEWP can be raised to this height within minutes, saving the process plant or production line the operational cost of equipment down-time.

"I recently saw scaffolding stretching to a height of about 50 m at one of our heavy industrial sites in Mpumalanga. By the time the employees had climbed to the top, they

Rope access systems from Gravity Access have grown in popularity in the local market.

The JLG-460SJ telescopic boom lift available locally from Eazi Access.

were too fatigued to start work immediately. Employees are not only safer with MEWPs, but are also more efficient at what they are employed to do."

He says it is a misconception that MEWPs are generally more expensive than scaffolding. In truth, however, scaffolding can be the more expensive option for businesses across industries.

"The higher the scaffolding which must be erected, the greater the direct cost saving afforded by the use of a MEWP because of the labour and time required to erect and dismantle scaffolding."

MEWPs, however, are currently limited internationally to a working height of 58 m while scaffolding can exceed this height and can be accessed by more than three persons at a time. The working platform weight for scaffolding, he says, is only limited to the size of the platform build.

While scaffolding provides greater workspace and can accommodate larger loads and work teams safely if erected properly, it takes time to erect and dismantle and can be disruptive as erecting it requires space and large crews. The professional design required for larger scaffolds also adds to the cost of the operation.

QUICK TAKE

- Untrained personnel, incorrect use of safety equipment, and substandard equipment are common causes of accidents
- It is a misconception that MEWPs are generally more expensive than scaffolding
- Apart from the labour- and time-intensive erection of larger scaffolds, they pose the risk of falls and are not mobile
- The SA OHS Act and the Construction Regulations are adequate, relevant and useful guidelines

Vorster agrees that MEWPs provide "a wide spectrum of benefits", including quicker access to the worksite, reduced logistics required for platform erection, and improved worker safety, but he adds that they are more costly to hire and require certified operator competency. MEWPs can also be restricted at smaller worksites, where their manoeuvrability may be impeded.

"As opposed to MEWPs, scaffolds are relatively easy to erect, are affordable and can be erected according to the available space at the worksite. If inspected properly and regularly, they can be regarded as safe to use, provided that the necessary fall arrest and restraint devices are properly applied."

However, apart from the labour- and time-intensive erection of larger scaffolds, they pose the risk of falls and are not mobile, making them cumbersome to move on site.

Health and safety regulations

When asked about the local health and safety regulations, Vorster says that, in terms of Evolution Height Safety's scope as a work at height solutions and training provider, the South African Occupational Health and Safety (OHS) Act of 1993 and the Construction Regulations of 2014 are "adequate, relevant and useful guidelines which inform the packing of our solutions and training". He cites as an example Construction Regulation (CR) 10, which, he says, outlines the requirements for the compilation of a fall protection plan.

"The packaging and delivery of Evolution Height Safety are modelled around the requirements of CR 10 and with various other sections in the OHS Act, which inform our health and safety policy position and procedure to ensure that employees work safely at height."

Changuion, however, says South Africa is several years behind Europe, where the use of MEWPs has become part of the legislation and is viewed as the primary tool for working at heights safely.

"We would like to see the same trend followed here in South Africa and across sub-Saharan Africa."

He calls for the legislation to be expanded to prevent operators from transporting people up or down on mobile elevator working platforms operated via their ground controls.

"The OEMs of these machines warn against this practice, as it is not international best safety practice, but this has not yet been legislated in South Africa," he says. "Operators should only bring workers down to safety using ground controls in the event of an emergency where the operator in the basket cannot do so via the basket controls."

IWH-recognised training

He does, however, view the training provided by the Institute for Work at Height (IWH) as satisfactory: "I underwent accredited training for MEWPs through Uplift Quality Solutions. The course covered both theoretical and practical aspects of MEWPs, ranging from scissor lifts to super booms. I recently accompanied one of our executives on our JLG 1850 Super Boom, which reaches a 58 m working height, and could do it with confidence because of this training."

Vorster agrees: "As a professional body overseeing compliance by working at height training providers, the IWH delivers on its mandate. It caters to a specific market and its focus is relevant. The fact that the IWH is limited to and recognised in South Africa and a few SADC countries only is, however, a challenge."

Stapelberg points out that, while there are a number of both IWH and non-IWH courses available, the key is to ensure that trainees receive the appropriate training for the work they will be doing and for the risks that they will likely encounter.

"Many companies send their staff for the minimum training to limit cost, and not necessarily for the most appropriate training," he says.

New solutions, services

When asked about new innovations in this market sector, Changuion mentions the JLG HC3 AJP articulating boom lift range.

"These machines," he says, "have remarkable capabilities when it comes to extra capacity while working at height. They also provide the up and over capability for hard-to-reach places and can

"The risk of falls is mitigated when mobile elevator working platforms (MEWPs) are used, as opposed to scaffolds."

Shaun Changuion regional GM: North Region, Eazi Access

"The packaging and delivery of Evolution Height Safety are modelled around the requirements of CR 10 and with various other sections in the OHS Act, which inform our health and safety policy position and procedure to ensure that employees work safely at height."

Johan Vorster, CEO, Evolution Height Safety

"Many companies send their staff for the minimum training to limit cost, and not necessarily for the most appropriate training."

Hein Stapelberg, director, Gravity Access

TALKING POINTS

The SecuRope cable lifeline system from Gravity Access.

Evolution Height Safety has introduced a number of new fall arrest solutions.

enable an operator with two artisans to reach their place of work safely and easily, and will add great value on site."

He says the Eazi Access North Region team has recently implemented a full on-site solution at a South African synthetic fuel plant.

"By understanding the customer's requirements, we were able to tailor a site-specific solution to mitigate safety risks and to reduce monthly downtime at their plant, while saving them millions in direct costs.

"Our full on-site solution consists of managers; operators; technicians; supervisors; coordinators; an industry specialist and SHEQ representative, as well as administrators.

"Anyone can sell and rent out MEWPs but there are only a handful of companies that can tailor-make work-at-height and material handling solutions to meet the customer's needs, and Eazi Access is one of them."

Vorster says Evolution Height Safety has introduced a number of new fall arrest solutions.

"Key among these are Tie Links, Retrolinks and Froglinks which cater for safe connection points while working on inverted box rib (IBR) or tile roofing," he says. Stapelberg says the range of rope access systems on the market has grown significantly. These, he says, include davit arm, as well as electrical and suspension rail systems.

"The Gravity Vertical System from Gravity Access was launched on 31 March this year," he says. "It is an easy to install modular vertical safety line that provides integrable anchors, making it ideal for work on pylons, windmills and any vertical other structure."

The CL-range from MCM South Africa offers working heights from 3,2 to 4,5 m.

THE RISING POPULARITY OF THE COMPACT LOADER

In recent years, the articulated wheel loader has seemingly been gaining popularity over skid-steer loaders in many markets. *Capital Equipment News'* Mark Botha approached Caterpillar, MCM South Africa and Sylco for their take on this trend.

According to Caterpillar compact wheel loader product application specialist Elie Abi-Karam, skid-steers have historically been the machines of choice in some regions because of their small size, which makes them easy to manoeuvre and to transport on trailers. They also have high hydraulic power and can accommodate various attachments besides "the basic buckets and fork carriages".

"However, the efficiency and durability of the tracks on compact track loaders are a major advantage."

He says ownership and operating costs of articulated wheel loaders are typically lower than for skid steers of similar size, as the articulated steering on the former means less tyre wear in normal operation.

"Articulated steering also reduces ground disturbance because there is no skidding of the wheels, and the operator has a better view from the cab of a compact wheel loader as they sit higher than on skid steers, with better visibility around the machine," says Abi-Karam.

Sylco Plant Hire director Eddie James notes that, while skidsteers perform best in tight spaces with short loading distances, the compact loader is "vastly superior" when the area allows for its turning circle and when the hauling distance increases.

"Generally, travelling over rough terrain in a skidsteer with a fully-loaded bucket or pallet isn't something anyone enjoys, so in this regard compact loaders are preferred by far.

"Because of the skidsteer's short wheel-base, steep slopes tend to leave you travelling on two wheels at times while carting material out of a hole, as the weight of the load will lift the back wheels when reversing out of the hole." He says the skidsteer's manoeuvrability compensates for this if the hauling distance is short, because the task can be performed "much quicker".

To MCM South Africa marketing director Johannes van Niekerk, compact loaders are gaining traction in southern Africa because of their "invaluable" compact build, rough-terrain mobility and multi-functionality.

"The compact loader can offer accessibility in both confined and restricted areas, as well as in rough or sensitive terrain such as golf courses, coupled with the ability to perform several different tasks and applications."

He says the compact loader can be tranformed into an auger, trencher, grappler, mower, forklift, concrete mixer and many others, simply by equipping it with the required attachment or implement.

Compact loaders: advantages

He says the advantages contributing to the popularity of the compact loader include increased rated loading capacity and more effective weight distribution due to the longer wheelbase, as well as the ability to reach greater workable heights.

"MCM's compact loaders are equipped standard with a self-leveling H-frame telescopic boom," he says.

Ownership and operating costs of articulated wheel loaders are typically lower than for skid steers of similar size.

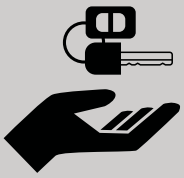
The compact loader also achieves greater working heights such as load over height and dumping height compared to skid-steer models of the same operating weight.

He says the compact loader achieves longer working distances while the telescopic boom enhances performance. The longer working distance afforded by the telescopic boom also means improved operator safety as, with skid-steers, there is the possibility of material falling directly onto the operator cabin if spillage occurs.

"The operator can also load a truck with from one side, whereas the skid-steer requires access to the truck from both sides."

Other advantages of the compact wheel loader include increased tyre longevity thanks to the four-wheel drive and central articulation build, especially on asphalt or concrete; minimal turf damage due to reduced weight and central articulated design; higher ground clearance and 360° operator visibility with the option of a steel canopy, semi-enclosed cabin or fully enclosed cabin.

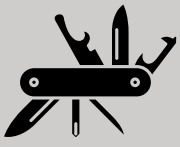
QUICK TAKE



Cost of ownership for articulated wheel loaders is typically lower than for skid steers of similar size

With skid-steers, steep slopes can leave the operator travelling on two wheels while carting material out of a hole

Advantages contributing to the popularity of the compact loader include increased rated loading capacity and more effective weight distribution



Demand for multi-functional equipment continues to increase, especially in specialised industries

A CL30 compact loader from MCM South Africa.

TALKING POINTS

"Ownership and operating costs of articulated wheel loaders are typically lower than for skid steers of similar size, as the articulated steering on the former means less tyre wear in normal operation."

Elie Abi-Karam, Caterpillar compact wheel loader product application specialist

"While skidsteers perform best in tight spaces with short loading distances, the compact loader is vastly superior when the area allows for its turning circle and when the hauling distance increases."

Eddie James, director, Sylco Plant Hire

"The compact loader can offer accessibility in both confined and restricted areas, as well as in rough or sensitive terrain such as golf courses, coupled with the ability to perform several different tasks and applications."

Johannes van Niekerk, marketing director, MCM South Africa

Applications

Compact wheel loaders and skid-steers are used in similar applications, mostly in materials handling, with buckets or fork carriages, making the choice between the two types a matter of personal preference or of the customary, regional practice, says Abi-Karam.

"Many machines can tackle multiple applications with a range of attachments. Skid-steer loaders, backhoe loaders, mini excavators and compact wheel loaders can all load a truck. The number of times the machine is going to work in that application and the number of loads to be moved would dictate the type of machine to use."

He says a mini excavator with a tilt-rotate coupler and a fork carriage might be useful for occasional truck loading but a compact loader would be more suited where the load is heavy, the frequency is high or the distance to travel is great.

"The articulated compact wheel loader is best suited under these circumstances as the longer wheelbase provides a smoother ride than with the skid-steer loader. The compact loader also has larger tyres and longer lift arms, allowing for greater lift."

He says skid-steers are often thought of as 'hydraulic power packs' to drive certain attachments such as cold planers, wheel saws or brooms, where hydraulic horsepower is needed.

"All of these can also be used on Cat compact wheel loaders which offer standard or high flow. Both compact wheel loaders and skid steers can be used in land clearing, by means of brush cutters, mulchers and grapples.

"In this case, the compact track loader tends to be the preference because of its tracks and low centre of gravity. We do, however, see our larger compact wheel loaders work in this application because of their high hydraulic flow and pressure options."

James, on the other hand, says the "very obvious and generally accepted reason" for using a skid-steer in certain site conditions is its manoeuvrability in tight spaces.

"However, there are a few other factors to consider, including the operator's view which, on a skid-steer, is very restricted compared to the view from a compact loader. You do have a much better view of the cutting edge or forks on a skid-steer, though, but its manoeuvrability comes at the cost of ripping up the surface."

Van Niekerk notes that compact wheel loaders are increasingly being used in markets traditionally associated with the skid-steer.

"Demand for multi-functional equipment continues to increase, especially in

All Caterpillar compact wheel loaders feature electro-hydraulic controls.

specialised industries. One of MCM South Africa's clients sells aggregate by the truckload and requires machines with fast cycle times. Our CL50 compact loader with its 0.5 m^3 bucket loads their tipper trucks as well as their clients' trucks, trailers and bakkies with limited space required for maneuverability thanks to its short turning radius."

He says that, on days when fewer customers purchase aggregate, the loader can be equipped with the OS4000 model open sweeper to be used in yard cleaning.

"This is the kind of multi-functionality and efficiency that enables the compact loader to venture into industries previously thought of as the domain of the skid-steer."

Ease of use, visibility, lift height

Abi-Karam says the Cat 906K, 908K, 914K and 920K wheel loaders feature electrohydraulic systems for fine control, with fast cycle times.

"The operator can adjust machine responsiveness, so allowing them to set up the machine exactly, according to the application. Parallel lift and high tilt forces allow the operator to handle loads with precise control."

The 5 600 kg operating weight Cat 906K has a maximum B pin height of 3 227 mm and dump height of 2 478 mm, while the maximum B pin and dump height on the 6 365 kg model 908K are 3410 mm and 2 630 mm respectively.

The Cat 914K as an operating weight of 8 521 kg and features maximum B pin and dump heights of 3 701 mm and 2 775 mm. On the 9 150 kg operating weight Cat 920K, these maximum heights are 3 775 mm and 2 737 mm respectively.

"Visibility on these models is further enhanced by a rear-view camera while the cab features a comfortable seat and easy-to-use controls. Features like implement and hydrostatic aggressiveness, as well as lift and tilt kick-outs allow the operator to customise the machine," says Abi-Karam.

Van Nieker says that, on MCM's compact loaders, the operator has "similar but mostly higher" lifting and workable heights as compared to skid-steers.

"Depending on the model, our CL-range offers working heights from 3.2 to 4.5 m and the operator only has to ensure that the recommended operating capacities are not exceeded according to the model or attachment guidelines, since the lifting capacities are greater than skid-steer loaders of similar size".

New innovations

In terms of new innovations, Abi-Karam says speed activated ride control provides a cushion effect on the loader arm, and absorbs shocks on uneven ground when the bucket or fork carriage is fully loaded. This is made possible by electro-hydraulic controls featured on all Cat compact wheel loaders.

These controls can also activate a rim pull or throttle lock function, which Abi-Karam describes as "a way to save money by not wearing out tyres and by burning less fuel".

"Once activated," he says, "the machine controls the amount of tyre slip and so reduces power to the wheels while allowing more power for the loader arm."

The company's latest-generation wheel loaders also feature rotary sensors for added controllability and accuracy, as well as for the ability to set upper and lower kick-outs.

"Parameters can be set for bucket and fork mode respectively," says Abi-Karam. "In bucket mode, the aggressiveness is set higher to allow for bucket shake to empty material at full dump into a truck. The operator can also select lower kick-out to speed up truck loading Y-cycle applications while extending the life of the bolt-on cutting edge, as it can be set to just above the ground and will return to the same position every time."

In fork mode, parallel lift is enabled to prevent sudden movements from shaking the load.

"A different upper kick-out can be set so that the operator focuses on loading the flat bed without being distracted by the top rail of a curtain-sided trailer. These features help expert operators become more efficient and less skilled operators operate these machines properly."

Van Niekerk says minimal use of electronics was an important factor in MCM's final design process.

"Our goal is to offer our clients multi-purpose machines that can be serviced and repaired easily by a diesel mechanic. An example of this is the standard installation of hydraulic pressure test ports which allow for pressure diagnostics to be run on the hydraulic system within minutes."

The company has also recently launched its ML-range multi loader in three models, of which the 54,5 kW/73 hp ML60 model is the largest compact loader currently offered by MCM, according to Van Niekerk.

Design improvements on the ML-range include bi-directional central articulation or oscillation, resulting in all four wheels remaining in contact with the ground at all times, for improved traction in rough terrain.

The range also features a steel body for more punishing environments; an enclosed cabin with AC control and other details including the positioning of the hydraulic tank and tiltable cab to make servicing and repairs safer and easier, even when out in the field. ✪

Ritchie Bros. has seen tremendous global demand for used machinery.

DEMAND FOR USED MACHINERY CONTINUES TO TREND UPWARDS

As many industries continue their journeys back from a challenging 2020, global demand for used equipment continues to increase. Many businesses remain wary of making big investments in new machinery, while supply chain issues have hit delivery levels for new equipment. All told, explains Karl Werner, president international at Ritchie Bros., it makes the market for used heavy equipment a place of exciting opportunities for both buyers and sellers.

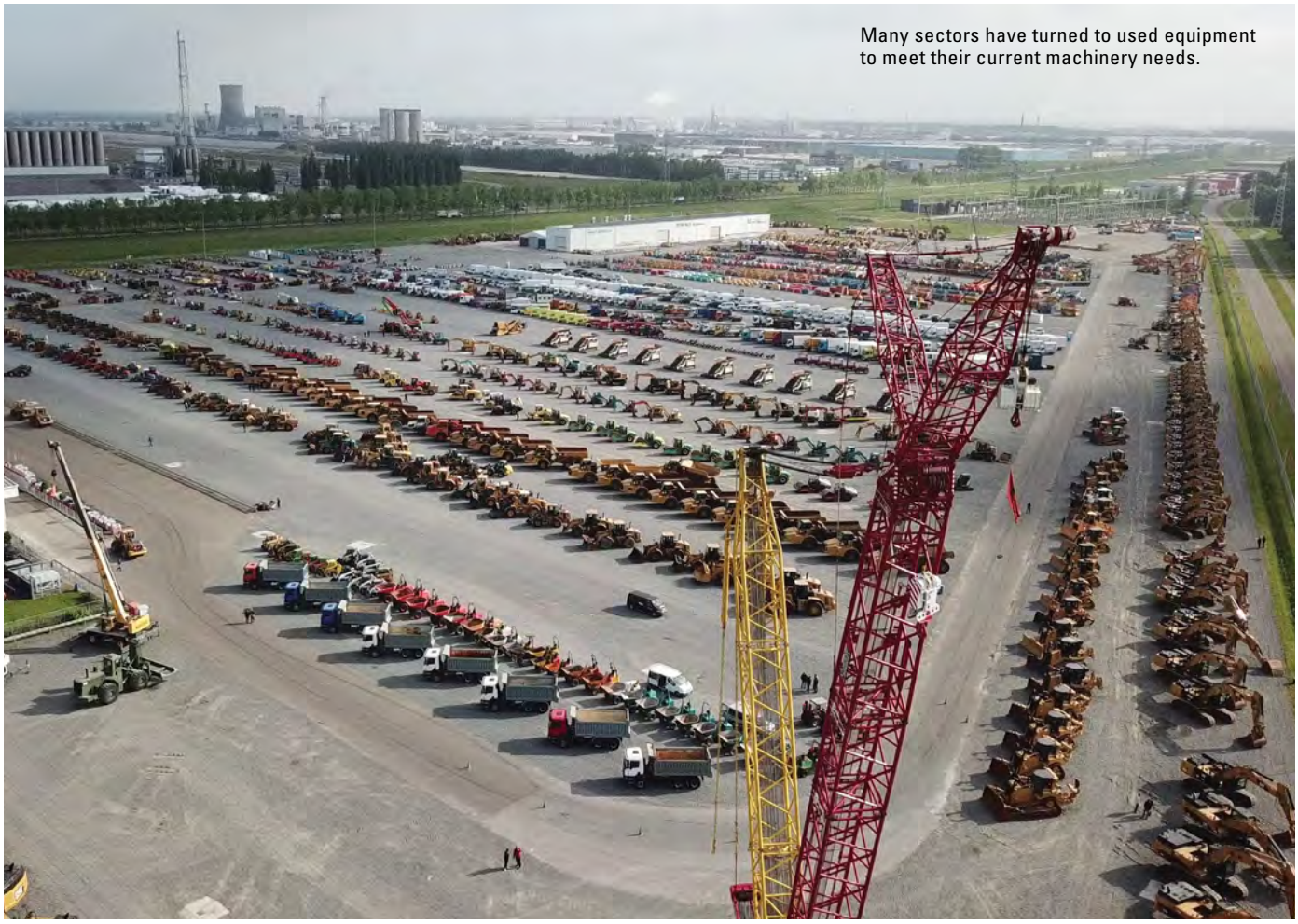
Global asset management and disposition company Ritchie Bros. saw sales in most categories of used machinery perform above expectations in 2020. While the construction industry was unquestionably hit hard by the pandemic, the slowdown has not been universal. In many countries, infrastructure projects have seen construction work back at pre-pandemic levels. At the same time, many sectors such as agriculture, forestry and mining have increasingly turned to used equipment to meet their current machinery needs.

"We have seen tremendous global demand for used machinery," says Werner. "There's still a lot of work going on, and credit is still available. In times of uncertainty, businesses tend to buy used machinery rather than new equipment to avoid big financial commitments."

This shift to used machinery purchases has coincided with several OEMs reporting supply chain issues due to the pandemic. Others reduced production volumes in 2020 to protect employees during lockdown, and this has also impacted new machine deliveries. "Longer waiting times for new equipment are fuelling the demand for used machinery, which is available immediately. All these factors combined have created a perfect storm that's driving the strong demand for used heavy equipment, resulting in good price-performance for sellers," adds Werner.

Early demand indicators for 2021

For many, bigger equipment auctions early in the year are indicative of the state of the market. High demand was perfectly demonstrated at Ritchie Bros.' most recent auction in



Many sectors have turned to used equipment to meet their current machinery needs.

QUICK TAKE

Global asset management and disposition company Ritchie Bros. saw sales in most categories of used machinery perform above expectations in 2020

This shift to used machinery purchases has coincided with several OEMs reporting supply chain issues due to the pandemic. Others reduced production volumes in 2020 to protect employees during lockdown, and this has also impacted new machine deliveries

The COVID-19 pandemic has accelerated trends that were already well underway, including online bidding

In 2020, Ritchie Bros. saw website traffic increase by 35%, while bidder registrations were up by 71%. More than 470 000 new users downloaded the Ritchie Bros. mobile app, which is an increase of 78% compared to 2019

Orlando, Florida, the company's biggest auction of the year. In total, more than 12 000 items were sold for over US$191-million during the six-day event in mid-February.

Strong pricing across every asset category was seen, confirming the positive trend Ritchie Bros. is seeing. Truck tractors, skid steers and backhoe loaders saw a particularly strong price performance, followed closely by wheel loaders, aerial equipment and dozers. Participation in the Orlando auction also reached record highs – attracting more than 22,700 online bidders from over 80 countries – 25% more than the same auction in 2020.

In Europe, Ritchie Bros. is also seeing a strong appetite for used machinery. At a recent auction in Moerdijk, the Netherlands, bidder registrations were up 19% compared to last year. With more than 2 580 online participants from 92 countries, the auction recorded the highest number of bidders in five years. Around 80% of the machinery was sold to bidders outside of the Netherlands, at strong prices: boom lifts, crawler tractors, hydraulic excavators, scissor lifts, and wheel loaders, on average, fetched 5% above the auction price of the Moerdijk event last November.

In 2020, Ritchie Bros. saw website traffic increase by 35%.

"Shifting to online-only bidding has allowed us to attract new types of customers to our marketplace," says Werner, noting that Ritchie Bros. has seen a rise in end-user participation in auctions, people such as construction equipment owner/operators, who in the past did not represent a large portion of participants at 'live' auctions.

"Newer services, such as our Ritchie Bros.' online Timed Auction system are making used equipment auctions more accessible, especially for smaller and medium-sized businesses. The Timed Auctions are intuitive and there's more time to place bids," adds Werner.

Shift online accelerated

The COVID-19 pandemic has accelerated trends that were already well underway, including online bidding. In 2020, Ritchie Bros. saw website traffic increase by 35%, while bidder registrations were up by 71%. More than 470 000 new users downloaded the Ritchie Bros. mobile app, which is an increase of 78% compared to 2019. Throughout 2020, customers carried out more than 24-million equipment searches and viewed 30-million items in Ritchie Bros. mobile app. Today, mobile app users represent approximately 30% of the customers of rbauction.com.

According to Werner, this shift to online transactions not only widens the market for equipment buyers and sellers, it also creates new data insight opportunities.

"Data is the new oil," says Werner. "It's becoming more and more valuable and obtainable every day. Not only does it help Ritchie Bros. but it also allows us to help our customers. We have a lot of data on used machinery transactions – we sell more machinery than any other company in the world – we can gather and present data to help our customers run their businesses more efficiently."

This sort of market insight opens new possibilities for equipment owners. They will be able to understand when the best time to sell or buy an asset is – depending on the machine type, hour usage, machine age and more. With the acquisition of data firm Rouse Services, Ritchie Bros. is on track to making this kind of tailored insight a reality for its global customer base.

"This is a really exciting time in the industry," says Werner. "Although the global pandemic has caused instabilities across all sectors, it has forced us to adapt the way we do business and accelerated remote working and online asset disposition. We don't see this subsiding when restrictions are lifted. The future will most likely be a hybrid model giving our buyer and sellers access to a wider global market." ✪

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A used Vermeer horizontal directional drilling machine being refurbished.

THE PROS AND CONS OF USED EQUIPMENT

With the current financial climate battered by the COVID-19 pandemic, budgets for new capital equipment have largely been cut, making the used and refurbished offering more attractive to prospective buyers. This article takes a closer look at the advantages, disadvantages and possible pitfalls of taking the used equipment route. By *Mark Botha*.

TALKING POINT

"We are seeing an increase in the number of enquiries for used machines. There are only a few used models of the niche-type equipment that we supply available on the local market. We have been importing quality used machines from Vermeer dealers in the United States to meet the demand."

Frank Beerthuis, MD of Vermeer Equipment Suppliers

Addressing the impact of the current financial climate on used equipment sales, Vermeer Equipment Suppliers MD Frank Beerthuis says his company has had consistent sales in the sub-Saharan African market throughout the COVID-19 pandemic.

"We are seeing an increase in the number of enquiries for used machines," he says. "There are only a few used models of the niche-type equipment that we supply available on the local market. We have been importing quality used machines from Vermeer dealers in the USA to meet the demand."

BLC Plant CEO Luigi Stravino concurs, saying that, while the current financial climate has brought about a shortage of liquidity which affects purchasers of both new and used equipment, budgets for new equipment have been cut and re-worked for used alternatives.

BLC Plant has seen an increased demand for used equipment.

QUICK TAKE

As the current financial climate has caused a shortage of liquidity, budgets for new equipment have been cut and re-worked

The buyer must be selective and de-selective between the different equipment brands and should assess the availability and price levels of genuine spare parts

Refurbished machines bought from reputable suppliers normally have a warranty to protect the purchaser and to cover major component failure over a determined period

Price is always an advantage when purchasing a used refurbished machine with discounts of up to 50% in some cases

He says popular brand players have been holding back on stock purchases and are now under pressure for return on investment on new equipment purchases.

"This makes the used market an important role player as an option for stock that is not available, and in terms of more affordable machines with improved ROE."

Key parameters for buyers

Beerthuis' advice to prospective buyers of used equipment is to assess the technical condition and the quality of used equipment.

"There are multiple examples of used machines being sold at attractive prices, but a bargain purchase may end up very expensive if these machines are in poor condition and need significant repairs," he says.

Stravino refers to the supplier: "Look for a supplier with a solid historical reputation for supply and back-up of quality branded equipment." He says branded earthmoving equipment retains its intrinsic value, which gives the owner the ability to sell it lucratively, "at a moment's notice".

He says points the buyer should consider include whether both new and used parts of the particular model and machine type are readily available; whether the machine has been discontinued; whether the history and description of the used machine fit the machine's general appearance, and whether the projected lifespan and overall condition of the used machine is sufficient to complete the work or contract period, among others.

"The buyer should ensure that their specifications required for the intended application meet or fall close to the specifications of the machine on sale. Is there a maintenance and service history for the machine and, if so, has it been serviced by a reputable dealer?"

Deal killers

According to Beerthuis, a definite 'deal killer' would be a machine which has been abused by its previous owner, is in poor condition, or which has a backlog in maintenance.

"The buyer must be selective and de-selective between the different equipment brands and should assess the availability and price levels of genuine spare parts and service support of the alternative equipment brands available in the country."

He says the biggest stumbling block when purchasing used machines is the possibility of machine failure.

"I many cases, this can attract penalties to the purchaser due to non-performance. So, if one purchases from a reputable supplier, this risk can be mitigated through the network of backup services and, where necessary, a loan machine can even be supplied to continue with the required production."

His advice is to back away where the hour meter on a used machine has been removed; where it is present but faulty; where the machine cannot be identified via its serial plate, year model, or VIN or serial number, and where the serial or identification plate has been tampered with.

The reputable dealer

Trading with a reputable dealer is,


A refurbished pipeline trencher supplied by Vermeer.

BLC Plant has over 45 years of experience in the used earthmoving equipment market in Africa.

according to Vermeer, "probably the most important criterion when sourcing a used machine".

"In our case, we only offer used machines that have undergone a thorough inspection and necessary repairs. We only use genuine OEM parts when refurbishing machines and we offer a used equipment warranty on machines which have passed our quality criteria."

He says peace of mind is paramount to the user and that an investment in used equipment should allow them to be productive and profitable.

"Productivity and profitability for our clients form part of the Vermeer brand promise and that brand promise also applies to the supply of used equipment."

Stravino agrees on the importance of the reputable dealer but draws a distinction between used and refurbished equipment.

"A used machine," he says, "is usually sold ***voetstoots*** – as is, which places the purchase risk on the buyer. Once the machine is delivered, there is no backup or assistance similar to that of an auction purchase. Refurbished machines bought from reputable suppliers, on the other hand, normally have a warranty in place to protect the purchaser to some degree and often to cover major component failure over a determined period of time."

He says reputable suppliers have the product knowledge and are qualified to advise and 'steer' the customer towards the machine best suited to their requirements.

"Knowing that a reputable supplier will engage in a long-term relationship with the client from the first line of communication gives the buyer peace of mind. Key factors such as service, maintenance, product support and a parts network are non-negotiable with reputable suppliers."

Dealing with a reputable supplier enables the client to make reliable financial projections which enable greater savings while minimising any losses to the client.

"BLC Plant has over 45 years of experience in the used earthmoving equipment market in Africa. Our reputation has carried us through and we will protect it going forward. Our opportunity is not to sell the client a machine, but to sell them a partnership that will continue through generations."

Advantages of buying used

Beerthuis singles out as the greatest advantage of buying used equipment the lowered Capex requirement when investing in good quality used equipment.

Stravino concurs, saying that "price is always an advantage when purchasing a used refurbished machine with discounts of up to 50% in some cases. The refurbished machine should deliver the same performance and production as a machine, making this option quite attractive to prospective clients.

"Depending on the machine manufacturer, some machines are inevitably sought after, which means they retain their value, so there is always the opportunity to resell the machine at a reasonable price." He says there are many proven used machine model types for specific applications that are known to be reliable workhorses over years, without fail.

"The used route is a failsafe solution to many in various industries who work with equipment and is subsequently a preferred route often taken. Purchasing the same machine type in a new model may prove otherwise and become costly due to the limited working time of that model."

Volvo CE launches EC75D compact excavator in Africa and Middle East

The 7-t EC75D compact excavator from Volvo Construction Equipment (Volvo CE) offers class-leading digging capacity, stability, serviceability and operator comfort in African and Middle Eastern markets.

The undercarriage of the EC75D from Volvo CE is wider and longer than those of its competitors, which ensures excellent stability and lifting capacity, together with high ground clearance and an extensive working range. Thanks to its larger size, the Volvo EC75D compact excavator can be used with a bigger bucket than similar machines in the same class, helping to increase productivity.

The boom and arm are made from high strength steel for maximum durability and uptime and are fixed to the superstructure at the side of the cab for improved stability and visibility of the work area. The superior tractive force of the Volvo EC75D allows it to climb steep gradients with ease and travel over rough terrain. If specified with an optional dozer blade, backfilling and landscaping are also made easy. Meanwhile, the balance between the torque and swing speed permits fast and precise placement of the attachment, even when working on a slope.

The industry-leading Volvo cab offers operators a commanding view of the work area, thanks to large expanses of glass, combined with precise controls that together promote a high degree of safety on the jobsite. For added safety, an alarm sounds to warn bystanders when the machine moves.

The cab on the Volvo EC75D also encourages the operator to work productively, thanks to the spacious and comfortable environment, with easy-to-access controls, an efficient climate control system and vibration and noise isolation. A large I-ECU monitor clearly presents machine information and puts the operator firmly in control. The operator and service technician can make quick visual and diagnostic checks, increasing uptime and productivity further.

When it comes to servicing the Volvo EC75D, checks and maintenance are easy and quick. The machine features grouped service points and simple access to the engine compartment via the engine hood, which can be opened fully. The front step provides easy access to the main hydraulic check points. Tools and a grease gun can be stored inside a large toolbox located on the right front side of the machine. The hydraulic oil level can be seen from inside the cab. ✪

The new EC75D compact excavator from Volvo CE.

New MK 73-3.1 mobile construction crane from Liebherr

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.

Mobile construction cranes are predestined to be used as taxi cranes and, with this in mind, the MK 73 3.1 is also designed for one-man operation. This 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, familiar from 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 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, as a result, 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, this 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.

Like its big brothers, the MK 73-3.1 operates electrically on site, either via site power supply or 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 designed for operation with 63 or 32 amps. Working speed is in no way restricted when using the 32 amp option.

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. ✪


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

SMOOTH SLOPES – STANDOUT FEATURES FOR A SAFER, EFFICIENT COMPACTION ROLLER

Crew member safety is the highest priority in road construction. However, traditional compaction machines are about as rigid as it gets. Every degree of slope is felt by operators as they sweat through the sloping road shoulders and ditches, risking a rollover but hoping for the best. By *Lynn Marsh*, president, Road Widener LLC.

OSHA investigations have shown the ability of Rollover Protective Structures (ROPS), seatbelts and Personal Protective Equipment (PPE), such as hard hats, to save lives during a compactor rollover accident, but these do little to prevent an accident in the first place.

Instead of working with a flawed platform, some manufacturers are taking the main obstacles presented by traditional compaction rollers – danger, high maintenance and limited utility – and remaking the compaction process from the ground up. When considering a new compaction roller, here is what to look for.

Aside from a handful of grease fittings to maintain and cleaning off debris, compaction roller attachments have no maintenance to speak of.

Safety-focused design

The biggest hinderance to compaction safety has been manufacturers seeing the compaction drum as a source of motion, compaction and stability all in one. But relocating the drum to an offset arm attachment immediately solves the safety issue. Now, as an attachment, the compaction roller can be connected to graders, compact track loaders, wheel loaders or skid steers. These host machines provide a separate source of power for the compaction drum and, thanks to the offset arm, stability and safety for the operator.

With this setup, an operator can now drive the host machine on flat ground while the arm extends to the furthest, steepest edge of sloping road shoulders and ditches, while still being able to compact flat surfaces, too. Improving safety to this extent puts a major dent in workers comp claims, lowers insurance premiums and increases safety ratings – a necessity to contractors bidding on competitive jobs.

Shifting the drum to an offset arm attachment drastically improves safety, but it can also unlock a host of other benefits.

Minimal maintenance downtime

With the compaction roller now being a separate system, it no longer has an onboard engine, transmission or any associated parts to maintain. To further limit downtime, look for an attachment that offers a universal mounting pad and simple hydraulic connections for a smooth setup and disconnect to the host machine.

Also consider remote-controlled options. Certain compaction roller attachments can be paired to the remote in seconds, giving the operator complete control over adjustments from the palm of their hand and without leaving the host machine's cab.

Typically, aside from a handful of grease fittings to maintain and cleaning off debris, compaction roller attachments have no maintenance to speak of – no more oil changes, filters, transmission fluid or any hard parts to wear and break. This can make for 90% less maintenance over self-propelled machines. Cutting out the unnecessary bulk seen with traditional compaction machines also allows manufacturers to design a more compact, versatile machine.

Easy adjustability & transportability

Now that the compaction drum doesn't have to stabilise and propel the machine, manufacturers can provide interchangeable drum sizes to fit customers' various applications. To get the same benefit with traditional compaction machines, contractors would have to purchase multiple self-propelled machines, all with engines and transmissions that will eventually fail and need maintenance and costly repairs. The compact size of compaction roller attachments makes transport easier, too. Many are capable of fitting on any common trailer, along with the host machine, and can be towed by a standard pickup truck.

For increased adjustability, look for a unit that not only allows for remote controlled adjustments of the attachment arm, but also of the drum itself. Some drums can pivot up to 30 degrees and reach up to 30 inches below the arm's mounting point. This allows the roller to easily compact slopes at various angles that would flip a traditional compaction machine.

In the middle of a busy roadwork season, compaction roller attachments can easily outperform their traditional counterparts in every aspect. When not in use, these attachments don't leave an engine sitting to slowly degrade into a surprise repair bill when season rolls around again. But most importantly, compaction roller attachments with an offset design provide increased crew safety and a versatile piece of equipment that will outlast any traditional compaction machine in a road crew's fleet. Customers can rest assured that they are purchasing a piece of equipment that will give them the ultimate return on their investment. ✪

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